

GENEVA, 20-23 MAY 2026
11th BIENNIAL CONGRESS OF
THE EUROPEAN SOCIETY OF
ENDOCRINE SURGEONS

ABSTRACT BOOK

eses2026.org

SWISS  ENDOCRINE SURGEONS

 HUG
Hôpitaux
Universitaires
Genève

Table of Contents

Free Papers 3

Posters 27

Author Index 192

Free Papers

Free Papers (FP-01 - FP-44)

FP-01

ASSESSING THE PERFORMANCE OF THREE LARGE LANGUAGE MODELS IN THYROID CANCER TUMOUR BOARD DECISION-MAKING

Angus White¹, Mr David Scott-Coombes¹, Mr Neil Patel², Professor Richard Egan¹, Mr Michael Stechman²

¹Morriston Hospital, Swansea Bay University Healthboard, Swansea, United Kingdom, ²University Hospital of Wales, Cardiff and Vale University Healthboard, Cardiff, United Kingdom

Large language models (LLMs) offer exciting potential to augment clinical decision-making, but their role in supporting thyroid cancer multidisciplinary tumour board meetings (MDTs) remains uncertain. This study evaluated the performance of three LLMs: ChatGPT, MetaAI, and DeepSeek in reproducing the management decisions of a regional thyroid cancer MDT. 100 thyroid cancer cases were reviewed by a regional MDT comprising of consultant endocrine surgeons, a consultant radiologist, and a consultant histopathologist. MDT outcomes served as the reference standard. Each case was then submitted identically to the three LLMs using a standardised prompt and referencing up-to-date ATA, BTA and UICC guidelines. A 4-point concordance scale was applied: 3 = full agreement; 2 = acceptable alternative; 1 = third-line approach; 0 = discordant/overtreatment. ChatGPT achieved the highest number of fully concordant outputs (75×3, 19×2, 2×1, 4×0), with 94% of its responses scoring 2 or 3. DeepSeek produced 64×3, 28×2, 3×1, 5×0 (92% scores 2 or 3). MetaAI produced 61×3, 28×2, 4×1, 7×0 (89% scores 2 or 3). Despite identical prompts and guideline references, the models varied in their outcomes. ChatGPT demonstrated the strongest overall concordance; DeepSeek and MetaAI showed similar strong performances with slightly higher discordance rates. All three LLMs demonstrated high concordance with consultant-led MDT decisions in thyroid cancer management. While none can yet be considered reliable for autonomous clinical use, these findings highlight the promising future role of LLMs in MDT decision-support and workflow streamlining once governance, validation, and regulatory frameworks mature.

FP-02

AUTOMATED SEGMENTATION OF THYROID TISSUE AND CAROTID ARTERY IN ULTRASOUND VIDEOS USING DEEP LEARNING: A FOUNDATIONAL STEP TOWARD AI-ASSISTED THYROID DIAGNOSTICS

Maria Bolomiti^{1,2}, Mr Karl Øyvind Mikalsen^{2,3}, Mr Joel Per Burman³, Dr Keyur Radiya³, Dr Vegard Heimly Brun^{1,2}

¹Breast and Endocrine Surgical Department, University Hospital North Norway (UNN), Tromsø, Norway, ²UiT, University of Tromsø, Tromsø, Norway, ³SPKI, The Norwegian centre for clinical artificial intelligence, UNN, Tromsø, Norway

Ultrasound (US) is the primary modality for thyroid evaluation, yet its diagnostic accuracy remains operator dependent. Reliable automated segmentation of thyroid anatomy and adjacent vascular structures is a prerequisite for AI-based nodule detection, risk stratification and future robot-assisted scanning, supporting more standardized preoperative decision-making in endocrine surgery. A retrospective dataset of 400 B-mode US videos from 380 patients was collected between 2016 and 2022. All patients were referred for symptomatic or incidentally identified thyroid nodules. A video-based nnU-Net deep learning model was trained to segment the thyroid gland and carotid artery. Data were split 70/15/15 into training, validation, and test sets. Performance was evaluated using the Dice similarity coefficient. The model achieved high segmentation performance, correctly delineating thyroid tissue with a Dice coefficient >0.91. Carotid artery segmentation reached a Dice coefficient >0.96, enabling highly accurate localisation of this key vascular landmark. Notably, 88% of the videos included thyroid nodules, both malignant and benign, indicating that the model was developed on a variety of clinical cases rather than homogeneous datasets. This study demonstrates the feasibility of real-time, video-based segmentation of thyroid and carotid anatomy as a foundational step toward AI-assisted endocrine surgery. Beyond reducing operator dependency and enabling automated nodule assessment, the video-based approach supports 3D anatomical reconstruction, which may enhance future surgical planning, navigation and robotic guidance within thyroid surgery workflows.

FP-03**PROGNOSTIC IMPACT OF MINIMAL EXTRATHYROIDAL EXTENSION IN EARLY-STAGE, NODE-NEGATIVE PAPILLARY THYROID CARCINOMA**

Dr Yanis Hamzaoui¹, Pr Camille Buffet^{2,3}, Pr Sébastien Gaujoux^{1,3}, Pr Fabrice Menegaux^{1,3}, Nathalie Chereau^{1,3}, Jean-Baptiste Dubuis¹

¹Department of general, digestive and endocrine Surgery, Sorbonne University, Pitié Salpêtrière Hospital, France,

²Thyroid and Endocrine Tumor Department, Pitié Salpêtrière Hospital, APHP, Sorbonne University France, 3pe de Recherche Clinique n°16 Thyroid Tumors, Sorbonne University, France

The prognostic relevance of minimal extrathyroidal extension (mETE) in early-stage, node-negative papillary thyroid carcinoma (PTC) remains debated. While gross extrathyroidal invasion is a well-established predictor of recurrence, the impact of mETE is less clear. This study evaluated the association between mETE and disease-free survival (DFS) in T1b-T2N0 PTC. We retrospectively reviewed 1,195 patients who underwent total thyroidectomy for PTC between 2000 and 2022. Tumors were classified as T1b (>1- 2 cm) or T2 (>2-4 cm) and stratified by the presence of mETE. Clinicopathologic variables were compared, and recurrence predictors were assessed using univariate and multivariate Cox regression. DFS was analyzed with Kaplan-Meier methods. Among 819 T1b tumors, mETE was found in 227 patients (27.7%) and correlated with vascular invasion (14.1% vs. 2.9%, $p<0.001$). DFS was similar between groups (10-year DFS: 98.3% vs. 96.5%, $p=0.053$). Although recurrence risk increased with mETE (HR 2.35; 95% CI 0.96-5.79), this was not statistically significant and mETE was not an independent predictor. Among 376 T2 tumors, mETE was present in 71 patients (18.9%) and was associated with larger tumor size, multifocality, bilaterality, and vascular invasion. mETE significantly reduced DFS ($p<0.0001$), with 10-year DFS of 97.6% (no mETE) versus 88.4% (mETE). It remained an independent predictor of recurrence (HR 3.58; 95% CI 1.24-10.33). In early-stage, node-negative PTC, mETE does not significantly affect DFS in T1b tumors but is a strong, independent predictor of recurrence in T2 tumors. T2N0 PTC with mETE may warrant intermediate-risk classification and intensified surveillance.

FP-04**EFFICACY AND SAFETY OF PARENCHYMA-SPARING THYROIDECTOMY FOR SMALL LOW-RISK PAPILLARY THYROID CARCINOMA: PRELIMINARY RESULTS FROM THE FIRST EUROPEAN PROSPECTIVE SINGLE-CENTRE STUDY**

Chiara Becucci¹, Dr, PhD Leonardo Rossi¹, Dr Arianna Ghirri², Dr, PhD Benard Gjeloši¹, Dr Piermarco Papini¹, Dr Antonio Matrone², Dr, PhD Luigi De Napoli¹, Prof. Liborio Torregrossa³, Dr Eleonora Molinaro², Prof Clara Ugolini³, Prof Rossella Elisei², Prof Gabriele Materazzi¹

¹Department of Surgical, Medical and Molecular Pathology and Critical Area, Endocrine Surgery Unit, University of

Pisa, Pisa, Italy, ²Department of Clinical and Experimental Medicine, Endocrinology Unit, University of Pisa, Pisa, Italy,

³Department of Surgical, Medical and Molecular Pathology, Pathology Unit, University of Pisa, Pisa, Italy

Thyroid lobectomy (TL) is the gold standard approach for small (<2cm) low-risk papillary thyroid carcinoma (PTC), yet it leads to postoperative hypothyroidism in approximately 60% of cases. Active surveillance or parenchyma- sparing thyroidectomy (PST) (isthmectomy or tumor enucleation) may represent conservative but safe options. This study evaluated the efficacy and safety of PST compared with TL in patients with low-risk PTC who declined active surveillance. A prospective study started in December 2023. Eligible patients had PTC ≤ 15 mm without extrathyroidal extension or lymph node metastasis, with a tumor- capsule distance of ≥ 2 and < 10 mm. All patients received comprehensive counselling and freely choose between PST and TL. The primary endpoint was structural recurrence, defined by postoperative ultrasound. Secondary endpoints included complication rate, operative time, and the need for and dosage of levothyroxine therapy. Sixty-three patients were enrolled: 27 (42.9%) underwent PST and 36 (57.1%) TL. Baseline and histological features did not differ between groups (Table 1). No positive surgical margins or disease recurrence at 6 months were observed in both groups. Complication rate was similar between groups (3.7% vs. 5.6%; $p=0.732$). TL was associated with a longer operative time (40 vs. 30 minutes; $p<0.001$), a higher rate of levothyroxine requirement at 6 months (52.8% vs. 18.5%; $p=0.005$), and a higher levothyroxine dosage (72.7 vs. 65.5 $\mu\text{g/day}$; $p=0.028$) (Table 2). PST appears safe and effective for selected patients with small, low- risk PTC and offers improved preservation of thyroid function. These preliminary findings support its potential role as a conservative surgical option.

FP-05**CIRCULATING EXTRACELLULAR VESICLES-DERIVED MIRNAS FOR DISCRIMINATING PATIENTS WITH MALIGNANT FROM BENIGN BETHESDA IV/ THY3F THYROID NODULES**

Nada Mabrouk Ahmed^{1,2}, Dr Kevin Beatson³, Dr Jigisha Patel³, Dr Tarek Abdel-Aziz^{4,5}, Dr Mohammad Mahmoud Rajab Eddama³, Professor Lucie Clapp¹

¹Institute of Cardiovascular Sciences, University College London, London, United Kingdom, ²Pathology Department, Faculty of Medicine, Alexandria University, Alexandria, Egypt, ³Department of Surgical Biotechnology, Division of Surgery and Interventional Science, University College London, London, United Kingdom, ⁴Endocrine Surgery Unit, University College London Hospitals, London, United Kingdom, ⁵Department of Targeted Intervention, Division of Surgery and Interventional Science, University College London, London, United Kingdom

Patients with indeterminate Bethesda IV/Thy3f thyroid nodules mostly undergo diagnostic hemithyroidectomy for a definitive histological diagnosis, yet only ~20% prove malignant. Thus, there is an urgent need for diagnostic biomarkers. Blood-derived extracellular vesicles (EVs) are non-invasive liquid biopsy-based biomarkers enabling detection of cancer-driven molecular alterations. We now show that blood-derived EV-enclosed miRNAs (EV-miRNAs) can differentiate patients with malignant from benign Thy3f nodules. EVs were isolated by differential centrifugation from plasma of age/gender-matched malignant and benign Thy3f nodule patients (n=20) and RNA extracted immediately using miRNeasy Micro Kit. EV-miRNAs were identified by an omics feasibility study conducted in our lab and from the literature. PCR was performed using miRCURY LNA miRNA PCR Kit for relative quantification of EV-miRNAs. For normalisation, miR-103a-3p was used. Significant overexpression of plasma-derived EV-miRNA miR-146b-5p, miR-222-3p, miR-127-3p, and miR-195-3p was observed in cancer versus benign Thy3f nodule patients (p=0.0098, 0.0002, 0.0052, 0.0071, respectively). No significant difference was observed for miR-21-5p (p= 0.2213). Area under the receiver operating curve (AUC) was 0.731 for miR-146b-5p, 0.860 for miR-222-3p, 0.755 for miR-127-3p, 0.852 for miR-195-3p. A two-miRNA panel of miR-222-3p and miR-195-3p achieved the highest AUC 0.927 (p=0.0009, 95% CI= 0.810-1.000, sensitivity 90.91%, specificity 80.00% at cut-off <0.4697). Adding miR-127-3p to the panel yielded a slightly lower AUC of 0.9182 but demonstrated highest sensitivity and specificity, 90.91% and 100% respectively. A plasma EV-miRNA panel of miR-195-3p, miR-222-3p, miR-127-3p shows strong promise as non-invasive biomarker for accurately identifying malignancy. This could improve risk stratification for Thy3f nodule, supporting clinical diagnostic applicability.

FP-06**IS THE USE OF AUTOFLUORESCENCE AND INDOCYANINE GREEN USEFUL TO PREVENT TEMPORARY HYPOPARATHYROIDISM AFTER TOTAL THYROIDECTOMY? A RANDOMIZED CONTROLLED TRIAL.**

Silvia Dughiero¹, MD Klaas Van Den Heede¹, MD, PhD Sam Van Slycke¹

¹Department Of General And Endocrine Surgery, Azorg Hospital, Aalst, Belgium

Post-operative hypoparathyroidism (HypoPTH) is the most common complication following total thyroidectomy. In the previous years autofluorescence (AF) detection and indocyanine green (ICG) injection were used to evaluate the parathyroid glands (PGs) during surgery, assessed to be useful to prevent HypoPTH. The aim of the study was to analyse the impact of AF and ICG to reduce the risk of HypoPTH. A single-blinded randomized controlled trial with parallel assignment was conducted in a single Belgian tertiary referral centre. The use of AF with ICG injection was compared to the gold standard of visual identification of PGs. The primary outcome was the occurrence of HypoPTH six weeks after surgery. 50 patients were enrolled, 25 for each arm of the study. A total of 80 PGs were visualized in the AF and ICG group, compared to 76 in the control group (p=0.516). The prevalence of HypoPTH was not significantly different (32% in the AF and ICG group vs. 36%, p=0.765). Interestingly, more patients in the AF and ICG group had lower levels of PTH (<10 pg/mL) 4 hours after the surgery (28% vs. 12%) and developed early hypocalcaemia (12% vs. 8%, p=0.781). All patients recovered six-weeks after the surgery. This study did not demonstrate a significant benefit of using AF with ICG to prevent transient HypoPTH. Even though more PGs were visualized in the AF and ICG group, the prevalence of HypoPTH and hypocalcaemia seems to be higher in this group, but the differences were not statistically significant.

FP-07**A PARALLEL RANDOMISED CONTROLLED TRIAL OF SURGERY VERSUS OBSERVATION IN PATIENTS 65 YEAR OR OLDER WITH PRIMARY HYPERPARATHYROIDISM**

Prof Anders Bergenfelz¹, MD, PhD Mark Thier¹, Associate Professor, MD, PhD Martin Almquist¹, Erik Nordenström¹

¹Lund University, Sweden

A bone density T-score <2.5 s.d., is an indication for surgery of primary hyperparathyroidism (pHPT). However, the impact of pHPT surgery on bone density in older patients is unclear. Patients 65 > years referred for first time surgery for pHPT were randomised to operation or control. Exclusion criteria were a Z-score < - 2.5 SD and ionised calcium > 1.50 mmol/L. Bone density was evaluated preoperatively and at one and two years. Primary outcome was hip bone density. Secondary outcomes included lumbar spine bone density and renal function. Analysis of change from baseline was performed using a mixed-model repeated-measures ANOVA (MMRMA). Continuous variables were analysed using Satterthwaite's t-test. 252 were screened and 102 patients randomised, 50 to observation and 52 to surgery. The mean age was 72 years. 81 patients were available for analysis of the primary outcome. Total hip bone density increased with mean 1.31% in the surgery group (95 per cent confidence interval -0.2 to 2.81%) and decreased with mean -1.38 % in the control group (-2.59 to -0.17%), p=0.006, MMRMA, p=0.001. Bone density at the lumbar spine increased by 4.56% in the surgery group (3.02 to 6.11%) and in the observation group by 0.17 % (1.12 to 1.45%); p<0.001, MMRMA p=0.001. No difference in renal function between the groups were shown, MMRMA, p= 0.232. Patients >65 years with moderate hypercalcaemia increased slightly in bone density after parathyroidectomy. If this will translate into a clinically meaningful reduced fracture risk is an open question.

FP-08**REDUCED SECRETORY EFFICIENCY IN PARATHYROID CARCINOMA: DIAGNOSTIC VALUE OF THE PTH-TO-TUMOR-VOLUME RATIO**

Magdalena Kwapisz¹, Dr Piotr Góralski¹, Dr Jacek Gańczyński¹, Dr Elwira Bakuła - Zalewska², Prof Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

Parathyroid carcinoma is a rare but highly aggressive cause of primary hyperparathyroidism. Although malignant tumors typically present with markedly elevated PTH levels and pronounced hypercalcemia, they also tend to be substantially larger than benign adenomas. Emerging observations suggest that, despite high absolute serum PTH concentrations, the secretory activity per unit of tumor volume may be lower in carcinomas. This altered biochemical profile may enhance preoperative differentiation between malignant and benign parathyroid disease. We retrospectively analyzed 341 patients undergoing surgery for PHPT between 2017 and 2024. Parathyroid carcinoma was diagnosed in 8 patients (group 1), while 333 had benign lesions (group 2). For each case, a PTH/volume index was calculated (serum PTH in pg/mL divided by tumor volume in mL). Statistical analyses included intergroup comparisons and logistic regression. Despite higher absolute PTH values and substantially larger tumor volumes in carcinoma cases, the PTH/volume index was significantly lower in group 1 than in group 2 (116.08 vs. 443.12; U = -2.54, p = 0.011). Each one-unit decrease in this ratio was associated with a 1% increase in the likelihood of carcinoma (OR = 0.99; p = 0.04), reflecting reduced secretory efficiency relative to tumor size. Parathyroid carcinomas demonstrate disproportionately low secretory activity despite large tumor mass and high total PTH levels. The PTH-to- volume ratio may therefore serve as a valuable preoperative marker for identifying malignant lesions. Prospective validation is warranted.

FP-09**FIRST RESULTS AFTER IMPLEMENTATION OF FLUOR CHOLINE PET/CT AS STANDARD FIRST-LINE IMAGING: HIGH CURE RATES BUT MORE BILATERAL NECK EXPLORATIONS**

Moritz Menz¹, PD Dr. med. Benjamin Weixler¹, Mrs Felicitas Koch¹, Dr.med Sina Schmidt¹, Dr.med. Laura Guglielmetti¹, Mr Michel Schläppi¹, Dr.med. Andrea Goldmann¹

¹Kantonsspital Winterthur, Viszeral- und Thoraxchirurgie, Winterthur, Switzerland

Since July 2023, Fluor Choline PET/CT has been approved in Switzerland as a first-line imaging modality for parathyroid adenoma localization in primary hyperparathyroidism (pHPT). This change represents a shift from previous reimbursement policies, which required inconclusive results from ultrasound and MIBI scintigraphy. We retrospectively analyzed 281 parathyroidectomies performed between January 2017 and June 2025. Thirty-three patients were excluded due to hereditary HPT, redo surgeries, lithium treatment, or pregnancy. Preoperative biochemical characteristics, imaging techniques, surgical approaches, and outcomes were compared between patients treated before (preCholin, N=161) and after (postCholin, N=87) the implementation of Fluor Choline PET/CT as standard first-line imaging. The overall cure rate was 96.7% (235/243) after the first operation and 98.8% after redo surgery in 5 cases (240/243). Sensitivity for MIBI scintigraphy/ SPECT CT was 64.1%, whereas Fluor Choline PET/CT demonstrated a sensitivity of 90.5%, enabling precise localization of parathyroid lesions. Interestingly, the rate of bilateral neck explorations increased from 22.3% in the preCholin group to 31.0% in the postCholin group. The implementation of Fluor Choline PET/CT as a standard first-line imaging modality for pHPT localization resulted in high cure rates. However, the increased rate of bilateral neck explorations warrants further investigation to understand its impact on surgical outcomes and patient management.

FP-10

USE NEAR-INFRARED AUTOFLUORESCENCE (AF) PATTERNS IN TARGETED PARATHYROIDECTOMY FOR PRIMARY HYPERPARATHYROIDISM TO REPLACE FROZEN SECTION AND INTRAOPERATIVE PARATHYROID HORMONE ANALYSIS AND DECREASE SURGERY'S TIME.

Gianluca Donatini¹, Dr Sohail Bakkar², Dr Mariana Teixeira Moraes¹, Dr Lucas Shafiee Koor¹, Dr José Luis Carrillo Lizarazo¹

¹CHU Poitiers, Poitiers, France, ²Hashemite University, Zarqa, Jordan

Patients with primary hyperparathyroidism (pHPT) can benefit from focused surgery. However, frozen section(FS) and intraoperative parathyroid hormone(ioPTH) are employed to confirm success of surgery. This may increase length and cost per procedure. Our study assesses the impact of NIRAF in patients with pHPT for these variables. All patients undergoing focused parathyroidectomy for pHPT with concordant ultrasound (US) and 99mTc-sestamibi Scintiscan localization between 2021 and 2025 were included in study groups: autofluorescence(AF) or control(CG). In AF group, autofluorescence pattern of the adenoma was considered successful and concluded the procedure. In the CG, after adenoma removal, ioPTH analysis and frozen section were performed to assess success of procedure. Overall, 193 patients were operated: 67 in CG and 126 in AF. In CG, the median operating time was 67 minutes, compared to 35 minutes in AF(p <0.001). Pathological report confirmed the AF typical heterogeneous pattern findings in 123/126 cases (97.6%), while in 3 cases a lesion, not showing the typical AF pattern of an adenoma, was removed but was not parathyroid tissue (2 lymph nodes and an ectopic thyroid nodule). Use of AF may avoid ioPTH(50%), frozen section(50%) and saves 30' of surgery time (250' per hour). The use of NIRAF in patients with pHPT with concordant preoperative localization imaging reduces the overall surgical time by 50%. Overall costs may drop by 200-250 (per patient by avoiding frozen section and ioPTH. The saved time may allow more procedures per working day.

FP-11

CAN THE OUTPATIENT PARATHORMONE VALUE BE USED INSTEAD OF THE INITIAL VALUE IN INTRAOPERATIVE PARATHORMONE MEASUREMENT DURING PRIMARY HYPERPARATHYROIDISM SURGERY?

Serkan Karaisli¹, Dr Kaan Turmus², Dr Selda Gucek Hacıyanli¹, Dr Ozlem Gur¹, Dr Mehmet Hacıyanli¹

¹Izmir Katip Celebi University Atatürk Training and Research Hospital, Department Of General Surgery, Izmir, Turkey,

²Torbali State Hospital, Department Of General Surgery, Izmir, Turkey

Intraoperative parathyroid hormone (IOPTH) measurement is widely used to confirm surgical success in primary hyperparathyroidism (PHPT). The Miami criteria are the most widely used. Despite the significant advantages of IOPTH, its cost remains a matter of debate. This study aimed to investigate the necessity of pre-excision parathyroid hormone (PTH) measurement during parathyroidectomy in PHPT patients. The files of 159 patients who underwent parathyroidectomy in our department between January 2022 and December 2023 were retrospectively reviewed. Patients aged 18 years and older who underwent parathyroidectomy for PHPT were included. Patients with secondary/tertiary

hyperparathyroidism and those with incomplete data were excluded. PTH levels were measured in all patients at the outpatient clinic, during surgery (IOPTH preexcision (1) and 10-minute postexcision (2)), and on the first postoperative day. Achieving postoperative normocalcemia was considered a cure. Outpatient PTH/10-minute postexcision PTH and IOPTH1/IOPTH2 results were compared, and a decrease of >50% was considered a successful excision. 122 patients who met the study criteria were included. The median age was 55 years (20-80 years). 103 (84.4%) were female and 19 (15.6%) were male. A total of 3 (2.5%) patients had persistent disease. The accuracy rates for Outpatient PTH/10-minute postexcision PTH and IOPTH1/IOPTH2 for cure prediction were 91% and 93.4%, respectively, and no statistically significant difference was found between methods ($p=0.474$). Evaluating outpatient PTH levels with post-excision PTH levels can be used to confirm surgical success with high accuracy. Using this method can offer advantages in terms of both operative time and cost.

FP-12

PARATHYROID SURGERY IN CHILDREN WITH SPORADIC AND FAMILIAL HYPERPARATHYROIDISM ! MULTICENTRE UK EXPERIENCE

Karen D Bosch¹, Dr P Prentice², Mr HHB Oh³, Mr T Abdel-Aziz³, Dr C Butler², Dr S De Mel², Dr AD Chesover², Dr C Peters², Ms V Rozalen Garcia³, Dr C Brain², Dr J Allgrove², Mr R Mihai¹, Mr TR Kurzawinski³

¹Oxford University Hospitals, Oxford, United Kingdom, ²Great Ormond Street Hospital, London, United Kingdom,

³University College London Hospital, London, United Kingdom

Primary Hyperparathyroidism (PHPT) in children is extremely rare with data from clinical series the only evidence defining our knowledge of this condition and guiding surgical practice in constantly evolving diagnostic and therapeutic landscape. Retrospective review (1977 - 2025) of children with PHPT who underwent parathyroidectomy at two tertiary endocrine centres. 72 children (0-18 years, 37 boys) had parathyroidectomy for PHPT; 49 sporadic (sPHPT), 14 familial (fPHPT; 10 MEN1, 2 MEN2a, 2 JT-HPT), 9 Neonatal Severe Hyperparathyroidism (NSHPT). Children with sPHPT and NSHPT (90% and 89% symptomatic) presented with severe hypercalcaemia ($cCa3.1 \pm 0.4$ mmol/L and 4.6 ± 1.6 mmol/L; $p<0.05$). Children with fPHPT had lower cCa (2.9 ± 0.3 mmol/L), 31% detected on screening. Ultrasound identified abnormal parathyroid(s) in 95% sPHPT and 90% fPHPT, with Sestamibi concordant in 89%. Imaging performed in 66% of NSHPT cases showed no abnormal parathyroids. 98% of children with sPHPT had single adenoma on histology (67% underwent MIP with IOPTH monitoring). 13 children (93%) with fPHPT had neck exploration with 1-4 parathyroids resected, 1 had MIP (MEN2a). 8 children with NSHPT had 4 and one 3) gland parathyroidectomies. All children with sPHPT were cured and 1 child with NSHPT had persistent hypercalcaemia. Four children (29%) with fPHPT were re-operated (median 49.5, range 37-59 months). There were no surgical complications. Children with PHPT present with severe hypercalcaemia and symptoms. Ultrasound should be first-line imaging for sPHPT. MIP with IOPTH should be the operation of choice for sPHPT. Extent of parathyroidectomy in children with fPHPT remains controversial and should be audited nationally.

FP-13

IS THE 18F-CHOLINE PET-CT MORE COST-EFFECTIVE THAN STANDARD PROTOCOL FOR LOCATING A PARATHYROID ADENOMA?

Norberto Cassinello^{1,2}, Prof Joaquin Ortea², Dr Santiago Serrano¹, Dra Raquel Alfonso^{1,2}, Dra Rosa Martí¹, Dra María Lapeña¹, Dr Rafael Diaz³

¹Endocrine Surgery Unit.Hospital Clínico Universitario Valencia, Valencia, Spain, ²Surgery Department. University of Valencia, Valencia, Spain, ³Nuclear Medicine Department. Hospital Clínico Universitario Valencia, Spain

The most common cause (> 80% of cases) of primary hyperparathyroidism (PHPT) is parathyroid adenoma. Its diagnosis is conventionally made by cervical ultrasound and 99mTc-MIBI scintigraphy. However [18F-Choline PET-CT ([18F-FCh PET-CT) offers greater sensitivity and specificity, although at a high cost, which prevents it from being a first-line diagnostic method. Observational retrospective cohort study of 100 consecutive patients operated on for PHPT by parathyroidectomy in a tertiary hospital. Patients were divided into two groups: Group 1, patients with successful diagnosis using conventional tests (42 patients) and Group 2, patients with an initial failed diagnosis who required 18F-FCh PET-CT (52 patients). A group with an ideal diagnostic strategy using only 18F-FCh PET-CT was simulated and the costs were compared with the groups in the sample. The sample finally analyzed 94 patients, 78.7% female, mean age 61.73 years. 55,3 % of the patients required a 18F- FCh PET-CT for the location diagnosis. The group 2 required more consultations, more complementary tests and a

longer interval between the first consultation and the intervention. The ideal diagnostic strategy ((1,399.77/patient) represents a lower cost than the other strategy ((1,730.61/patient). The diagnosis of location of a parathyroid adenoma with 18F-FCh PET- CT required fewer complementary tests and consultations, reducing the interval until surgical intervention, with no difference in surgical results. The costs if 18F-Ch PET-CT is performed as the only location diagnostic test are lower when a group of patients is studied, so its use is recommended as a first line diagnostic tool.

FP-14

PROGNOSTIC VALUE OF POINT OF CARE PTH MEASUREMENT IN PREDICTING LOW PTH ON THE FIRST DAY AFTER TOTAL THYROIDECTOMY; PROSPECTIVE, SINGLE ARM, OBSERVATIONAL STUDY.

Norah Alhazzaa¹, Dr Faisal Alsarrani¹, Dr Alaa Abdelsalam¹, Dr Virginia Rozalen-Garcia¹, Dr Tarek Abdel-Aziz¹, Professor Andreas Zielke², Dr Katharina Schiffer², Dr Arantxa Garcia Barrasa³, Dr Marta Recasens Subías³, Dr Itziar Larrañaga Blanc³, Dr Pablo Moreno Llorente³, Dr Tomasz Kurzwinski¹, Dr Constantin Smaxwil²

¹University College London Hospital, London, United Kingdom, ²Diakonie-Klinikum Stuttgart, Stuttgart, Germany,

³Bellvitge University Hospital, Barcelona, Spain

Hypoparathyroidism resulting in hypocalcaemia is the commonest complication after Total Thyroidectomy (TT). Postoperative PTH allows prompt identification of patients at risk and facilitates appropriate treatment and early discharge. To assess prognostic value of Point of Care PTH (POC/PTH) in identifying patients likely to develop abnormal PTH on the 1st postoperative day (PTH/D1) after TT and needing treatment. Multicentre (London, Stuttgart, Barcelona) study of patients undergoing TT who had POC/PTH measured immediately after skin closure on a novel NBCL Analyzer. Routine measurement of parathormone (PTH/D1), which informed decision about starting treatment, was done at hospital laboratory (Roche) on the morning after TT. Predictive values of POC/PTH in identifying low PTH/D1 (<1.6pmol/l) on the 1st postoperative day were calculated. 91 patients, 55F (60.4%), median age 51-years (range 18–83) underwent TT for benign (N=66), and malignant conditions (N=25). 27(29.7%) patients developed low PTH/D1. POC/PTH at a cut-o! value of 1.9 pmol/l predicted low PTH/D1 with sensitivity of 81.48%, specificity of 79.69%, PPV 62.9% and NPV 91.1%. (AUC 0.896 (p<0.0001 95% C.I. 0.830-0.961). Unmeasurable POC/PTH (<0.5pmol/l) predicted low D1/PTH with 100% sensitivity, 90.9 specificity (AUC 0.939). POC/PTH at a cut value o! 1.6 pmol/l predicted decision to treat with sensitivity of 69%, specificity 90.3%, PPV 79.2%, NPV 85.1% (AUC 0.873). POC/PTH measured on NBCL Analyzer immediately after TT identifies patients at risk of low PTH/D1 on 1st post-operative day and predicts decision to treat. Further studies are planned to investigate clinical utility of this promising approach.

FP-15

RELATIVE AND NORMALIZED IODINE CONCENTRATIONS DERIVED FROM PHOTON COUNTING COMPUTED TOMOGRAPHY AND THEIR CORRELATION WITH TUMOR GRADE AND KI67 IN PANCREATIC NEUROENDOCRINE NEOPLASIA, A PILOT STUDY

Marwin-Jonathan Sähn^{1,2}, Simon Waltermann^{1,2}, Jonas Ottemöller^{1,2}, PD Dr.med. Raihanatou Diallo-Danebrock^{1,2}, Dr. med. Julius Henning Nieho!^{1,2}, Dr. med. Marcel Bähr^{1,2}, Prof. Dr. med. Berthold Gerdes^{1,2}, Prof. Dr. med. Jan Borggrefe^{1,2}, Prof. Dr. med. Alexey Surov^{1,2}, PD Dr. med. Nehara Begum^{1,2,3}

¹Johannes-Wesling Klinikum Minden, Minden, Germany, ²Ruhr-University Bochum, Bochum, Germany, ³University Hospital Schleswig-Holstein, Campus Lübeck, LÜBECK, Deutschland

Neuroendocrine neoplasms are a rare and complex tumor entity with rising incidence. Pancreatic neuroendocrine neoplasms (PanNEN) display an aggressive behavior. In recent publications, iodine concentration derived from dual energy computed tomography (DECT), was explored as a potential biomarker for tumor grade and Ki67 in PanNEN. However, methodologies exhibited significant variability with ambiguous outcome. With the advent of photon counting computed tomography (PCCT) this study aims to provide evidence for tumor characterisation using PCCT-derived iodine concentration. Iodine concentration in PanNEN was analyzed in the portal venous phase regarding correlation with histopathological tumor grade and Ki67. Iodine concentration were normalized to aortic iodine concentration(normalized iodine concentration, NIC), and calculated relative to unaffected pancreatic

tissue (relative iodine concentration, RIC). Correlations were analyzed using Spearman's rank correlation, mean concentrations were analyzed using Mann-Whitney-U-test. 18 cases with PanNEN were included. Relative Iodine concentration (RIC) exhibited a statistically significant correlation with tumor grade ($p = 0.54$, $p = 0.021$) and Ki67 ($p = 0.533$, $p = 0.023$). Mean RIC was higher in high-grade tumors ($p = 0.028$). NIC showed weak correlation with tumor grade ($p = 0.328$, $p = 0.183$, n.s.) and Ki67 ($p = 0.302$, $p = 0.224$). Mean NIC did not differ between low and high- grade PanNEN. Our preliminary results show that PCCT derived relative iodine concentration (RIC) is a potential biomarker for tumor grade and Ki67 prediction in untreated PanNEN. The non-invasive method requires little additional resources and may support early therapeutic decisions without primary tumor biopsy.

FP-16

NIHR NIFTY (ISRCTN:59074092) RANDOMISED CONTROLLED TRIAL (RCT) RESULTS - DOES NEAR-INFRARED FLUORESCENCE IMAGING PREVENT POSTSURGICAL HYPOPARATHYROIDISM AFTER THYROID SURGERY?

Saba P Balasubramanian¹, Dr Julie Croft², Dr Kathryn Gordon², Dr Anna Perry², Dr Gemma Ainsworth², Dr Neil Corrigan², Dr Maureen Twiddy³, Prof Hisham Mehanna⁴, Ms Liz Glenister⁵, Prof Neil Sharma⁴, Prof Jon Wadsley¹, Prof Mark Strachan⁶, Mr David Chadwich⁷, Prof David Jayne², Prof Deborah Stocken²

¹Sheffield Teaching Hospitals Nhs Foundation Trust, Sheffield, United Kingdom, ²University of Leeds, Leeds, United Kingdom, ³University of Hull, Hull, United Kingdom, ⁴University of Birmingham, Birmingham, United Kingdom, ⁵Parathyroid UK, UK, United Kingdom, ⁶University of Edinburgh, Edinburgh, United Kingdom, ⁷Nottingham University Hospitals, Nottingham, United Kingdom

Post-surgical hypoparathyroidism (PoSH) after thyroid surgery has significant short- and long-term morbidity. Near-infrared fluorescence (NIRF) imaging has potential in reducing PoSH incidence. A seamless phase II/III (IDEAL 2a-3) unblinded, parallel-group, multicentre RCT was performed in UK NHS patients planned to undergo a total or completion thyroidectomy. Participants were randomised 1:1 to thyroidectomy with NIRF and indocyanine green (NIRF+ICG), or standard thyroidectomy (SC). Operations were performed according to a surgical manual informed by an embedded process evaluation. NIFTy incorporated a phase II analysis using a surrogate primary outcome (1-day hypocalcaemia) to determine early futility of NIRF+ICG, and phase III assessment of the primary outcome of PoSH incidence at 6 months post- surgery. Secondary outcomes included parathyroid hormone levels (key secondary), protracted hypoparathyroidism, hypercalcaemia, complications, length of stay, readmissions and patient reported quality-of-life. In the phase II analysis, 1-day hypocalcaemia was evaluable in 208/220 patients, occurring in 13/104 (NIRF+ICG) and 17/104 (SC), which demonstrated futility of NIRF+ICG (OR (one-sided 80% CI): 0.734 (0,1.027), $p=0.219$). After trial closure and follow-up, 6-month PoSH was evaluable in 219/252 randomised participants and occurred in 20/107 (NIRF+ICG) and 14/112 (SC) (OR (95% CI) 0.682 (0.317,1.468)). Safety profiles were similar between arms. The NIFTY phase II analysis showed that NIRF+ICG was extremely unlikely to demonstrate a significant difference in 6-month PoSH incidence if the trial continued. Detailed trial results, including secondary analyses, will be presented.

FP-17

%18F&FLUOROCHOLINE-PET-CT REDUCES OPERATION TIME AND IMPROVES CURE RATE OVER ULTRASONOGRAPHY AND %99MTC&TC-MIBI-SCINTIGRAPHY FOR PRIMARY HYPERPARATHYROIDISM, A RANDOMIZED TRIAL

Martin Nilsson¹, Dr Erik Nordenström¹, Dr Mark Thier¹, Mr Himam Murad, Dr Ulrika Bitzén², Dr Fredrik Hedeer², Dr Jenny Oddstig³, Dr Ola Lindgren⁴, Mrs Marie Joelsson, Dr Martin Almquist¹

¹Lund University; Department of Clinical Sciences; Section V; Surgery, Lund, Sweden, ²Lund University; Department of Clinical Sciences; Section V; Clinical Physiology, Lund, Sweden, ³Lund University; Department of translational Medicine; Clinical Physiology and Nuclear Medicine; Clinical Physiology and Nuclear Medicine, Malmö, Sweden, ⁴Lund University; Department of Clinical Sciences; Section II; Medicine/ Emergency Medicine, Lund, Sweden

Ultrasonography and [99mTc]Tc-MIBI-scintigraphy have long been the standard imaging modalities in parathyroid surgery, but recent studies indicate that [18F]Fluorocholine-PET-CT is more accurate. This randomized study compared [18F]Fluorocholine-PET-CT to ultrasonography and [99mTc]Tc-MIBI-scintigraphy for first-line localization in patients with sporadic primary hyperparathyroidism. In this non-blinded, single-centre trial, adult patients with pHPT were randomized to either [18F]Fluorocholine-PET-CT or ultrasonography and [99mTc] Tc-MIBI-scintigraphy. Patients with

previous thyroid or parathyroid surgery, planned concurrent thyroid surgery, lithium therapy, hereditary disease or severe renal insufficiency were not eligible. If the allocated localization investigations failed, 4D-CT was performed. The primary outcome was operation time in minutes. Secondary outcomes were biochemical cure; recurrent laryngeal nerve paresis; hypocalcaemia; persistent disease; sensitivity, specificity, PPV and NPV per-lesion and per-patient; total irradiation; total imaging and procedure cost. In all, 126 patients were included, of which 66 were randomized to [18F] Fluorocholine-PET-CT and 60 to conventional imaging (controls). 11 patients withdrew and 8 were excluded, after which, 59 patients remained in the PET group and 48 among the controls. 4D-CT was performed in 2 patients in the PET group, and in 19 among the controls. Median operation time was shorter and cure rate higher in the PET group compared to the conventional group, 26 (IQR 19-36) vs. 34.5 (20-48) minutes, $p=0.042$, and 100% vs. 91%, $p=0.036$. There were no adverse events. [18F]Fluorocholine-PET-CT provides better preoperative localization in primary hyperparathyroidism, reducing operation time and improving cure rate compared to standard imaging with ultrasonography and [99mTc]Tc-MIBI-scintigraphy.

FP-18

MANAGEMENT OF CHILDREN/YOUNG ADOLESCENTS AND ADULT PATIENTS WITH METASTATIC/PROGRESSIVE PHAEOCHROMOCYTOMAS AND PARAGANGLIOMAS

Faisal AlSarrani¹, Mr TR Kurzawinski¹, Ms Virginia Rozalen-Garcia¹, Dr Mark Gaze¹, Dr Jamshed Bomanji¹, Dr Norah Alhazaa¹, Dr Jinkun He¹, Mr Tarek Abdel-Aziz¹

¹University College London Hospitals, London United Kingdom

Malignant phaeochromocytomas-(PCCs) and paragangliomas- (PGLs) are rare neuroendocrine tumours and evidence guiding the selection of systemic molecular radiotherapy-(MRT) remains limited. ¹³¹I-MIBG and ¹⁷⁷Lu- DOTATATE are commonly used following surgery. This study compared treatment outcomes between children/young-adolescents(<21years) and adults(>21years). A retrospective analysis was conducted to record patient characteristics, tumour features, treatment details, and MRT administered. Outcomes were assessed using Kaplan-Meier analysis of overall survival-(OS) and progression-free survival-(PFS). Fifty-one patients were included (CYA n=15;adults n=36), Mean age at presentation was 13.4 years in CYAs and 47.7 years in adults. Surgical resection was performed in 81% of CYA PGLs and 75% of PCCs (R0/R1:44% and 100%), and in 95% of adult PGLs and 92% of PCCs (R0/R1:59% and 75%). Bone and lung metastases were the most frequent metastatic sites. No statistically significant differences were observed in OS or PFS between ¹³¹I-MIBG and ¹⁷⁷Lu-DOTATATE. However, analysis consistently favoured ¹⁷⁷Lu-DOTATATE, particularly in PGLs. In CYA-PGL patients, ¹⁷⁷Lu-DOTATATE demonstrated longer median OS (4.5 vs 3.5yrs) and PFS (4.5 vs 1.8yrs) compared with MIBG. In Adult PGLs, median OS was similar (3.0yrs each), while ¹⁷⁷Lu-DOTATATE showed longer PFS (3.0 vs 2.5yrs). Surgical resection was frequently incomplete in both groups with metastatic PGLs. Although ¹⁷⁷Lu-DOTATATE is not currently approved by NICE for metastatic PCCs/PGLs, it demonstrated consistently longer OS and PFS than ¹³¹I-mIBG, particularly in PGLs. These findings support a potential therapeutic advantage of ¹⁷⁷Lu-DOTATATE over ¹³¹I-mIBG, though benefits in PCCs remain less clear due to smaller treated numbers and the absence of statistically significant differences.

FP-19

IMPACT OF PREOPERATIVE ALPHA-BLOCKADE ESCALATION VERSUS NO ESCALATION ON PERIOPERATIVE OUTCOMES IN PHEOCHROMOCYTOMA SURGERY: A NATIONAL MULTICENTER COHORT STUDY

Isabelle Holscher^{1,2,11}, T.J. van den Berg³, D.W.A. Lamers⁴, Prof. Dr. J.F. Langenhuisen⁴, Dr. L. Lodewijk⁵, Dr. M.R. Vriens⁵, Dr. J.H. Koetje⁶, Prof. Dr. S. Kruij!⁶, C.L. Viëtor^{7,8}, Dr. T.M. van Ginhoven^{7,8}, Dr. T. Lubbers⁹, J. van der Horst⁹, Dr. K.M.A. Dreijerink^{2,10,11}, W.D. Lubbers³, Prof. Dr. M.W. Hollmann³, Dr. A.F. Engelsman^{1,2,11}, Prof. Dr. E.J.M. Nieveen van Dijkum^{1,2,11}

¹Amsterdam UMC, location Vrije Universiteit, Department of Surgery, Amsterdam, Netherlands, ²Amsterdam Gastroenterology Endocrinology Metabolism, Amsterdam, Netherlands, ³Amsterdam UMC, location University of Amsterdam, Department of Anesthesiology Amsterdam, The Netherlands ⁴Radboud UMC, Department of Urology, Nijmegen, The Netherlands, ⁵UMC Utrecht, Department of Surgical Oncology, Utrecht, The Netherlands, ⁶UMC Groningen, Department of Surgery, Groningen, The Netherlands, ⁷Erasmus MC, Erasmus MC Cancer Institute, Department of Surgical Oncology and Gastrointestinal Surgery, Rotterdam, The Netherlands, ⁸Erasmus MC, Department of Internal Medicine, division of Endocrinology, Rotterdam, The Netherlands, ⁹Maastricht UMC, Department of Surgery, Maastricht The Netherlands, ¹⁰Amsterdam UMC, location University of Amsterdam, Department of Endocrinology and Metabolism, Amsterdam The Netherlands, ¹¹Cancer Center Amsterdam, Amsterdam The Netherlands

Since its introduction in the 60s, preoperative dose-escalation with α -blockade has become a cornerstone for clinical pheochromocytoma management to prevent hemodynamic instability and related complications. However, recent studies have shown shorter hospital stays and less postoperative hypotension in patients undergoing pheochromocytoma resection without preoperative dose-escalation of α -blockade. This study aimed to evaluate the impact of both preoperative treatment strategies, α -blockade dose-escalation versus non-escalation, on perioperative outcomes. Patients who underwent adrenalectomy for benign or non-metastatic pheochromocytoma at six Dutch tertiary centers from 2015 to 2023 were included. Perioperative outcomes were compared between both pretreatment strategies, including overall complication rate (Clavien-Dindo ≥ 2) and pheochromocytoma-related morbidity, defined as catecholamine-related cardiovascular complications and postoperative hypoglycemia. Secondary outcomes included postoperative hypotension requiring vasopressor support and length of hospital stay. In total, 513 patients were included: 437 followed the preoperative α -adrenergic dose-escalation protocol and 76 the non-escalation protocol. In total, 99 perioperative complications occurred in 65 patients (12.7%), with 1 perioperative death (0.2%). The perioperative complication rate was 12.6% in the dose-escalation

group versus 13.2% in the non-escalation group ($P=0.890$). Pheochromocytoma-related morbidity rate was 6.9% versus 6.6% ($P=0.927$), respectively. Postoperative hypotension occurred in 54.7% versus 39.5% of patients ($P=0.005$). Median hospital stay was 10 [7-15] versus 3 days [2.1-5.6] ($P=0.000$). Our data suggest that omitting preoperative α -blockade dose-escalation does not compromise perioperative safety and reduces postoperative hypotension and shortens hospital stays. These findings emphasize the need to reevaluate the current standard of preoperative α -blockade dose-escalation.

FP-20

GENOME-WIDE DNA METHYLATION PROFILING IDENTIFIES CLINICALLY RELEVANT SUBGROUPS IN MEDULLARY THYROID CANCER

Teresa Binter¹, Ap. Prof. PD Dr. Gerwin Heller, Mag. rer.nat. PhD Erwin Tomasich, Ao.Univ.-Prof. Dr. Peter Mazal, PD Dr. Felix Harpain, Assoc.-Prof. PD Dr. Philipp Riss, Ao.Univ.-Prof. Dr. Christian Scheuba, Assoc. Prof. PD Dr. Anna Bergmeister-Bergho!, Ao.Univ.-Prof. Dr. Markus Raderer, Ap.Prof. PD Dr. Barbara Kieseewetter

¹Medical University Of Vienna; Department of General Surgery, Division of Visceral Surgery, Vienna, Austria

Medullary thyroid cancer (MTC) is rare and well treatable by surgery in early stages. However, early lymph node involvement is common and significantly worsens prognosis. Advanced MTC is treated with tyrosine kinase inhibitors, offering promising yet variable response rates. Current predictors of tumor aggressiveness are limited and tissue characteristics, driving recurrence or persistent disease remain poorly understood. This study aims to investigate genome-wide DNA methylation profiles of patients with MTC, potentially allowing to identify biologically and clinically meaningful subgroups with prognostic impact and predictive factors to systemic treatment. Forty FFPE MTC tissue blocs were analysed for DNA-methylation profiles, using the Infinium Methylation EPIC BeadChip Kit (Illumina). Each array accommodates eight samples and features more than 850,000 methylation sites across the genome. Patient samples were stratified into subgroups based on clinical parameters and established

markers of tumor aggressiveness. Methylation patterns were subsequently compared between these subgroups to identify characteristic epigenetic differences. Analyses of the methylation patterns demonstrated significant epigenetic variation between several meaningful subgroups. WHO low-grade and high grade MTC exhibited markedly different methylation patterns, reflecting distinct biological behavior. Patients with germline RET mutations and somatic RET mutations could also be separated clearly. Additionally, subgroups based on preoperative calcitonin levels demonstrated characteristic differences in methylation patterns. Our findings highlight a strong potential of epigenetic profiling to show biological heterogeneity of MTC and therefore discriminate subgroups with prognostic and predictive impact. This may serve as a basis for improved prognostic assessment and personalized therapeutic strategies in the future.

FP-21

TMPRSS6: A NOVEL AND HIGHLY SENSITIVE BIOMARKER OUTPERFORMING BRAF-V600E FOR DIAGNOSIS AND RISK STRATIFICATION OF PAPILLARY THYROID CANCER

Qiang Li¹, Prof. Linlin Zhen¹, Dr. Rui Lv¹

¹The Affiliated Huaian No.1 People's Hospital of Nanjing Medical University, Huaian, China

The BRAF-V600E mutation, while established in papillary thyroid cancer (PTC), exhibits a suboptimal detection rate, limiting its diagnostic and prognostic utility. This study aimed to evaluate transmembrane protease serine 6 (TMPRSS6) as a superior biomarker for PTC diagnosis and risk stratification. We conducted an integrative analysis combining database mining (TCGA), tissue validation, RNA sequencing, and functional assays in PTC cell lines. Diagnostic performance, expression stability between primary and metastatic lesions, and clinicopathological correlations were assessed. A support vector machine model incorporating TMPRSS6 was developed for malignancy diagnosis and the identification of high-risk PTC. TMPRSS6 demonstrated high specificity for PTC, with detection rates of 89.2% (TCGA) and 87.5% (in-house cohort), significantly exceeding those of BRAF-V600E (47.5% and 61.3%, respectively). Consequently, TMPRSS6 showed superior diagnostic accuracy (AUC: 0.900 vs. 0.583 for BRAF-V600E). Its expression was consistent across primary and metastatic sites and positively correlated with aggressive features, including extrathyroidal extension and lymph node metastasis. Functional knockdown inhibited PTC cell migration, invasion, and iodine uptake. Clinically, TMPRSS6 accurately diagnosed malignancy in BRAF wild-type patients (91.8%). Its combination with BRAF-V600E achieved a diagnostic accuracy of 93.2%. Integration into a molecular model enabled the precise identification of high-risk PTCs with 90.3% (training) and 98.4% (validation) accuracy. TMPRSS6 is a robust biomarker that outperforms BRAF-V600E in PTC diagnosis, particularly in BRAF wild-type cases. It enhances molecular subtyping for the precise identification of high-risk PTC, offering significant clinical utility.

FP-22

AI-POWERED SURGICAL COPILOT IN MINIMALLY INVASIVE ADRENAL SURGERY: INTEGRATED RECOGNITION OF ANATOMY, TOOLS, AND SURGICAL PHASES

Berke Sengun¹, Dr Yalin Iscan¹, Ziya Ata Yazici², Dr Sena Bayrakdar¹, Dr Ismail Cem Sormaz¹, Dr Nihat Aksakal¹, Dr Fatih Tunca¹, Dr Hazim Kemal Ekenel², Dr Yasemin Giles Senyurek¹

¹Istanbul University, Faculty of Medicine, Department of General Surgery, Istanbul, Turkiye, ²Istanbul Technical University, Faculty of Computer and Informatics Engineering, Istanbul, Turkiye

This study aimed to develop an artificial intelligence-powered surgical assistant model capable of recognizing key anatomical structures, tools, and surgical phases during minimally invasive adrenal surgery, and to assess its clinical feasibility. The system has potential to enhance procedural safety and support training for adrenal operations, which are performed relatively infrequently. Video recordings from 20 laparoscopic transabdominal adrenalectomies (10 from each side; 2011-2025) were retrospectively analyzed. Surgical frames were annotated for tools, actions, anatomy, and surgical phases to build the dataset. A ResNet-50-based multi-head cross-attention network with dedicated heads for tools, actions, targets, and phases was developed. Laterality was incorporated through feature-wise linear modulation, and class imbalance was handled using weighted loss. Performance was assessed on a balanced test set using top-accuracy and mean average precision with 5-fold cross-validation. A total of 10,747 frames were labeled with 53,152 annotations across 9 tool

categories, 7 surgical actions, 13 anatomical targets, and 6 phases. The model achieved top-1 accuracies of 67.6% for tools, 86.2% for actions, 70.0% for targets, and 60.3% for phases. Top-3 accuracies increased to 93.8%, 94.2%, 90.9%, and 95.3%, respectively. Mean average precision values were 64.2% for tools, 62.4% for actions, 46.8% for targets, and 66.4% for phases. The developed model can successfully recognize tools, actions, and key anatomical structures in adrenal surgery. It has the potential to provide comprehensive analysis of surgical scenes in minimally invasive adrenalectomy, which may help improve safety, reduce complications, and support surgeon training through objective, automated feedback.

FP-23

RADIOMICS VALIDATION FOR NON-INVASIVE CHARACTERISATION AND SURGICAL DECISION-MAKING IN ADRENAL DISEASE

Barbara Seeliger^{1,2,3}, Joseph Lam⁴, Dimitri Klockenbring⁴, Ilyass Hammouamri⁴, Alexandre Mansire^{1,4}, Vincent Noblet⁴, Pier Francesco Alesina^{5,6}, Michel Vix², Didier Mutter^{1,2}

¹IHU Strasbourg, Institute of Image-Guided Surgery, Strasbourg, France, ²University Hospitals of Strasbourg, Department of Digestive and Endocrine Surgery, Strasbourg, France, ³University of Strasbourg, ICube, UMR 7357, CNRS, INSERM U1328 RODIN, Strasbourg, France, ⁴University of Strasbourg, ICube, UMR 7357, CNRS, Strasbourg, France, ⁵Evang. Kliniken Essen-Mitte, Department of Surgery and Minimally Invasive Surgery, Essen, Germany, ⁶Universität Witten-Herdecke, Department of Medicine, Witten-Herdecke, Germany

Adrenal neoplasia is increasingly detected, yet differentiating benign from potentially or overtly malignant lesions on conventional imaging remains challenging. Diagnostic uncertainty can lead to extended follow-up or surgery. Radiomics offers a non-invasive approach to lesion characterisation using quantitative imaging features. This retrospective study analysed preoperative CT scans from 134 patients who underwent 135 adrenalectomies for functional or nonfunctional adrenal tumours. Neoplasia and normal adrenal parenchyma were manually 3D-segmented, radiomic features extracted using PyRadiomics, and key variables selected via Minimum Redundancy Maximum Relevance. Multiple machine-learning (ML) models were trained on 91 cases to classify lesions as benign (B), potentially malignant (PM) or malignant (M). Endpoints included diagnostic accuracy (mean validation area under the receiver operating characteristic curve, AUC) of the best-performing model against expert prediction and final histopathology, and the study's Radiomics Quality Score (RQS). The ExtraTreesClassifier model showed the highest diagnostic performance, with a test AUC of 0.7189 (B vs. PM/M). Using CT images without biochemical data, the expert surgeon's predictive accuracy in the test set (n=44) exceeded that of ML (PPV 0.8125 vs. 0.5385, $p<0.027$; NPV 0.7857 vs. 0.6129, $p<0.0317$). The overall radiomics pipeline achieved a RQS of 16/36, the highest score in adrenal radiomics to date. Radiomics shows potential for non-invasive characterisation of adrenal lesions and may support surgical decision-making. Nonetheless, important limitations including retrospective design, modest cohort size, and lack of standardised radiomics methods underscore the need for larger prospective validation and multimodal data integration.

FP-24

FROM RISK GRADIENT TO RISK NEUTRALITY: HOW NIRAF AND ICG TRANSFORM PARATHYROID OUTCOMES IN THYROID CANCER SURGERY

Rossella Melcarne¹, Dr Jose Luis Carrillo Lizarazo², Prof Marco Biffoni³, Prof Giorgio Grani¹, Prof Laura Giacomelli³, Dr Eva Iannuzzi³, Dr Mariana Teixeira Moraes², Prof Gianluca Donatini², Prof Cosimo Durante¹

¹Department of Translational and Precision Medicine, Sapienza University of Rome, Rome, Italy, ²Department of General and Endocrine Surgery, Centre Hospitalier Universitaire de Poitiers, Poitiers, France, ³Department of General and Specialized Surgery and Anesthesiology, Sapienza University of Rome, Rome, Italy

Permanent hypoparathyroidism (HypoPTH) remains a major complication of thyroid surgery. In a high-volume centre using standard techniques, we previously observed that HypoPTH was primarily driven by the surgical gesture, particularly central neck dissection (CND), rather than by oncological factors such as number of lymph nodes removed or nodal metastases, with the highest risk observed in ATA 2025 intermediate-high classes. Whether advanced optical technologies such as near-infrared autofluorescence (NIRAF) and indocyanine green (ICG) perfusion imaging modify this risk profile warrants investigation. We compared two high-volume cohorts: (1)466 patients undergoing standard thyroidectomy (Centre A), and (2)133 patients treated with NIRAF + ICG (Centre B). Outcomes included permanent and transient HypoPTH, postoperative PTH, ATA 2025 classes, lymph-node burden, and

incidental parathyroidectomy. Analyses were repeated in the subgroup undergoing CND. In Centre A, permanent HypoPTH occurred in 8.8%, peaking at 22.8% in ATA intermediate-high classes. In Centre B, no cases of permanent HypoPTH occurred across any ATA class, indicating complete flattening of risk stratification. Transient HypoPTH in Centre B varied modestly by ATA (9.6–10.4% in low/intermediate vs 27.3% in high risk). Postoperative PTH levels were significantly higher in Centre B, even after adjusting for ATA class, CND, lymph nodes removed, and incidental parathyroidectomy. Among patients undergoing CND, Centre B maintained 0% permanent HypoPTH and significantly higher postoperative PTH. Advanced optical technologies for parathyroid identification and perfusion profoundly reduce functional morbidity, mitigating the risk associated with CND and eliminating ATA-based stratification of permanent HypoPTH. These findings support the integration of NIRAF and ICG into precision endocrine surgery.

FP-25

ADRENALECTOMY FOR METASTASIS: OUTCOMES AFTER CENTRALISING CARE

Miss [Joanna Aldoori](#)¹, Dr Gordon Hutchins¹, Miss Sheila Fraser¹, Dr Mechteld De Jong¹

¹St James's University Hospital, Leeds, United Kingdom

Adrenal care in our region (catchment area 4 million) was centralised after developing a formal adrenal-MDT in 2019, backed by the ESES centralisation statement. There is a rise in adrenal surgery as part of multimodal treatment for metastatic cancer. We reviewed outcomes over the past 14 years. From prospective pathology and adrenal-MDT databases, 44 patients who underwent adrenalectomy for metastasis between October 2011 and October 2025 were identified. Clinical and short-term outcome data were evaluated. Twenty-six adrenalectomies (59.1%) were performed before 2019 and 18(40.9%) ≥2019, none in 2020. Majority were male (25;56.8%), median age at adrenalectomy was 66years[range:29-81]. Commonest primary was RCC(n=13;29.5%); followed by lung(n=10;22.7%) and melanoma(n=9;20.5%). Left-sided metastases were more frequent (n=28;63.6%), 2(4.5%) were bilateral. Twenty-one underwent an endoscopic procedure (laparoscopic: n=9;20.5%/ retroscopic: n=12;27.3%), while 7(15.9%) were converted and 16(36.4%) were planned open. Rates were similar before and ≥2019 (p>0.05). Before 2019, adrenalectomies were performed by Endocrine Surgery (n=12;46.2%); Urology (n=9;34.6%); HPB (n=4;15.4%) and Upper-GI (n=1;3.8%). After 2019, all but one (94.4%) were by Endocrine Surgery (p=0.001). Overall length of stay was 4 days [1-35]; similar for both timeframes (p>0.05). Rates of complications (<2019:46.2% versus ≥2019:50.0%; p>0.05) remained similar. There was a near-significant trend: more patients received a peri-operative blood transfusion before 2019 (n=2;7.7%) versus ≥2019 (none), while 5(19.2%) developed major complications before 2019 versus none ≥2019. These results from centralisation could be impacted by CoVid-19. Further improvements of outcomes are to be expected with the centralised adrenal referral pathway and adrenalectomies being performed by specialised teams.

FP-26

PREDICTORS OF RECURRENCE AND SURVIVAL IN ADVANCED PAPILLARY THYROID CARCINOMA: A RETROSPECTIVE COHORT ANALYSIS

[Ann-Kathrin Lederer](#)¹, [Adriana Fiedler](#)², PD Dr. [Julia I. Staubitz-Vernazza](#)², Dr. [Oana Lozan](#)², Dr. [Marie Oliver Metz](#)³, Prof. Dr. [Hauke Lang](#)², Prof. Dr. [Thomas J. Musholt](#)²

¹Department of General and Visceral Surgery, Ulm University Hospital, Ulm, Ulm, Germany, ²Section of Endocrine Surgery, Department of General, Visceral and Transplantation Surgery, University Medical Center Mainz, Johannes Gutenberg-University Mainz, Mainz, Mainz, Germany, ³Institute of Pathology, University Medical Center Mainz, Mainz, Mainz, Germany

Papillary thyroid carcinoma (PTC) is the most common malignant thyroid tumor, with a subset of patients presenting with advanced disease. The ESES recently refined the definition of advanced thyroid cancer. This study aimed to characterize clinical features, treatment patterns, and outcomes of patients with advanced PTC according to the updated ESES definition at a high-volume endocrine surgery center. In this monocentric, retrospective cohort study, all patients undergoing primary surgery for advanced PTC at the University Medical Center Mainz between 2015 and 2024 were included. Thirty-three patients were analyzed (median age 54 years, 52% male, median Charlson Comorbidity Index [CCI] 2). Among 27 patients disease-free after surgery, 10 (37%) experienced recurrence, predominantly in lymph nodes and lung. Median recurrence-free survival was 11.4 months, and median progression-free survival in patients not disease-free after surgery (n = 6) was 6.0 months. Age >55

years was significantly associated with poorer survival ($p = 0.005$), while higher CCI showed a trend ($p = 0.077$). Logistic regression identified age ($p = 0.037$) and CCI ($p = 0.024$) as individual predictors of non-survival, but neither remained significant in the combined model, likely due to correlation ($r = 0.402$, $p = 0.021$). Male sex showed a non-significant trend toward higher recurrence risk ($p = 0.058$). In this small exploratory cohort, older age and higher comorbidity were associated with reduced survival. Despite recurrences, long-term outcomes appeared relatively favorable for most patients. Larger studies are needed to confirm predictors of survival and recurrence.

FP-27

DOES PREOPERATIVE ADMINISTRATION OF LUGOL'S SOLUTION IN PATIENTS UNDERGOING THYROIDECTOMY FOR GRAVES' DISEASE REALLY IMPROVE SURGICAL OUTCOMES? A PROPENSITY SCORE MATCHING ANALYSIS FROM SIX HIGH-VOLUME CENTERS

Gian Luigi Canu¹, Prof Fabio Medas¹, Dr Federico Cappellacci¹, Dr Giulia Lanzolla², Dr Leonardo Rossi³, Dr Francesco Pennestri⁴, Dr Giacomo Di Filippo⁵, Dr Angeliki Chorti⁶, Dr Benard Gjeloši³, Dr Annamaria Martullo⁴, Dr Ioannis Pliakos⁶, Dr Giovanni Lazzari⁵, Dr Eleonora Morelli⁵, Dr Lisa Fantina⁷, Prof Nicolò de Manzini⁷, Prof Francesco Boi², Prof Chiara Dobrinja⁷, Prof Theodosios Papavramidis⁶, Prof Gabriele Materazzi³, Prof Marco Raffaelli⁴, Prof Pietro Giorgio Calò¹

¹Department of Surgical Sciences, University of Cagliari, Monserrato, Italy, ²Endocrinology Unit, Department of Medical Sciences, University of Cagliari, Monserrato, Italy, ³Endocrine Surgery Unit, University Hospital of Pisa, Pisa, Italy, ⁴UOC di Chirurgia Endocrina e Metabolica, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, ⁵Endocrine Surgery Unit, Department of Surgery and Oncology, Verona University Hospital, Verona, Italy, ⁶First Propedeutic Department of Surgery, Aristotle University of Thessaloniki, AHEPA University Hospital, Thessaloniki, Greece, ⁷Department of Medicine, Surgery and Health Sciences, University of Trieste, Trieste, Italy

In patients with Graves' disease, the 2016 American Thyroid Association guidelines and 2018 European Thyroid Association guidelines recommend the administration of Lugol's solution prior to surgery. The main objective of this study was to evaluate whether preoperative administration of this solution in patients undergoing thyroidectomy for Graves' disease really improves surgical outcomes. Patients undergoing total thyroidectomy for Graves' disease, by high-volume surgeons, in six centers, between 2019 and 2023, were retrospectively evaluated. Based on preoperative administration of Lugol's solution, two groups were identified: LS Group, including patients who received this solution, and NoLS Group, including those who did not receive it. Surgical outcomes were assessed after performing propensity score matching (1:1). According to inclusion criteria, 1380 patients were enrolled: 622 in LS Group and 758 in NoLS Group. After propensity score matching, the study population consisted of 949 patients: 247 in LS Group and 247 in NoLS Group. Regarding complications, neck hematomas managed conservatively were significantly greater in NoLS Group ($P = 0.016$); while unilateral recurrent laryngeal nerve injury, overall postoperative hypoparathyroidism, and temporary hypoparathyroidism in LS Group ($P = 0.026$, $P < 0.001$, $P < 0.001$; respectively). The duration of surgery and postoperative hospital stay were significantly longer in LS Group ($P < 0.001$, $P < 0.001$; respectively). Based on our findings and those of other authors, we believe that the recommendations of the existing guidelines should be revised. In our opinion, preoperative administration of Lugol's solution should not be mandatory, but rather discretionary.

FP-28

ESTABLISHMENT OF AN IN-VIVO AND IN-VITRO PLATFORM FOR EVALUATING ILEAL SINETS FROM PATIENT-DERIVED TUMORS

Yasmina El Fata¹, PD Dr. Daniel Sanchez, PD Dr. med Dr.phil Corina Kim-Fuchs, Prof. Dr. med Aurel Perren, Prof. Dr. Nadia Mercader, PD Dr. Ilaria Marinoni, PD Dr. Ines J Marques

¹University Of Bern, Institute Of Anatomy And Institute Of Tissue Medicine And Pathology, Bern, Switzerland

Gastroenteropancreatic neuroendocrine tumors (GEP-NETs) are rising in incidence, with small intestine neuroendocrine tumors (siNETs) being the most common subtype. Despite their low grade, siNETs show highly variable outcomes after resection. Their low mutational burden hinders the identification of predictive molecular markers, and suitable in vivo models remain limited. Although multi-omic studies have sought to classify siNETs, translation to treatment response in patients is still lacking. We developed a dual platform combining two complementary models: (a) an in vivo zebrafish xenograft (PDX), and (b) an in vitro 3D tumoroid (PDT) system derived from $n=7$ patient ileal siNETs. Both platforms were treated with drugs commonly used for GEP-NETs—Sunitinib, Everolimus, and

Temozolomide. Bulk RNA sequencing untreated and treated tumoroids was performed to identify molecular pathways potentially linked to patient-specific responses. To further validate the robustness of the platform the same methodology was applied to the GOT-1 siNET cell line. Both PDX and PDT models proved suitable for siNET studies. We confirmed that siNET cells xenotransplanted in the zebrafish remained viable and capable of proliferating. Moreover, we observed patient specific responses to the different treatments, which were also detected at the transcriptomic level, which some tumors responding more to one drug than to the others. Our integrated in vivo/in vitro approach demonstrates that ileal siNETs exhibit individualized molecular and functional behaviors, underscoring the importance of patient-tailored evaluation to improve therapeutic strategies.

FP-29

THE CT GREY ZONE IN ADRENAL TUMOURS: HISTOLOGICAL AND SIZE CHARACTERISTICS OF MASSES WITH 10-20 HU ATTENUATION

Amirhossein Fattahzadeh¹, Dr. Agnieszka Dworzyńska², Dr. Michał Kusiński²

¹Medical University of Lodz, English Division, Łódź, Poland, ²Clinical Department of General and Endocrine Surgery, UM Łódź, Łódź, Poland

On unenhanced CT, attenuation ≤ 10 Hounsfield units (HU) usually indicates benign adrenal tumours, values >20 HU suggest malignancy, and 10–20 HU defines a grey zone. We evaluated histology and size across HU categories in a laparoscopic adrenalectomy cohort. We retrospectively reviewed 384 adrenalectomies from 2022–2025 (mean age 60.3 years; 66% female). For tumours with unenhanced CT we recorded HU and size, grouping lesions as <10 , 10–20 or >20 HU. Histology was classified as benign, pheochromocytoma/paraganglioma, metastasis or primary malignant; non-benign combined these. Group differences were assessed with chi-square (χ^2) tests. HU were available in 121/384 tumours and histology in 106/121. Of these, 41 had <10 HU, 30 had 10–20 HU and 35 had >20 HU. In the 10–20 HU group, mean size was 4.2 cm and histology was benign in 24/30 (80%), pheochromocytoma in 5/30 (17%) and metastasis in 1/30 (3%); no primary malignant lesions. Non-benign lesions increased from 1/41 (2%) in <10 HU to 6/30 (20%) in 10–20 HU and 9/35 (26%) in >20 HU ($p=0.01$); mean size was similar across groups. Most 10–20 HU adrenal tumours were benign despite mean size >4 cm, although non-benign risk was higher than for <10 HU lesions. These findings support cautious use of HU and size thresholds in preoperative counselling for adrenal surgery. Grey-zone attenuation should prompt multidisciplinary review rather than automatic resection. Data collection is ongoing and updated results will be presented at the congress.

FP-30

DIAGNOSTIC PERFORMANCE OF ⁶⁸(GA-PENTIXAFOR PET/CT FOR LOCALIZING ALDOSTERONE-PRODUCING ADENOMAS: ACCURACY AND VALIDATION AGAINST IMMUNOHISTOCHEMISTRY

Aristodemos Kounnamas¹, Dr. med. Sarah Theurer², Univ.-Prof. Dr. med. Ken Herrmann³, PD Dr. med. Pier Francesco Alesina¹, Prof. Dr. med. Dr. h.c. Martin Walz¹

¹Department Of Surgery, Kliniken Essen-Mitte, Essen, Germany, ²Institute of Pathology, University Hospital Essen, Essen, Germany, ³Department of Nuclear Medicine, University Hospital Essen, Essen, Germany

⁶⁸Ga-Pentixafor PET/CT (Pent-PET) targets CXCR4 expression and represents a non-invasive alternative to adrenal venous sampling. However, validation of imaging findings against CXCR4 immunohistochemistry in resected adrenal tissue is limited. This study evaluates the diagnostic performance of Pent-PET for aldosterone producing adenomas (APA) localization using immunohistochemical CXCR4 expression as reference. A prospective cohort of 52 patients with primary aldosteronism underwent Pent-PET (9/2022 – 12/2025). The diagnosis of hyperaldosteronism was confirmed by biochemical testing. PET/CT was considered positive if focal tracer uptake was visible on imaging; a definitive SUVmax cut-off value was not available. Twenty-five patients proceeded to adrenalectomy, followed by histopathological evaluation including CXCR4 immunohistochemistry. Pent-PET-based lateralization was compared with surgical pathology, and sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated. Pent-PET demonstrated bilateral tracer uptake in 2 patients, unilateral uptake in 15 patients, and yielded indeterminate findings in 8 cases. Surgical procedures included unilateral adrenalectomy ($n=17$), partial adrenalectomy ($n=5$), and bilateral adrenalectomy ($n=3$). Histopathological analysis revealed 17 adenomas (including 3 bilateral resection) and 8 hyperplasias. CXCR4 immunohistochemistry was

positive in 12 specimens. Clinical follow-up showed biochemical and/or clinical improvement in 17 patients (7 cure, 8 improvement of hypertension, 3 isolated biochemical improvement). The diagnostic accuracy of Pent-PET for lateralizing APAs: sensitivity 52%, specificity 62%, PPV 75%, and NPV 62%. -Ga-Pentixafor PET/CT shows moderate diagnostic accuracy for APA localization when validated against CXCR4 immunohistochemistry. Its limited sensitivity supports its use as a complementary tool rather than a replacement for adrenal venous sampling.

FP-31

IS “WATCH-AND-WAIT” SAFE IN MILD AUTONOMOUS CORTISOL SECRETION? A COMPARATIVE ANALYSIS OF SURGICAL INTERVENTION VS. CONSERVATIVE MANAGEMENT

Sarp Tunalı¹, Mr Utku Erdem Soyaltın², Mr Recep Temel¹, Mr Yi/it Türk¹, Mr Murat Ozdemir¹, Mr Ozer Makay^{3,4}

¹Division of Endocrine Surgery, Department of General Surgery, Ege University Hospital, Izmir, Turkey, ²Division of Endocrinology, Department of Internal Medicine, Ege University Hospital, Izmir, Turkey, ³Özel Sağlık Hospital, Centre for Endocrine Surgery, Izmir, Turkey, ⁴Aristotle University, School of Medicine, Thessaloniki, Greece
“Watch-and-Wait” Safe in Mild Autonomous Cortisol Secretion? A Comparative Analysis of Surgical Intervention vs. Conservative Management

Management of Mild Autonomous Cortisol Secretion (MACS) remains controversial, with conservative monitoring often preferred for uncomplicated cases. This study aimed to compare the long-term metabolic and radiological outcomes of adrenalectomy versus conservative management to evaluate the safety of surveillance. Seventy MACS patients were retrospectively analyzed. Patients were stratified into the Surgical Group, treated with laparoscopic/retroperitoneoscopic adrenalectomy, and the Medical Group managed conservatively. Primary endpoints included hypertension control, diabetes parameters, and BMI; secondary endpoints included tumor progression, DST trends, and changes in bone mineral density (BMD). In the Surgical Group (n=26)(median follow-up:14 months,95% CI: 18.03–37.57), the median number of anti-hypertensive medications decreased significantly from 1 to 0 (p=0.001). Lumbar T-scores improved from -2.15 to -1.15 (p=0.009), and LDL levels decreased (p=0.004). Post-operative ACTH elevation (p<0.001) confirmed axis recovery. Median steroid withdrawal time was 3 months, showing a positive correlation with pre-op DST levels (p=0.029). Conversely, the Medical Group (n=44) (median follow-up: 41 months, 95% CI: 44.18–72.45) exhibited progression: 11.4% showed tumor enlargement, 20.5% had hormonal worsening (increased DST), and 34.1% required increased anti-hypertensive medication, with 9.1% developing de novo hypertension. Adrenalectomy significantly reduces hypertensive burden, improves bone density, and reverses metabolic risks in MACS. In contrast, conservative management is associated with evident radiological and metabolic progression. Our findings suggest the “watch-and-wait” strategy is not benign; early surgical intervention should be considered a superior alternative to prevent disease progression in eligible patients.

FP-32

OMISSION OF ROUTINE ALPHA BLOCKADE IN 21 CONSECUTIVE PHEOCHROMOCYTOMA AND PARAGANGLIOMA PATIENTS: COMPARABLE HEMODYNAMIC INSTABILITY SCORES DEMONSTRATE FEASIBILITY IN SPECIALIZED NONFFHIGH-VOLUME CLINICS

Felicitas Koch¹, Dr. med. Moritz Menz¹, Dr. med. Laura Guglielmetti¹, Mr. Michel Schläppi³, Dr. med. Sina Schmidt¹, PD Dr. med. Caveh Majdpour², Dr. med. Javier Franco², Dr. med. Andrea Goldmann¹

¹Kantonsspital Winterthur Klinik für Viszeral- und Thoraxchirurgie, Winterthur, Switzerland, ²Kantonsspital Winterthur Klinik für Anästhesiologie, Winterthur, Switzerland, ³Kantonsspital Winterthur Klinik für Orthopädie und Traumatologie, Winterthur, Switzerland

Preoperative alpha-blockade has long been recommended for pheochromocytoma and paraganglioma surgery. However, recent evidence from high-volume centers questions its benefit. After severe adverse effects in an index case, our hospital discontinued routine alpha-blockade in 2020. We retrospectively analyzed all consecutive patients undergoing surgery for pheochromocytoma or paraganglioma between 2018–2024. Data were prospectively collected in the Eurocrine quality registry. Additionally, Intraoperative hemodynamics were systematically assessed, including continuous blood pressure curves, heart rate, fluid therapy, and anesthetic medication use. Twenty-one patients underwent surgery (pheochromocytoma n=15, paraganglioma n=6). Five patients (24%) received

preoperative alpha-blockade, sixteen (76%) did not. Severe hypertension (>180 mmHg) occurred in 60% of patients with alpha-blockade and 56% without. Mean arterial pressure and overall hemodynamic instability scores were comparable between groups. No increase in perioperative complications was observed in the non-blockade cohort. In our institution, omission of routine alpha-blockade in pheochromocytoma and paraganglioma patients did not lead to increased hemodynamic instability or perioperative morbidity. Despite limited patient numbers inherent to these rare tumors, our real-world data support the feasibility of surgery without pretreatment in a well-coordinated interdisciplinary setting.

FP-33

INTRODUCING EUS-GUIDED RADIOFREQUENCY ABLATION TREATMENT FOR INSULINOMAS ! AN EXPLORATORY STUDY OF THE FIRST CASES PERFORMED IN SWEDEN

Anna-Karin Elf^{1,2}, Dr Per Hedenström^{1,3}, Dr Penelope Trimpou^{1,3}, Dr Oskar Ragnarsson^{1,3}, Dr Riadh Sadik^{1,3}

¹Sahlgrenska University Hospital, Gothenburg, Sweden, ²Inst of Clinical Sciences, Dept of Surgery, Sahlgrenska Academy University of Gothenburg, Sweden, ³Inst of Medicine, Dept of Internal Medicine and Clinical Nutrition Sahlgrenska Academy, University of Gothenburg, Sweden

Insulinomas are typically benign tumors, but can lead to severe hypoglycemia with alarming neuroglycopenic symptoms. Standard treatment is surgery, however post-operative complications such as fistulas can be demanding for patients. Endoscopic ultrasound (EUS)-guided radiofrequency ablation (RFA) of pancreatic lesions is a novel treatment with usually mild side effects. The three first patients treated with EUS-guided RFA of insulinomas at Sahlgrenska University Hospital, Sweden, were observed. All patients had confirmed the diagnosis with 68Ga-DOTATOC-PET and contrast enhanced CT and EUS-guided biopsies. Lesions were considered benign and localized. Standard therapeutic echoendoscope with a 4.0mm working channel was used and RFA with EUS- guidance was performed by a 19-gauge, 5mm probe (EUSRATM, TaeWoong) with 50W setting. All patients in this explorative study had lesions located in the head of the pancreas. No patient developed pancreatitis or any other serious complication. Patients experienced mild abdominal pain and slightly raised blood glucose levels. All patients were dismissed at post-operative day 1. All patients were considered cured after the first treatment, since normoglycemia was achieved after treatment. At the follow-up EUS after 3 months no patients had signs of viable tumor or any other significant pathological findings in the pancreas. This exploratory study describes the outcome of the three first patients with insulinomas treated with EUS-guided RFA in Sweden. It confirms that the treatment is effective and has mild side effects. However, a larger prospective study with control patients treated with pancreatic surgery is needed to further understand the treatment efficacy.

FP-34

SEX-RELATED DIFFERENCES IN THE TUMOR MICROENVIRONMENT OF PAPILLARY THYROID CARCINOMA AND POTENTIAL THERAPEUTIC TARGETS

Felix Manes-jimenez¹, Dr Patricia Urbon-Sanchez¹, DR RAUL Diaz-Pedrero, Dra Sofia Sanchez de Toca-Gomez, Dr Diego Cordova-Garcia, Dra M^aRosario San Roman-Romanillos, Dr Ricardo Alvarado-Hurtado, Dr Miguel Angel Ortega - Nuñez, Dr. Tomas Ratia-Gimenez, Dr Alberto Gutierrez-Calvo

¹Hospital Principe De Asturias, ALCALA DE HENARES, Spain

Papillary thyroid carcinoma (PTC) exhibits sex-related clinical and biological differences, yet the underlying molecular basis remains insufficiently understood. This study investigates sex-specific expression patterns of biomarkers involved in cellular proliferation, tumor suppression, ferroptosis, and NLRP3- inflammasome-mediated inflammation. A retrospective observational study was conducted including 50 patients (25 women, 25 men) with histologically confirmed PTC who underwent thyroid resection. Thirteen biomarkers were analyzed using immunohistochemistry and scored using the immunoreactivity system (IRS). Two independent pathologists evaluated all samples. Non-parametric statistical tests (Shapiro-Wilk, Mann- Whitney U) and Spearman correlation matrices with FDR adjustment were applied. Women demonstrated significantly higher expression of the proliferation-related protein IRS-4 and reduced levels of the tumor-suppressor KLOTHO compared with men. Female samples also showed marked overexpression of ferroptosis-related markers (GPX4, TFRC, ACSL4, ALOX5) and NLRP3-inflammasome components (NLRP3, ASC, caspase-1, caspase-5, caspase-8, IL-1 β , IL-18). All differences reached statistical significance. Correlation analyses revealed sex-specific

molecular networks: women showed positive correlations between ferroptosis and inflammasome pathways (e.g., NLRP3-ALOX5) and a negative correlation between IRS-4 and KLOTHO, suggesting an inverse relationship between proliferation and tumor suppression. In men, correlations clustered mainly within each functional pathway, although relevant interactions were also observed. PTC exhibits a distinct sex-dependent molecular profile, with women showing enhanced ferroptotic, inflammatory, and proliferative signaling, and men demonstrating higher expression of the tumor suppressor KLOTHO. These findings support the hypothesis that hormonal environments modulate key oncogenic pathways and highlight the need for further mechanistic research to develop sex-informed diagnostic and therapeutic approaches.

FP-35

PERMANENT HYPOPARATHYROIDISM AND MORTALITY AFTER SURGERY FOR PRIMARY HYPERPARATHYROIDISM

Erik Norén¹, Prof Anders Bergenfelz¹, Dr Erik Nordenström¹

¹Lund University; Department of clinical sciences, Lund, Sweden

The aim of this study was to determine the frequency of permanent hypoparathyroidism after first-time surgery for primary hyperparathyroidism (pHPT) and to investigate whether the presence of permanent hypoparathyroidism affects long-term mortality. This ethically approved retrospective observational study used data from the Swedish surgical quality register (SQRTPA) combined with Swedish national registers for drug prescription and mortality. Included were adult patients undergoing first-time surgery for sporadic pHPT between July 1, 2006, and December 31, 2020. Newly initiated treatment with active vitamin D six months postoperatively or later was used as a surrogacy marker for permanent hypoparathyroidism. Cox regression analysis was used to estimate hazard ratios (HRs) for mortality, and multivariable logistic regression was used to estimate odds ratios (ORs) for permanent hypoparathyroidism. Permanent hypoparathyroidism occurred in 238 of 10,142 operations (2.3%). The HR for long-term mortality in patients with permanent hypoparathyroidism was 1.56 (95% confidence interval 1.21–2.02). Permanent hypoparathyroidism was found in 148 (4.0%) of 4,071 planned or converted bilateral explorations and in 90 of 6,071 limited parathyroidectomies (1.5%). The OR for permanent hypoparathyroidism after bilateral exploration was 2.54 (1.95–3.32). The risk for mortality was higher after bilateral exploration, HR 1.27 (1.14–1.42). Permanent hypoparathyroidism occurs in approximately 2.3% of surgeries for pHPT and increases long-term mortality risk by about 50%. Both the risk for permanent hypoparathyroidism and the risk of mortality are significantly lower after limited parathyroidectomy.

FP-36

EVIDENCE GAP CLUB: SURVEY-BASED IDENTIFICATION OF EVIDENCE GAPS IN ENDOCRINE SURGERY

Marta Alexandre Silva¹, Matija Buzejc², Rita Ni⁰poruka³, Nikolaos Voloudakis⁴, Yi/it Türk⁵, Nikola Slijepcevic², Kyriakos Vamvakidis⁶, Özer Makay^{7,8}, Ioannis Koutelidakis⁸, Agata Dukaczewska⁶

¹Endocrine Surgery Unit, ULS Braga, Portugal, ²Clinic for Endocrine Surgery, University Clinical Center of Serbia, Belgrade, Serbia, ³Department of Surgery, Riga Stradins University, Riga, Latvia, ⁴Second Surgical Department, Aristotle University of Thessaloniki, G. Gennimatas Hospital, Thessaloniki, Greece, ⁵Department of General Surgery, Ege University Hospital, Izmir, Turkey, ⁶Department of Endocrine Surgery, Henry Dunant Hospital Center, 11526 Athens, Greece, ⁷Özel Sağlık Hospital, Centre for Endocrine Surgery, Izmir, Turkey, ⁸Aristotle University, School of Medicine, Thessaloniki, Greece, ⁹Digital Health Cluster, Hasso- Plattner Institute, Potsdam, Germany

As endocrine surgery evolves, new evidence and treatment methods emerge continuously. Fostering evidence-based decision-making among endocrine surgeons is essential to identify evidence maps and gaps, challenge traditional practices, and stimulate research and innovation. In this context, the Evidence Gap Club was established as an initiative to systematically explore the alignment between routine surgical practice and the available scientific evidence. Materials and Methods: An online questionnaire will be distributed via email to members of the European Society of Endocrine Surgeons (ESES), including both open- and closed-ended questions, exploring specific routine surgical practices and their perceived evidence basis, strength of evidence as reported in existing national and international clinical practice guidelines. Collected data will be analyzed to map areas of concordance and discrepancy between practice and evidence. Expected Outcomes: The survey is expected to identify areas supported by strong evidence, and areas where evidence is weak or lacking. The Evidence Gap Club aims to cultivate a culture of critical inquiry, continuous learning, and innovation

among endocrine surgeons, enhancing adherence to evidence-based practice while promoting adaptive and reflective surgical decision-making.

FP-37

SURGICAL APPROACH TO PRIMARY HYPERPARATHYROIDISM WITH DISCORDANT LOCALIZATION EXAMS: COMPARISON OF STRATEGIES AND OUTCOMES. A RETROSPECTIVE MULTICENTRIC STUDY.

Luis Miguel Castro^{1,6}, A Araújo Antunes^{1,6}, A Rocha², D Aparício^{3,6}, D Cruz⁴, E Borges³, F Madeira Martins^{5,6}, J Seabra^{2,6}, M Fernandes¹, M Alexandre Silva^{1,6}, M Andrade de Almeida^{4,6}, V Rebelo dos Santos^{3,6}

¹ULS Braga, Portugal, ²ULS da Arrábida, Setúbal, Portugal, ³ULS Santa Maria, Lisboa, Portugal, ⁴ULS São João, Porto, Portugal, ⁵Hospital da Horta E.P.E.R., Ilha do Faial, Portugal, ⁶YESG-PT,

Primary hyperparathyroidism (pHPT) is increasingly recognized, and surgery remains the only curative treatment. While selective parathyroidectomy (SP) is preferred when imaging is concordant, bilateral neck exploration (BNE) is recommended when localization studies are discordant or nonlocalizing. Advanced imaging may be used selectively, but its added value is variable. This multicenter retrospective cohort (2023–2024) examined therapeutic strategies and outcomes in pHPT patients undergoing surgery across four Portuguese endocrine surgery units. All included patients had biochemical confirmation of pHPT and at least two preoperative localization studies. Data collected included imaging results, surgical approach, and postoperative outcomes. Among 227 patients, ultrasound was performed in 100% and Sestamibi in 197 (86.8%). Imaging was concordant in 140 patients (61.7%). Among patients without concordant imaging, 63.2% underwent additional imaging, most commonly 4D-CT (40%). Nevertheless uni/bilateral exploration rates remained similar (~18%) regardless of re-imaging. In patients with discordant or completely nonlocalizing studies, 68% underwent additional imaging and 32% required BNE, compared with 13% in those with only one non-localizing test. Recurrent laryngeal nerve injury occurred in 3.3% of SP versus 17.6% of BNE ($p < 0.01$). Persistence of pHPT following parathyroidectomy was similar following SP (4.6%) and unilateral/bilateral neck exploration (4%). Additional imaging—although frequently used—rarely alters operative strategy. Surgical morbidity increases with the extent of exploration, although persistence rates were similar between focused parathyroidectomy and neck exploration, underscoring the importance of management in high-volume endocrine surgery centers.

FP-38

A MULTICENTER SURVEY ON DECISION-MAKING AND SURGICAL STRATEGIES FOR SECONDARY HYPERPARATHYROIDISM AMONG ENDOCRINE SURGERY UNITS IN EUROPE.

Rita Niciporuka¹, Anke Meyer², Nikolaos Voloudakis³, Agata Dukaczewska⁴, Arturs Ozolins¹, Zenons Narbutis¹, Peter Goretzki²

¹Riga Stradins University, Pauls Stradins Clinical University Hospital, Riga, Latvia, ²Endocrin Surgery Unit, Helios University Hospital, Wuppertal, Witten/ Herdecke University, Witten, Germany, ³Second Surgical Department, Aristotle University of Thessaloniki, G. Gennimatas Hospital, Thessaloniki,, Greece, ⁴Digital Health Cluster, Hasso-Plattner Institute, Potsdam, Germany

Secondary Hyperparathyroidism is a common and complex condition in patients with chronic kidney disease, often requiring surgical intervention as disease progresses. Clinical practices regarding referral timing, biochemical thresholds, and operative strategies vary significantly worldwide. This survey seeks to capture current institutional protocols, decision-making patterns, and surgical approaches for SHPT management. The findings will help identify gaps between practices.

FP-39

MACHINE LEARNING-BASED ALGORITHM PREDICTING INDIVIDUAL RISK OF POST-THYROIDECTOMY PERMANENT HYPOPARATHYROIDISM AMONG PATIENTS WITH POSTOPERATIVE HYPOCALCEMIA

Charles Demory¹, Mr Gabriele Maggioni¹, Dr Mehdi Maanaoui¹, Dr Camille Marciniak¹, Dr Olivier Muller¹, Dr Mikael Chetboun¹, Dr Mathilde Gobert¹, Dr Geoffrey Jacquemin¹, Dr Grégory Baud¹, Dr Tobias Schick¹, Pr Robert Caiazza¹, Pr François Pattou¹

¹Lille University Hospital, Lille, France

Post-Thyroidectomy Permanent Hypoparathyroidism (PTPH) is associated with multiple complications and increased mortality. Distinguishing patients at risk of PTPH from those with transient hypocalcemia is essential for enforcing their life-long follow-up and optimal treatment. We retrospectively analyzed two prospective cohorts of total thyroidectomies performed in a single center between 2014-2020 (derivation, N= 2102) and 2021-2024 (validation, N= 536). Postoperative hypocalcemia was defined by calcium level below 80 mg/L, or the presence of clinical symptoms. PTPH was defined as the need for calcium and/or vitamin D to maintain normocalcemia and/or prevent symptoms, in the presence of abnormal PTH levels, 6 months after surgery. The number of patients presenting postoperative hypocalcemia and PTPH were respectively 288 (13,7%) and 35 (1,7%) (derivation cohort), and 60 (11,2%) and 7 (1,3%) (validation cohort). 14 variables associated with PTPH were selected in the derivation cohort. We then identified two models with optimal performances. First, a complete model, including 12 variables, which achieved the best overall discrimination (AUC). Second, a simple model, based on calcium and PTH at one month, which achieved the highest specificity while maintaining 100% sensitivity. Both models achieved similar performances in derivation and validation cohorts. We developed and validated a simple model based on serum calcium and PTH levels at one month, allowing the early and accurate prediction of PTPH among patients with post-thyroidectomy hypocalcemia. The simplicity and reproducibility of this model make it suitable for clinical use as an early postoperative risk stratification tool.

FP-40

SINGLE-PORT ROBOTIC AREOLAR (SPRA) THYROIDECTOMY: A THREE-YEAR, 412-CASE SINGLE-SURGEON EXPERIENCE USING THE DA VINCI SP SYSTEM

Jin Wook Yi¹

¹Ain Hospital, Incheon, South Korea

The Single-Port Robotic Areolar (SPRA) approach is a recently developed technique using the da-Vinci SP, offering excellent cosmetic results and easy access to both thyroid and lateral neck nodes. This study presents a single- surgeon experience of more than 400 SPRA cases. A retrospective review was conducted on 412 consecutive SPRA surgeries performed over three years. Procedures included 320 lobectomies, 69 total thyroidectomies, 7 completion thyroidectomies, and 16 modified radical neck dissections (MRND). Pathology showed papillary thyroid carcinoma (PTC) in 370 patients (89.8%). All procedures were completed without conversion. Mean operative times were 86.2 ± 18.7 min for lobectomy, 114.3 ± 23.3 min for total thyroidectomy, and 201.8 ± 50.9 min for MRND. Lymph node retrieval averaged 4.98 ± 4.11 nodes for central neck dissection and 29.31 ± 12.60 nodes for MRND. Vocal cord palsy occurred in 2 transient (0.5%) and 1 permanent (0.2%). Hypoparathyroidism occurred in 14 transient (3.4%) and 2 permanent (0.5%) with PTH 16.07 ± 10.08 pg/mL in postoperative 2-days and 22.09 ± 10.75 pg/mL in 3-months after surgery. Postoperative 3-month Tg averaged 1.65 ± 4.15 ng/mL, with 79.2% of patients showing Tg ≤ 1 ng/mL. No postoperative recurrence occurred. This largest number of SPRA reports demonstrates that it is a safe, versatile technique performed with the da-Vinci SP system. The expansion from conventional thyroidectomy to completion thyroidectomy and MRND confirms its utility across all domains of thyroid cancer surgery, including re-do operations and lateral neck metastasis, with strong functional and oncologic outcomes.

FP-41

RADIOMICS AND MACHINE LEARNING ANALYSIS OF ULTRASOUND IMAGES IN BETHESDA IV THYROID NODULES: A RETROSPECTIVE MONOCENTRIC STUDY

Fabio Medas¹, Dott. Gian Luigi Canu¹, Dott. Federico Cappellacci¹, Dott. Elisa Boninu¹, Dott. Alessandro Pinna¹, Prof. Luca Saba¹, Prof. Pietro Giorgio Calò¹

¹University Of Cagliari, Cagliari, Italy

Thyroid nodules with indeterminate cytology pose a diagnostic challenge, often leading to unnecessary thyroidectomies. Radiomics, by quantitatively analyzing ultrasound images, may enhance diagnostic objectivity and improve preoperative decision-making. A retrospective single-center study was conducted at the University Hospital of Cagliari, including 69 patients with Bethesda IV (B4) thyroid nodules who underwent thyroid surgery. Radiomic features were extracted from ultrasound images using LIFEx software and processed through Principal Component Analysis (PCA) for dimensionality reduction. Three supervised machine learning algorithms— K-Nearest Neighbors (KNN), Random Forest

(RF), and Extreme Gradient Boosting (XGBoost)—were compared using k-fold and Leave-One-Out Cross Validation. KNN yielded poor diagnostic performance (accuracy 61.9%, high false negatives), proving unsuitable for clinical application. Conversely, the Random Forest model achieved excellent performance, with accuracy up to 100% in training and 88–93% in validation (F1-score 0.89–0.94), while drastically reducing false negatives. XGBoost demonstrated comparable or superior results, achieving a mean accuracy of 93% and an AUC-ROC of 0.97, with over 90% sensitivity in validation. Both RF and XGBoost exhibited strong stability and generalization, confirming their reliability as predictive tools for distinguishing benign from malignant nodules. Radiomic-based machine learning models, particularly Random Forest and XGBoost, showed high diagnostic accuracy and sensitivity in differentiating B4 nodules. These results support the integration of radiomics into clinical workflows as a promising adjunct to conventional ultrasound, potentially reducing unnecessary thyroid surgeries and improving patient management.

FP-42

CAN AUTOFLUORESCENCE AND ICG-ANGIOGRAPHY SIGNIFICANTLY REDUCE THE RATE OF TRANSIENT AND DEFINITIVE HYPOPARATHYROIDISM AFTER THYROID SURGERY? A PROPENSITY SCORE MATCHING ANALYSIS

Francesca Prioli¹, Dr. Francesco Pennestrì^{1,2}, Dr. Francesca Bersellini^{1,2}, Dr. Antonio Laurino¹, Dr. Priscilla Francesca Procopio¹, Dr. Pierpaolo Gallucci¹, Dr. Annamaria D'Amore¹, Prof. Carmela De Crea^{2,3}, Prof. Marco Raffaelli^{1,2}

¹Policlinico Universitario Agostino Gemelli IRCCS, Italy, ²Università Cattolica del Sacro Cuore Italy, ³Ospedale Isola Tiberina, Gemelli Isola, Italy

Hypoparathyroidism is the most common complication following thyroid surgery. Near-infrared autofluorescence (NIRAF) and ICG-angiography (ICGa) have been adopted to enhance intraoperative localization and viability assessment of parathyroids. We compared transient (T-HypoPT) and permanent hypoparathyroidism (P-HypoPT) in patients undergoing bilateral thyroid resections with/without the use of NIRAF/ICG-a using a Propensity Score Matching (PSM) analysis. We retrospectively reviewed all patients who underwent total thyroidectomy (TT) with/without central (CND) and lateral (LND) neck dissection performed in adult patients between January 2024 and November 2024. Patients were divided into two groups, NIRAF/ICGa-group and naked-eye (NE)-group, and matched (1:1) for age, sex, BMI, diagnosis and type of surgery with PSM analysis. Hypoparathyroidism (PTH<10pg/ml) was considered definitive if lasting >12 months after surgery. Subgroup analysis for LND if any and malignancy was performed. Out of 1460 patients included, 240 patients in the NIRAF/ICGa-group were matched with 240 in the NE-group. Rate of transient hypoparathyroidism was significantly lower in NIRAF-group: 38.3%vs51.7% (p=0.004). Rate of definitive hypoparathyroidism was lower in NIRAF-group although not significantly (2,92Vs6,25%, p=0.127). In the TT-alone subgroup (all pathologic diagnoses), NIRAF-group showed a significantly lower rate of T-HypoPT (28,65%vs39,33, p=0.04), but not P-HypoPT (0.56%Vs3.93%, p=0.067). In the malignant histology- subgroup analysis both T-HypoPT and P-HypoPT were significantly lower in NIRAF- group: 43,98%vs59.48% (p=0.026) and 0,86%vs7,76% (p=0.019), respectively. NIRAF/ICG-a is able to significantly reduce the risk of T-HypoPT and maybe P-HypoPT hypoparathyroidism, especially in case of thyroidectomy for malignancy. Larger studies are needed to confirm these results and to evaluate the impact on LND

FP-43**ROUTINE PATHOLOGICAL NODAL STATUS EVALUATION SIGNIFICANTLY MODIFIES 2025 ATA RISK CATEGORY OF PATIENTS WITH UNIFOCAL cN0 CT1b-T2 PTC ELIGIBLE FOR THYROID LOBECTOMY: RESULTS FROM A MULTICENTRIC INTERNATIONAL STUDY**

Antonio Laurino¹, Dr Francesco Pennestrì^{1,2}, Dr Priscilla Francesca Procopio¹, Prof Fatih Tunca³, Dr Emanuela Traini⁴, Prof Carmela De Crea^{2,5}, Dr Kemal Alagol¹, Dr Giulia Carnassale⁴, Dr Milena Pia Cerviere⁵, Dr Andrea Corsello⁵, Dr Pierpaolo Gallucci¹, Dr Yalin Iscan³, Dr Irem Karatas⁶, Dr Annamaria Martullo¹, Dr Amelia Mattia⁴, Prof Alfredo Pontecorvi^{1,2}, Dr Francesca Prioli¹, Dr Maria Pia Ricciato⁴, Prof Esther Diana Rossi^{1,2}, Prof Marco Raffaelli^{1,2}

¹Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, ²Università Cattolica del Sacro Cuore, Rome, Italy, ³Istanbul University, Istanbul Faculty of Medicine, Istanbul, Turkey, ⁴Ospedale San Carlo di Nancy GVM Care and Research Roma, Rome, Italy, ⁵Ospedale Isola Tiberina - Gemelli Isola, Rome, Italy, ⁶Prof. Dr. Cemil Tascioglu City Hospital, Istanbul, Turkey

Occult lymph node metastases (LNMs) occur in up to 50% of cN0 cT1b-T2 papillary thyroid carcinomas (PTCs) eligible for thyroid lobectomy (TL). Nevertheless the 2025 ATA guidelines discourage routine prophylactic ipsilateral central neck dissection (I-CND). This study assessed the impact of routine I-CND on risk stratification in unifocal cN0 cT1b-T2 PTCs scheduled for TL. Among 6848 thyroidectomies for malignancy performed at 4 referral centers (2014–2025), 236 unifocal cN0 cT1b-T2 PTCs were scheduled for TL plus I-CND. ATA 2025 risk stratification with and without pathological nodal status (pN-status) was compared. Mean tumor size was 12.6±4.7 mm. pT-stage were pT1a, pT1b, pT3 and pT4 in 78, 145, 10, 2 and 1 cases, respectively. pN1a-status was found in 123 (52.1%) patients; LNMs>2 mm was reported in 74 (31.4%) cases. The mean number of LNMs was 3.3±2.6. Extranodal extension occurred in 12 cases (5.1%; mean metastasis size 4.5±1.6 mm). Multifocality, vascular invasion, aggressive variants and extracapsular invasion were detected in 41.5%, 60.6%, 19.1% and 8.9% cases, respectively. Without pN-status evaluation, 54 (22.9%), 25 (10.6%), and 157 (66.5%) patients would have been classified as low, low-intermediate and intermediate-high risk. Incorporating pN-status resulted in significant risk upgrading: 48 (20.3%) low, 21 (8.9%) low-intermediate, 155 (65.7%) intermediate-high, and 12 (5.1%) high-risk patients (p<0.001). Routine pN-status evaluation significantly upgrades ATA risk category of cN0 cT1b-T2 PTCs eligible for TL. I-CND should be considered in these patients, as it provides precise staging and may reduce ipsilateral recurrence without increasing complication rate.

FP-44**IMPACT OF ACCURATE PATIENT SELECTION ON THE FEASIBILITY OF CONSERVATIVE SURGERY FOR SPORADIC MTC**

Leonardo Rossi¹, Dr Antonio Matrone², Prof Liborio Torregrossa³, Dr Andrea De Palma¹, Dr Gianluca Frustaci¹, Dr Carla Gambale², Dr Carlo Enrico Ambrosini¹, Prof Clara Ugolini³, Prof Rossella Elisei², Prof Gabriele Materazzi¹

¹University Hospital of Pisa, Endocrine Surgery Unit, Pisa, Italy, ²University Hospital of Pisa, Endocrine Unit, Pisa, Italy, ³University Hospital of Pisa, Pathology Unit, Pisa, Italy

This study evaluates the feasibility and safety of hemithyroidectomy with ipsilateral central compartment lymph node (ICCLN) dissection in a highly- selected group of sporadic medullary thyroid carcinoma (sMTC) patients. From July 2023, we prospectively evaluated patients with apparently unifocal, cN0 sMTC, to be enrolled in the study. The sporadic nature of MTC was confirmed preoperatively by the absence of RET germline mutations. All patients underwent neck ultrasonography by an experienced operator to confirm the absence of lymph node metastases and extrathyroidal spread. Of 15 enrolled patients, 14 (93.3%) had MTC at histology, while 1 (6.7%) patient had C-cell hyperplasia. The mean age was 49.1 ± 9.8 years, with a female predominance (66.7%). Preoperative median basal calcitonin was 68 pg/mL (IQR: 26–367) (Table 1). Median tumor size was 12 mm (IQR: 8–18). Only one (7.1%) patient had multifocal MTC. Desmoplasia ≥20% was observed in 5 (35.7%) patients; however, all MTCs were low-grade. The median number of ICCLN removed was 6 (IQR: 4–9). Lymph-node metastases were identified in 4 (28.6%) patients. All metastatic lymph nodes measured ≤3 mm (Table 2). After a median follow-up of 6 months (IQR: 5–15), no structural recurrences were detected (Table 3). In appropriately selected sMTC patients, conservative surgery appears feasible and safe, with a low burden of multifocality and lymph-node metastasis. Strict preoperative selection — aimed at reliably identifying truly sporadic, unifocal, intrathyroidal tumors — is essential to ensure

optimal results and maximize the likelihood of cure.

Posters

Posters (P001 - P310)

P001

UTILITY OF AUTOFLUORESCENCE PROBE IN PEDIATRIC THYROID AND PARATHYROID SURGERY: PRELIMINARY RESULTS OF AN INITIAL COHORT

Miriam Abellan Lucas¹, Beatriz Febrero Sánchez¹, Juan José Ruiz-Manzanera¹, Francisco Javier López Hernández¹, María Teresa Soriano Palao¹, José Manuel Rodríguez González. Rodríguez González¹

¹Hospital Clínico Universitario Virgen De La Arrixaca, Murcia, Spain

Postoperative hypoparathyroidism remains a major concern after endocrine surgery, due to the difficulty in identifying and preserving parathyroid glands (PGs). Near-infrared autofluorescence (NIRAF) have demonstrated accuracy in adults, however, evidence in the pediatric population is limited. This study aims to evaluate the feasibility, safety, and diagnostic performance of NIRAF probe-assisted identification of PGs in children.

Prospective observational study including patients under 18 years undergoing thyroidectomy or parathyroidectomy assisted by a NIRAF probe. Demographic, clinical, and intraoperative data were collected, including number of PGs identified by the probe and/or by the surgeon, fluorescence ratios, concordance, and false-positive/negative results. Serum calcium and PTH levels were analyzed at 24 hours, one and six months postoperatively.

Eleven patients were included (8 thyroid, 3 parathyroid).

In the thyroid group (mean age 11 years; 50% female), all 26 PGs were identified; 80% were first detected by the probe, with 100% surgeon--probe concordance. PG ratios ranged 1.8--4. Mean calcium at 24 h was 8.5 ± 0.6 mg/dL and mean PTH 15 pg/mL; with two cases of transient hypoparathyroidism.

In the parathyroid group (mean age 13 years, all female), six PGs were identified (five removed) with ratios 1.5--4.5. The positive predictive value was 96.1% for thyroid and 66.7% for parathyroid cases, there was one false positive case in each group confirmed intraoperatively as thymus.

NIRAF probe-assisted surgery in pediatric endocrine surgery appears safe and effective for PG identification. Further studies are required to validate these findings and standardize NIRAF quantification in pediatric tissues.

P002

ENHANCING ENDOCRINE SURGICAL CARE IN LOW-RESOURCE COUNTRIES: OUTCOMES AND TRAINING IMPACT IN INTERNATIONAL COOPERATION SETTINGS

Miriam Abellan Lucas¹, Nuria Torregrosa Pérez², Jesús Villar del Moral³, Pablo Fernández Menéndez⁴, Anabel Mateo Cebrián⁵, Raúl Valverde Sánchez¹, Sonia Vega Torres², María Dolores Hernández Palazón¹, José Manuel Rodríguez González¹, Kebebe Bekele Gonfa⁶

¹Hospital Clínico Universitario Virgen De La Arrixaca, Murcia, Spain, ²Hospital Santa Lucía, Cartagena, Spain,

³Hospital Universitario Virgen de las Nieves, Granada, Spain, ⁴Hospital Universitario de Cabueñes, Spain, ⁵Hospital Universitario Insular, Las Palmas de Gran Canaria, Spain, ⁶Goba Referral Hospital, Goba, Ethiopia

Thyroid disease remains a significant health burden in low-resource settings, particularly in rural areas. International cooperation missions offer an opportunity to provide essential surgical care while strengthening local capacity. We present the clinical outcomes of thyroid surgery performed during a 2025 mission to rural Ethiopia, and evaluates the impact of structured training and satisfaction levels among patients and healthcare personnel.

Prospective data collection included epidemiological factors, indications, surgical procedures, and postoperative complications. Theoretical sessions were taught by surgery, anaesthesia and nursing staff as well as training activities with hands-on mentoring, standardization of key steps such as the systematic identification of the recurrent laryngeal nerve, and utilisation of advanced technology. A structured satisfaction survey was conducted to 14 patients, 7 local surgeons, and 4 scrub nurses,

assessing training goals, teaching methods, communication, respect for local staff and local practices, teamwork, perceived quality of care and overall experience.

21 thyroid procedures were performed (18 subtotal thyroidectomies and 3 lobectomies) mainly for toxic multinodular goiter. There were no postoperative bleeding and one case presented dysphonia. Local surgeons participated in all operations and gradually began to carry out the procedures in a more standardised manner.

Satisfaction surveys showed very positive evaluations across all groups, highlighting excellent communication with patients, effective interdisciplinary collaboration, and high educational value for healthcare personnel.

Beyond immediate clinical benefits, the mission's strong training component and high satisfaction levels underscore its contribution to sustainable strengthening of local surgical capacity and reduced long-term dependence on external teams.

P003

PREDICTING THE UNPREDICTABLE: FACTORS ASSOCIATED WITH FAILURE OF INTRAOPERATIVE PTH DECLINE

Mariya Neymark¹, Roi Abramov¹, Haggi Mazeh², Michal Mekel^{1,3}

¹Rambam Health Care Campus; Department of General Surgery, Haifa, Israel, ²Hadassah Medical Center; Department of General Surgery, Jerusalem, Israel, ³The Ruth & Bruce Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

Intraoperative parathyroid hormone (IOPH) monitoring is essential for confirming successful gland removal during parathyroidectomy for primary hyperparathyroidism. Nevertheless, a proportion of patients do not demonstrate the expected early PTH decline, complicating intraoperative decision-making and increasing the likelihood of unnecessary bilateral neck exploration (BNE). Identifying clinical, biochemical, and imaging predictors of inadequate or delayed PTH reduction may help optimize operative planning and resource use.

A retrospective review of 902 patients undergoing parathyroidectomy was performed. Patients were categorized based on their IOPH response: adequate decline at 10 and 20 minutes versus no decline. Variables evaluated included epidemiological, laboratory, imaging and operative approach. Odds ratios (ORs) were calculated to identify predictors of inadequate decline.

Of the 902 patients, 638 achieved sufficient PTH reduction at 10 minutes, while 265 did not. Independent predictors of failure included age ≥ 65 years (OR=1.34), T-score ≤ -2.5 (OR=1.38), inaccurate 4D-CT (OR=2.1), MGD (OR=2.2), and BNE or conversion to BNE (OR=2.9). Protective factors included higher preoperative calcium (OR=0.75) and MIP (OR=0.48).

Among MIP cases, 91 patients demonstrated a delayed 20-minute decline versus 80 who did not. Significant predictor for failed PTH decrease included MGD, while MIP remained strongly protective (OR=0.1).

Certain clinical, imaging, and operative factors are associated with insufficient or delayed IOPH decline. Recognizing these predictors preoperatively may help anticipate delayed PTH kinetics and support extending sampling to 20 minutes in selected patients, potentially avoiding unnecessary exploration and reducing healthcare costs.

P004

LAPAROSCOPIC TRANSABDOMINAL VERSUS POSTERIOR RETROPERITONEOSCOPIC ADRENALECTOMY: PROSPECTIVE STUDY IN A REFERRAL CENTRE.

CHRYSANTHI AGGELI¹, Konstantinos Pateas¹, Vasileios Theocharidis¹, Vasiliki Moustakaki¹, Dimitrios Kapnias¹, Dimitrios Stratigakos¹, Nektarios Kikas¹, Christos Pahis¹, Athanasia Syrmopoulou¹, Danai Symeonidi¹, Maria Mavri¹, Ioanna Resta¹, Georgios Zografos¹

¹First Department of Surgery G.N.A "G.Gennimatas", Athens, Greece

Laparoscopic adrenalectomy is the gold standard for the surgical treatment of benign adrenal tumors. Posterior retroperitoneoscopic adrenalectomy has been advocated as a technique with similar results and possibly less postoperative pain.

A prospective study was conducted with 171 patients, from October 2023 to November 2025, and derive from a series of 1340 adrenalectomies performed in a referral centre from 1998 to 2025. Laparoscopic transabdominal approach was performed in 86 patients whereas posterior retroperitoneoscopic approach in 85 patients with tumors larger than 6 cm and BMI more than 35 kg/m² were excluded from the study. Intraoperative details and postoperative outcome were prospectively recorded.

The retroperitoneal group had similar operative time and hospital stay, compared to the laparoscopic transabdominal group. However opioid analgesics were administered less frequently in the retroperitoneal group (p:0.030) with regard to cosmesis, patient satisfaction was superior in the retroperitoneal group.

Posterior retroperitoneoscopic adrenalectomy approach is comparable to the laparoscopic transabdominal and superior for patients with tumors less than 6 cm and BMI <35 kg/m²

P005

TECHNICAL CONSIDERATIONS ON RIGHT LAPAROSCOPIC TRANSABDOMINAL AND RIGHT POSTERIOR RETROPERITONEOSCOPIC ADRENALECTOMY: COMPARATIVE VIDEO PRESENTATION

CHRYSANTHI AGGELI¹, Konstantinos Pateas¹, Dimitrios Stratigakos¹, Vasileios Theocharidis¹, Nektarios Kikas¹, Vasiliki Moustakaki¹, Dimitrios Kapnias¹, Christos Pahis¹, Athanasia Syrmopoulou¹, Danai Symeonidi¹, Maria Mavri¹, Georgios Zografos¹

¹First Department of Surgery G.N.A "G.Gennimatas", Greece

Laparoscopic transabdominal adrenalectomy (LTA) and posterior retroperitoneoscopic adrenalectomy (PRA) are minimally invasive procedures equally safe and efficient for benign adrenal tumors. The aim of the video presentation is to highlight differences in the surgical anatomy between the two techniques.

From October 2023 to November 2025 171 patients underwent minimally invasive surgery for adrenal tumors (86 LTA- 85 PRA). The above patients derive from a consecutive series of 1340 adrenalectomies. All operations were performed by consultant surgeons experienced in endocrine surgery (C.A.G.N.Z). All patients are prospectively recorded. With regard to right adrenalectomies we compared variations in the technique of identifying and dissecting the inferior vena cava (IVC) as well as the right adrenal vein.

In both approaches IVC was identified at an early stage of the procedure. Anatomic variations were evaluated in both techniques. Identification of the right hepatic vein and possible anatomic variations is more obvious in the PRA. We also noticed an easier approach to the right renal vein with the LTA to the PRA. On this ground we believe that dissection of lymph nodes if necessary is safer with LTA. Extensive exposure of the right hepatic vein is obvious only in the PRA and may reveal an existing anatomical variation.

Identification and safe dissection of the IVC is the cornerstone in surgery for right adrenal tumors. Laparoscopic transabdominal approach offers better visualization of the right renal vessels, whereas retroperitoneoscopic technique may consistently reveal anatomic variations.

P006

CONSIDERATIONS ON INTRAOPERATIVE HEMODYNAMICS OF PHEOCHROMOCYTOMAS IN MINIMALLY INVASIVE SURGERY TECHNIQUES: COMPARISON OF TWO TECHNIQUES

CHRYSANTHI AGGELI¹, Konstantinos Pateas¹, Dimitrios Stratigakos¹, Vasileios Theocharidis¹, Nektarios Kikas¹, Vasiliki Moustakaki¹, Dimitrios Kapnias¹, Christos Pahis¹, Athanasia Syrmopoulou¹, Danai Symeonidi¹, Maria Mavri¹, Georgios Zografos¹

¹First Department of Surgery G.N.A "G.Gennimatas", Greece

Minimally invasive techniques, including transabdominal laparoscopic (LTA) and retroperitoneoscopic approaches (PRA), are considered the gold standard in the management of pheochromocytomas. However PRA is under critique in regard to potential intraoperative instability.

A prospective study was conducted in patients with pheochromocytoma, from January 2023 to November 2025, and derive from a series of 1340 adrenalectomies . Selective or non-selective α -blockade were used preoperatively in all patients with pheochromocytomas. A total of 40 pheochromocytomas were resected from 39 patients (15 men and 24 women) in the last 2 years. One patient with MEN IIA underwent bilateral adrenalectomy. LTA was performed in 29 patients, 13 of whom had tumors larger than 6 cm. Ten patients underwent PRA. Tumor size ranged from 1.2 to 11.0 cm .

Among the 10 patients in the PRA group, 2 developed significant intraoperative hypertensions during tumor manipulation, which were managed with sodium nitroprusside, and 2 experienced hypotension after ligation of the adrenal vein, managed with fluid administration. Among the 26 patients in the laparoscopic group, five developed intraoperative hypertension that was also managed with sodium nitroprusside. It was observed that the PRA requires less manipulation of the tumor, which may reduce the likelihood of hypertension; however, a larger patient series is needed to validate this observation.

Both the laparoscopic transabdominal and retroperitoneoscopic approaches are safe and effective for the management of pheochromocytomas. The hemodynamic behavior of these tumors appears to be comparable between the two techniques.

P007

CASE OF TREATMENT OF PATIENT WITH DS-PTC

Aytan Aghayeva¹, Sabuhi Yusifov¹, Ramiz Zamanov¹, Nazrin Aghayeva¹

¹Scientific Center of surgery, Azerbaijan

Papillary carcinoma is the most common malignant pathology of thyroid gland(85%) and generally has a favorable course. However, there are aggressive subtypes of PTC that worsen the prognosis, leading to recurrences and even death. One of them is the diffuse-sclerosing variant of PTC (DS-PTC).

A 22-year-old man was under follow-up, he had been diagnosed with Hashimoto's thyroiditis. For 2 years, his anti-TPO and anti-TG levels remained elevated. However, the most recent US revealed the presence of microcalcifications and dense fibrosis of thyroid gland, significantly enlarged lymph nodes (3-4 sm).FNAB conclusion: malignancy suspected, probably PTC. During the surgery, extra-thyroidal was identified, as well as metastatic nodes in the upper mediastinum. Histologically, the patient was diagnosed with DS-PTC against the background of lymphoid thyroiditis. The patient was referred for RAI (^{131}I) therapy. Follow-up over a period of six years included the assessment TSH,TG, anti-Tg antibodies, US. The marker levels remained below the sensitivity threshold, so there was no need for additional imaging studies.

Given the elevated anti-TPO and anti-Tg levels, DS-PTC is often associated with Hashimoto's thyroiditis. The difficulty in establishing a diagnosis by FNAB is related to the fact that lymphocytic infiltration, as well as presence of atypical follicular cells, may be misidentified as chronic thyroiditis.

However, timely decision-making regarding surgery makes it possible to significantly reduce mortality in patients with DS-PTC, even in cases with metastases. Therefore, a surveillance strategy and delay surgery are not always the treatment approach of choice for patients with PTC.

P008

PALPATION THYROIDITIS AND MASSIVE MULTINODULAR GOITER: A CASE OF MECHANICALLY-INDUCED HYPERTHYROIDISM NECESSITATING TOTAL THYROIDECTOMY.

Yalçın Ural Turhan Akbulut¹, Sarp Tunalı¹, Yiğit Türk¹, Murat Özdemir¹, Gokhan Icoz¹

¹Ege University Faculty Of Medicine Hospital, Department Of General Surgery, Izmir, Turkey

Palpation thyroiditis is a rare subtype of thyroiditis resulting from follicular destruction and subsequent hormone release following mechanical trauma to the thyroid gland. Although typically self-limiting, it may be complicated by severe hyperthyroidism or the necessity for surgical intervention. This case report presents the unusual co-occurrence of severe hyperthyroidism developing on the basis of palpation thyroiditis, combined with a massive multinodular goiter (MNG).

A 65-year-old woman presented with weight loss, hand tremor, and difficulty swallowing. Her history included juvenile goiter diagnosed at age 16 and radioactive iodine therapy 25 years ago for toxic multinodular goiter (MNG). Physical examination revealed a large, bilateral, firm, fixed goiter. Laboratory tests confirmed hyperthyroidism. Ultrasonography showed a significant increase in gland

size with multiple nodules, and scintigraphy revealed decreased parenchymal activity. Medical therapy initiated under the presumptive diagnosis of toxic MNG did not produce a response. An increase in hormone levels following thyroid palpation, followed by a decrease with restricted palpation, supported the diagnosis of palpation thyroiditis. Due to the large MNG and uncontrolled symptoms, the patient underwent total thyroidectomy without complications. The specimen weighed 737 grams. Pathological examination confirmed MNG with no evidence of malignancy. No surgical complications occurred postoperatively, and the patient was discharged.

The increase in hormone levels following palpation is a vital diagnostic sign of palpation thyroiditis. Although surgical intervention is rarely needed, it became necessary in this case due to the presence of a large MNG and the difficulty in managing the patient's symptoms.

P009

ISOLATED ADRENAL METASTASIS FROM HIGH-GRADE ENDOMETRIAL CARCINOMA: A RARE LATE RECURRENCE AND REVIEW OF RECENT LITERATURE.

Dmitrijs Aleksandrovs¹, Dainis Jakovels¹, Dr.med. Vladimirs Fokins¹, Anna Sviksa¹

¹Riga East University Hospital, Riga, Latvia

Metastasis of endometrial carcinoma to the adrenal glands is exceedingly rare and typically signifies late-stage disease. Recent literature has reported only isolated case reports of such presentations, often with bilateral involvement or synchronous diagnosis. We present a case of delayed, unilateral adrenal metastasis in a patient with previously treated stage IB endometrial carcinoma.

A 71-year-old woman underwent total hysterectomy, lymph node biopsy, and partial omentectomy for FIGO stage IB (pT1bNxM0G3) endometrioid adenocarcinoma in January 2021, followed by adjuvant radiotherapy. A right adrenal lesion (9 mm), initially interpreted as a myelolipoma, remained stable until October 2024, when CT revealed significant growth (31.8 × 46.2 mm). Hormonal profile and tumor markers (NSE, CEA) were non-contributory. Laparoscopic adrenalectomy was performed in March 2025.

Histopathology confirmed a 9 × 5 × 3 cm grade 3 endometrioid adenocarcinoma metastasis with complete adrenal involvement, extracapsular extension, and positive surgical margins. Molecular analysis demonstrated high microsatellite instability (MSI-H), consistent with a hypermutated tumor phenotype. Postoperative recovery was uneventful. A multidisciplinary tumor board initiated palliative chemotherapy with paclitaxel (50% dose-reduced due to neuropathy) and bevacizumab. The patient has completed five cycles with stable disease.

This case confirms the findings of Da Dalt et al., 2019; Aytekin et al., 2023, highlighting that even late, isolated adrenal metastases may occur in MSI-H endometrial cancers. Surgical resection followed by systemic therapy may improve disease control in selected cases.

P010

PROGNOSTIC VALUE OF POINT OF CARE PTH MEASUREMENT IN PREDICTING LOW PTH ON THE FIRST DAY AFTER TOTAL THYROIDECTOMY; PROSPECTIVE, SINGLE ARM, OBSERVATIONAL STUDY.

Norah Alhazzaa¹, Faisal Alsarrani¹, Alaa Abdelsalam¹, Virginia Rozalen-Garcia¹, Tarek Abdel-Aziz¹, Andreas Zielke², Katharina Schiffer², Arantxa Garcia Barrasa³, Marta Recasens Subías³, Itziar Larrañaga Blanc³, Pablo Moreno Llorente³, Tomasz Kurzwinski¹, Constantin Smaxwil²

¹University College London Hospital, ²Diakonie-Klinikum Stuttgart, ³Bellvitge University Hospital

Hypoparathyroidism resulting in hypocalcaemia is the commonest complication after Total Thyroidectomy (TT). Postoperative PTH allows prompt identification of patients at risk and facilitates appropriate treatment and early discharge.

To assess prognostic value of Point of Care PTH (POC/PTH) in identifying patients likely to develop abnormal PTH on the 1st postoperative day (PTH/D1) after TT and needing treatment.

Multicentre (London, Stuttgart, Barcelona) study of patients undergoing TT who had POC/PTH measured immediately after skin closure on a novel NBCL Analyzer. Routine measurement of parathormone (PTH/D1), which informed decision about starting treatment, was done at hospital laboratory (Roche) on the morning after TT. Predictive values of POC/PTH in identifying low PTH/D1 (<1.6pmol/l) on the 1st postoperative day were calculated.

91 patients, 55F (60.4%), median age 51-years (range 18-83) underwent TT for benign (N=66), and malignant conditions (N=25). 27(29.7%) patients developed low PTH/D1. POC/PTH at a cut-off value of 1.9 pmol/l predicted low PTH/D1 with sensitivity of 81.48%, specificity of 79.69%, PPV 62.9% and NPV 91.1%. (AUC 0.896 (p<0.0001 95% C.I. 0.830-0.961). Unmeasurable POC/PTH (<0.5pmol/l) predicted low D1/PTH with 100% sensitivity, 90.9 specificity (AUC 0.939). POC/PTH at a cut value off 1.6 pmol/l predicted decision to treat with sensitivity of 69%, specificity 90.3%, PPV 79.2%, NPV 85.1% (AUC 0.873).

POC/PTH measured on NBCL Analyzer immediately after TT identifies patients at risk of low PTH/D1 on 1st post-operative day and predicts decision to treat. Further studies are planned to investigate clinical utility of this promising approach.

P011

RAPIDLY EXPANDING HEMORRHAGIC PARATHYROID ADENOMA CAUSING ACUTE AIRWAY THREAT IN A PATIENT ON ANTICOAGULATION: A CASE REPORT AND OPERATIVE MANAGEMENT STRATEGY

Meshal Almeshal, Joseph Lehmann, Assef Jawaada, Patrick Klang, Nada Bin Saleem, Hasti Tarzban, Gabriele Galata, Klaus Schulte

¹Kings College Hospital London, United Kingdom

Spontaneous haemorrhage into a parathyroid adenoma is rare, and rapid enlargement causing airway compromise is exceptional. We report a case of a rapidly expanding haemorrhagic parathyroid adenoma in an anticoagulated patient following mechanical thrombectomy for middle cerebral artery thrombosis and pulmonary embolism.

A 65-year-old male with a known right superior parathyroid mass developed sudden neck swelling during admission, enlarging from 4 cm to 9 cm with marked leftward tracheal deviation. He acutely desaturated and required intubation. Examination showed a tense 9 cm right-sided neck mass. Labs showed severe hyperparathyroidism (PTH 657 pg/mL; adjusted calcium 2.9 mmol/L). CT demonstrated significant intralesional haemorrhage with mass effect but no complete obstruction.

Management and Operative Findings

Urgent surgery was performed due to impending airway compromise. A large 9 × 9 cm haemorrhagic right superior parathyroid adenoma was removed along with right hemithyroidectomy and right level VI lymphadenectomy. Enlarged lower parathyroid glands were also excised.

Histopathology

Pathology confirmed a cystic parathyroid adenoma with haemorrhagic degeneration and hyperplastic lower glands.

Outcome

Postoperatively, PTH reduced to 59 pg/mL and calcium normalised. The patient was extubated with full resolution of airway deviation.

Acute haemorrhage into a parathyroid adenoma can be life-threatening, especially in anticoagulated patients. Early recognition, imaging and timely surgical intervention are essential to prevent airway compromise and stabilise metabolic abnormalities.

P012

THERAPEUTIC PLASMA EXCHANGE AS BRIDGING TO THYROIDECTOMY IN THYROTOXICOSIS. A RETROSPECTIVE STUDY AND A PROTOCOL PROPOSAL

Ana Alves Rafael¹, Carla Caldeira², Miguel Silvestre¹, Luís Claro¹

¹ULSLO - Hospital Egas Moniz; Serviço de Cirurgia Geral - Unidade de Cirurgia Endócrina, Lisboa, Portugal, ²ULSLO - Hospital Egas Moniz; Serviço de Imunohemoterapia, Lisboa, Portugal

Therapeutic plasma exchange (TPE) has been used to treat thyroid storm that does not respond to first-line therapy, in patients with severe symptoms or when this cannot be used due to toxicity. It's a

grade 2C Category III ASFA's recommendation. The goal of our study was to evaluate the use of TPE in thyrotoxic patients and their outcome after.

The authors retrospectively reviewed all patients in thyrotoxic crisis (TC) who underwent TPE in a single Institution. TC was defined by Burch-Wartofsky Point Scale (BWPC).

Between 2019 and 2024, 7 patients were treated with TPE: 4 men/3 women, median age 65, 3 Graves' disease (1 pregnant), 4 amiodarone-induced thyrotoxicosis. BWPC was always >40 pts. All treated in ICU. 1st line treatment included antithyroid drugs, corticoids, b-blockers and lugol (in 5 patients).

The median number of TPE sessions per patient was 5 (range: 4-7). After all TPEs, in 5 patients: fT4 decreased significantly by 47% ($p = 0.016$) and fT3 by 54% ($p = 0.031$). In 4 patients TPE was used as bridging to surgery. Only 1 TPE was ineffective and patient died before thyroidectomy.

There is not much experience and we are aware of our small cohort. There are no standardized well-defined protocols concerning the amount of volume to remove, number of sessions, time between sessions and type of replacement fluids. TPE, in our Institution, had a significant effect on thyroid hormone reduction. So we would like to propose a protocol to deal with this challenging clinical situation.

P013

COMPARATIVE OUTCOMES OF ELECTROTHERMAL BIPOLAR VESSEL SEALING AND TRADITIONAL SUTURE LIGATION IN THYROIDECTOMY: A META-ANALYSIS

Fahad Amin¹, Ammad Abid¹

¹King Edward Medical University, Lahore, Pakistan

Electrothermal bipolar vessel sealers have gained popularity in thyroid surgery for rapid hemostasis, reduced operative time, and potentially lower complication rates. Conventional suture ligation, although cost-effective, may prolong dissection and increase intraoperative blood loss. Evidence comparing these techniques remains heterogeneous.

Aims and Objectives

This meta-analysis evaluated operative outcomes and postoperative complications of electrothermal bipolar vessel sealers versus conventional suture ligation in thyroidectomy.

A systematic search identified studies comparing electrothermal bipolar vessel sealers (e.g., LigaSure) with suture ligation. Pooled estimates were calculated using a random-effects model; standardized mean differences (SMDs) for continuous variables and risk ratios (RRs) for dichotomous outcomes, with 95% confidence intervals (CIs). Heterogeneity was assessed using I^2 .

Nine studies including 823 patients (LigaSure = 405; suture = 418) were analyzed. Vessel sealing significantly reduced operative time (SMD -2.43 ; 95% CI -3.70 to -1.15) and intraoperative blood loss (SMD -3.64 ; 95% CI -5.56 to -1.73). There was a non-significant trend toward lower hematoma rates (RR 0.22; 95% CI 0.05--1.00). Recurrent laryngeal nerve palsy was significantly reduced in the device group (RR 0.36; 95% CI 0.14--0.95). No significant differences were noted for surgical site infection (RR 0.53; 95% CI 0.10--2.89) or postoperative hypocalcemia (RR 0.49; 95% CI 0.19--1.27).

Electrothermal bipolar vessel sealers improve intraoperative efficiency by reducing operative time and blood loss, and may lower recurrent laryngeal nerve injury, without increasing postoperative complications. These findings support their safe and effective use as an alternative to conventional suture ligation in thyroidectomy.

P014

USE OF INTRAOPERATIVE INDOCYANINE DYE (ICG) IN THYROID SURGERIES

Mónika András¹, Attila Gábor Szöllősi², Roland Fedor¹, Dávid Ágoston Kovács¹, Dezső Tóth¹, Ferenc Győry¹

¹University Of Debrecen, Faculty of Medicine, Institute of Surgery, Debrecen, Hungary, ²University of Debrecen, Faculty of Medicine, Department of Immunology, Debrecen, Hungary

Thyroidectomy carries a significant risk of temporary or permanent hypoparathyroidism, which often requires lifelong calcium and vitamin D supplementation. Hypoparathyroidism is higher after surgeries for hyperthyroidism. Prevention of hypoparathyroidism relies on intraoperative visualization of

parathyroid glands and preservation of vascularization. Parathyroids can be visualized by autofluorescence, the vitality of the glands can be confirmed with intraoperative administration of indocyanine green (ICG).

A comparative cohort study was conducted on 763 consecutive patients undergoing thyroidectomy between January 2022 and May 2025. Patients were stratified into two groups: the ICG group (n=92), where ICG angiography was used to assess parathyroid gland viability, and a control group (n=671) where preservation was guided by conventional naked-eye inspection. Primary outcomes were the rates of transient (<12 months) and permanent (≥12 months) postoperative hypocalcemia. Multivariable logistic regression was used to adjust for potential confounders.

The incidence of permanent hypocalcemia was minimal in both groups, and no statistically relevant difference was apparent. Rate of transient hypocalcemia was lower in the ICG group (12.5% vs. 17.7%; p=0.1575). After adjusting for ASA class, age and malignancy, the use of ICG remained an independent predictor of reduced hypocalcemia (adjusted OR 0.353; 95% CI, 0.149--0.835; p=0.018).

The use of ICG is associated with a significant reduction in hypocalcemia. This technology provides more accurate decision-making regarding gland preservation versus autotransplantation, thereby improving patient outcome.

P015

URGENT TOTAL THYROIDECTOMY FOR MEDICALLY REFRACTORY GRAVES' DISEASE: A CASE REPORT

Marta Antunes Marques¹

¹Unidade Local de Saúde de Braga, Braga, Portugal

Graves' disease is typically managed with antithyroid drugs, radioiodine, or elective surgery. Urgent thyroidectomy is rarely required and is reserved for severe or refractory thyrotoxicosis, adverse reactions to medical therapy, or contraindications to radioiodine.

These cases pose significant perioperative risks, including thyroid storm and surgical complications.

Case report.

A 35-year-old female presented with symptomatic thyrotoxicosis, weight loss, pruritus, and fatigue. Laboratory tests revealed suppressed TSH, markedly elevated free T4, and total T3. Despite stepwise escalation of methimazole to maximal tolerated doses, hyperthyroidism persisted. Imaging confirmed a diffuse toxic goiter without ophthalmopathy. Preoperative optimization included propranolol, Lugol's iodine for 10 days, and short-course systemic corticosteroids. Urgent total thyroidectomy was

performed. Intraoperatively, the gland was highly vascular; transient reduction in contralateral recurrent laryngeal nerve monitoring amplitude was observed but preserved.

The surgery was completed safely. Postoperatively, parathyroid hormone levels remained within normal range; transient gastrointestinal symptoms and borderline hypocalcemia were managed conservatively. The patient was discharged clinically stable on levothyroxine. Follow-up demonstrated full symptom resolution, stable thyroid function, and weight regain.

Although rare, Graves' disease may progress to medically refractory thyrotoxicosis necessitating urgent surgery. Multidisciplinary coordination, meticulous preoperative preparation, and intraoperative nerve monitoring are essential for safe outcomes. Early recognition of treatment failure and timely surgical referral are critical to prevent life-threatening complications.

P016

ANTITHYROID DRUG-INDUCED AGRANULOCYTOSIS IN GRAVES' DISEASE: CASE REPORT AND MANAGEMENT APPROACH

Marta Antunes Marques¹

¹Unidade Local de Saúde de Braga, Braga, Portugal

Antithyroid drugs such as methimazole are a standard first-line treatment for Graves' disease. Although generally safe, methimazole-induced agranulocytosis is a rare but potentially life-threatening adverse event requiring immediate drug withdrawal and alternative therapeutic planning.

We report the case of an adult woman treated for Graves' hyperthyroidism who developed severe agranulocytosis shortly after initiation of methimazole. The clinical course, diagnostic evaluation, and

management strategies are described.

The patient presented with clinical thyrotoxicosis and positive thyroid-stimulating hormone receptor antibodies (TRAb). She was started on methimazole 15 mg/day. Within weeks, she developed fever, odynophagia, and was found to have profound neutropenia with associated tonsillar abscess, requiring hospitalization. Methimazole was immediately discontinued. Due to cross-reactivity risk with propylthiouracil (PTU), definitive therapy was preferred. Radioiodine (I-131) ablation was initially contraindicated due to impaired thyroid function and recent exposure to iodinated contrast. Once clinically stabilized,

iodine preparation (Lugol's solution) was performed, followed by total thyroidectomy.

Postoperative evolution was uneventful, with normal calcium levels and histology showing no malignancy. She was discharged on levothyroxine with stable thyroid function on follow-up.

Methimazole-induced agranulocytosis requires rapid recognition and immediate drug withdrawal to prevent severe infectious complications. In patients in whom both methimazole and PTU are contraindicated, early planning of definitive treatment -surgery or radioiodine - is crucial. Total thyroidectomy is a safe and effective option, particularly when radioiodine is not feasible. This case highlights the importance of vigilance during antithyroid therapy and the need for individualized management strategies in complex Graves' disease.

P017

CERVICAL RE-OPERATIONS IN THYROID SURGERY -- A SINGLE CENTER RETROSPECTIVE STUDY

Alexandra Antunes¹, Luís Miguel Castro¹, Ana Sofia Cavadas¹, Marta Alexandre Silva¹, Ricardo Pereira¹, Sara Fernandes¹, Mário Reis¹

¹Unidade Local De Saúde De Braga, Braga, Portugal

Thyroid surgery is commonly performed for both benign and malignant conditions, with subtotal thyroidectomy offering benefits like shorter operative time and lower complication rates, such as hypocalcemia and recurrent laryngeal nerve (RLN) injury. Total thyroidectomy, however, is preferred in many cases due to its lower recurrence rate. While initial surgery is often definitive, some patients experience recurrence, requiring re-operations, which are technically more complex and carry increased risks, particularly RLN injury and hypoparathyroidism.

Recurrences can occur in both benign and malignant diseases - either due to remnant thyroid tissue or untreated lymph node metastasis. Re-operations demand careful planning and preoperative evaluation, with intraoperative neuromonitoring to reduce complications.

This retrospective single-center study, analysed 58 re-operations for thyroid recurrence between January 2021 and December 2024. Data was reviewed for surgical indications (benign vs malignant), recurrence locations and complication rates.

Results showed that 41 (71%) cases involved totalization of thyroidectomy (17 for recurrent papillary thyroid carcinoma and 24 for new disease), while 17 (29%) were true re-operations (9 benign, 3 primary hyperparathyroidism, 5 malignant). In completion thyroidectomy cases, RLN injury occurred in 4.8%, and transient hypoparathyroidism in 4.8%. In true re-operations, RLN injury rates were 17.5%, with a 5.8% definitive hypoparathyroidism rate.

The study highlights that complication rates are higher in true re-operations and underscores the importance of thorough initial surgery to minimize recurrence and the need for re-operations.

P018

USE OF NERVE TREND® IN THYROID AND PARATHYROID SURGERY -- PORTUGUESE NATIONAL EXPERIENCE

David João Aparício^{1,6,7}, Alexandre Araujo Antunes^{2,7}, Artur Rocha³, Catarina Moura Furtado¹, Diogo Cruz⁴, Filipe Madeira Martins^{5,7}, Joana Seabra^{3,7}, Luís Miguel Castro^{2,7}, Marta Alexandre Silva^{2,7}, Miguel Andrade de Almeida^{4,7}, Vanessa Rebelo dos Santos^{1,7}

¹UIS Santa Maria, Lisbon, Portugal, ²ULS de Braga, Braga, Portugal, ³ULS da Arrábida, Setúbal, Portugal, ⁴ULS São João, Porto, Portugal, ⁵Hospital da Horta, E.P.E.R., Horta, Portugal, ⁶CUF Descobertas, Lisbon, Portugal, ⁷YESG-PT, Portugal

The use of neuromonitoring techniques in thyroid and parathyroid surgery has gained widespread acceptance. Available methods consisted primarily of continuous or intermittent neurostimulation. In 2020, the Nerve Trend® technique was introduced through the NIM Vital® system.

A 14-item national questionnaire was distributed to Portuguese endocrine surgeons to determine the rate of Nerve Trend® implementation and evaluate surgeons' opinions regarding its use.

Among the 43 endocrine surgeons who responded, 21% reported being unfamiliar with the Nerve Trend® technique. Lack of knowledge was attributed to absence of training (44%) or unavailability of NIM Vital® (44%).

Conversely, 34 surgeons reported familiarity with the technique; 2 were excluded for participating in less than 25 cervical endocrine surgeries. No association was found between performing more than 50 surgeries/year and familiarity with Nerve Trend® ($\chi^2=1.63$; $p=0.2$).

Of the 32 surgeons included, 75% used neurostimulation techniques in more than 50% of cases, all of which were intermittent. Over the previous year, Nerve Trend® was used in: more than 50 surgeries by 31% surgeons, less than 5 by 41%. 13% surgeons reported 100% usage. Among those not using it universally, 46% cited unavailability of NIM Vital®.

Regarding utilization patterns, 19% surgeons assessed only at the beginning and end of lobectomy; 72% performed assessments also during critical dissection steps; 9% performed systematic assessments every 2--3 minutes in addition to baseline and critical-point evaluations.

Reported advantages included: good predictor of nerve function (71%), ease of use (65%), intuitive results (59%), and no significant increase in operative time (55.9%). Notably, 50% reported no disadvantages at all.

Among those who use Nerve Trend®, most applied it in less than 50 procedures by year, and only 32% reported usage more than 75%. Although, 91% do not apply Nerve Trend® as originally described and despite the limited adoption, most surgeons consider the technique advantageous.

The authors believe this study may serve as a foundation for future multicentric research assessing the technique's clinical effectiveness.

P019

DOES PARATHYROID GLAND AUTOFLUORESCENT DETECTION DURING TOTAL THYROIDECTOMY AFFECT THE RATES OF POSTOPERATIVE HYPOPARATHYROIDISM? INITIAL EXPERIENCE FROM A SPECIALIZED CENTER IN ENDOCRINE SURGERY

Konstantinos Apostolou¹

¹Athens Medical Center, Greece

Postoperative hypoparathyroidism is the most common postoperative complication following total thyroidectomy, with significant implications on patients' homeostasis.

This is a retrospective study conducted at a specialized center in endocrine surgery, comparing 70 patients who underwent (TTx) with the use of parathyroid autofluorescence (PA) device (PTeye™) (Group 1) with 70 patients who underwent TTx without PA (Group 2).

Temporary and permanent hypoparathyroidism were defined as postoperative hypoparathyroidism that resolved within the first 6 months or persisted after the 6th postoperative month, respectively.

After detailed information, an informed consent of all participants in this study was obtained. Statistical analysis was performed via IBM SPSS Statistics version 29.0. The level of statistical significance was set at 5%.

There was no significant difference between the two groups regarding age, gender and surgical indications. PA aided in successful identification all four parathyroid glands, following their visual identification.

Although PA system reduced temporary hypoparathyroidism rates following total thyroidectomy (8.6% vs 2.9%, Group 1 and 2 respectively), this difference did not reach a statistical significance. However, PA significantly reduced temporary hypoparathyroidism rates in thyroid cancer patients undergoing TTx + lymph node dissection (LND).

Parathyroid gland autofluorescence significantly reduced postoperative hypoparathyroidism rates in TTx + LND patients, demonstrating also a tendency towards decreasing the rate of temporary

postoperative hypoparathyroidism following TTX, despite not reaching a statistically significant level.

P020

MANAGEMENT OF FAST - GROWING TUMORS LOCATED IN THE THYROID AREA

Luis Miguel Arciniegas Rodriguez¹, Jan Chvala¹, Dr, PhD, FICS Martin Sabol¹, Dr, PhD, MHA, MPH Stefan Durdik¹

¹St. Elisabeth's Cancer Institute ; Department of Surgical Oncology, Bratislava, Slovakia

Rapidly growing thyroid tumors consist of a heterogeneous group of lesions that require urgent clinical and diagnostic evaluation due to their potentially aggressive nature. The most important etiologies include anaplastic carcinoma, which represents the most aggressive form with an extremely poor prognosis. In a diagnostic approach, we must also consider other neoplasms such as thyroid lymphoma, primary esophageal tumor and, to a lesser extent, secondary metastases of extrathyroidal origin. Imaging methods such as contrast-enhanced computed tomography (CT) and endoscopic examination play a crucial role in distinguishing individual tumor types. Open biopsy -- histology of the tumor is indicated, as fine-needle aspiration cytology is inconclusive. Early and accurate diagnosis is essential for determining appropriate treatment and thus improving patient survival.

In our work, we present case reports of patients with various primary tumors in the thyroid area, along with an overview of the differential diagnostic algorithm and therapeutic approach.

In our series, rapidly growing tumors in the thyroid region showed diverse etiologies. All patients required urgent diagnostic evaluation. Contrast-enhanced CT and endoscopic examination were essential for determining the extent of disease. Open biopsy provided definitive diagnosis in all cases. Each case required individualized management through a multidisciplinary approach.

A multidisciplinary team plays a key role in diagnosis and determining the therapeutic approach, as the origin of tumors is very diverse and each tumor requires a different, specific treatment.

P021

PLEOMORPHIC MYXOID LIPOSARCOMA OF THE THYROID: CASE REPORT AND REVIEW OF THE LITERATURE

Iratxe Arrillaga Alcorta, Ana Maria Sancha Pérez, Jordi Barros Ingerto, Eugenia Campo Cimarras

¹HUA. Txagorritxu Hospital. Endocrine Surgery Section, Vitoria-Gasteiz, Spain

Primary liposarcomas of the thyroid gland are exceedingly rare, with only a handful of cases documented in the literature. Their nonspecific clinical presentation often mimics other aggressive thyroid malignancies, delaying diagnosis and limiting therapeutic options.

We report the case of a 63-year-old woman with significant comorbidities, who presented with a rapidly enlarging cervical mass, progressive dysphagia, and dysphonia. Imaging revealed a heterogeneous thyroid lesion with esophageal invasion, initially raising suspicion for anaplastic carcinoma. Fine-needle aspiration cytology was Bethesda V. Open biopsy yielded a diagnosis of pleomorphic myxoid liposarcoma. PET imaging demonstrated cervical-humeral metastasis. Chemotherapy with doxorubicin was initiated; however, the patient developed hemorrhagic complications and died shortly thereafter.

This case highlights the diagnostic challenges of primary thyroid liposarcoma and underscores the importance of comprehensive histopathological and molecular evaluation. Systematic reporting of cases is essential to further delineate the clinical course, diagnostic criteria, and therapeutic strategies for this rare entity.

Keywords: thyroid gland, liposarcoma, pleomorphic myxoid variant, rare tumor, case report

P022

CERTAIN PATTERNS OF PARATHYROID ADENOMA AUTOFLUORESCENCE ARE PATHOGNOMONIC AND RELIABLE INTRAOPERATIVE OPTICAL DIAGNOSTIC TOOLS. HOWEVER, PREOPERATIVE LOCALIZATION REMAINS THE GOLD STANDARD DIAGNOSTIC SURGICAL ADJUNCT. A PROSPECTIVE COHORT STUDY.

Sohail Bakkar¹, Gianluca Donatini, Angeliki Chorti, Theodosios Papavramidis, Paolo Miccoli

¹The Hashemite University, Faculty of Medicine, Department of Surgery, Amman, Jordan

Background. The heterogeneous autofluorescence (AF) patterns of parathyroid adenomas (PAs) has limited the intraoperative utility of near infrared autofluorescence (NIRAF)-imaging to merely confirming surgeons' perception of normal parathyroid tissue.

Objectives. (1) Assess whether certain patterns of AF could be considered pathognomonic of PAs. (2) Assess whether NIRAF-imaging could serve as an intraoperative optical diagnostic tool potentially replacing preoperative localization imaging of PAs.

Methods. Between February 2024 and November 2025 consecutive cases of primary hyperparathyroidism with concordant (ultrasonographic and MIBI) preoperative localization, were operated by a single surgeon blinded to the results of preoperative localization. Neck exploration was performed, uniformly applying NIRAF-imaging. AF patterns reported included high- or low-intensity AF, cap- or double cap-AF. In cases of surgical failure, PA location was disclosed, and the procedure was concluded if the ioPTH 10 minutes post-resection corrected appropriately.

Results. Surgical success rate was 97% (69/72). The 3 missed lesions were mistaken for NIRAF high-intensity fibrofatty tissue (1/3) and low-intensity lymph nodes (2/3). Ultimately all resected 72 lesions were histologically confirmed PAs. AF patterns reported included high-and low-intensity AF 22% (16/72) each, cap-AF 51% (37/72), and double cap-AF 4% (3/72). Cap-AF was the only pattern considerably prevailing ($P=0.0003$). Cap and double cap-AF were the only patterns exclusive to PAs.

Conclusion. Cap and double cap-AF seem to be the only pathognomonic patterns of PA autofluorescence. Therefore, only these two patterns could potentially serve as reliable intraoperative optical diagnostic tools. However, their low incidence rates prohibit substituting preoperative localization imaging as the gold standard surgical adjunct.

P023

A CASE OF NECK LUMP MISDIAGNOSED AS THYROID NODULE: ULTRASONOGRAPHY FOR DIFFERENTIAL DIAGNOSIS WITH ESOPHAGEAL LEIOMYOMA.

Piermarco Papini¹, Chiara Becucci¹, Dr, Benard Gjeloši¹, Andrea De Palma¹, Dr, Leonardo Rossi¹, Eleonora Molinaro², Liborio Torregrossa³, Gabriele Materazzi¹

¹Department of Surgical, Medical and Molecular Pathology and Critical Area, Endocrine Surgery Unit, University of Pisa, Pisa, Italy, ²Department of Clinical and Experimental Medicine, Endocrinology Unit, University of Pisa, Pisa, Italy,

³Department of Surgical, Medical and Molecular Pathology, Pathology Unit, University of Pisa, Pisa, Italy

Esophageal leiomyomas are rare, with an incidence of 0.006--0.1%, whereas nodular thyroid disease is common, with ultrasound (US) detection in 19--68% of adults. A limitation of thyroid US is its dependence on the operator's expertise. We describe a case of an incidentally detected neck mass initially managed as a thyroid nodule and later identified as an esophageal leiomyoma

A 43 yo female patient was found to have a 15-mm hypoechoic nodule in the right thyroid lobe. Fine-needle aspiration biopsy (FNAB) revealed fibrous fragments and hyperplastic thyrocytes. Follow-up US showed a posterior right-lobe nodule enlarged to 22 mm. A second FNAB revealed no thyrocytes, and cytology suggested mesenchymal neoplasia. Due to the lesion's growth and cytologic features, the patient was referred to our center for surgical resection.

A preoperative US performed by a senior sonographer revealed a solid mass located outside the thyroid capsule, arising from the esophageal wall, compatible with leiomyoma (Figure 1). Surgery was withheld. Esophagoscopy confirmed a submucosal lesion, located 14 cm from the incisors. CT imaging showed a 2.5-cm smooth mass along the right lateral cervical esophagus (Figure 2). Endoscopic US confirmed the diagnosis (Figure 3). The patient did not undergo surgery and was managed with echoendoscopic follow-up.

Cervical esophageal leiomyomas are rare and may be detected during neck US, mimicking thyroid nodules. Misdiagnosis can lead to inappropriate surgery. Accurate differentiation between thyroid and extrathyroidal cervical masses requires advanced US skills and compatible cytologic findings to avoid inappropriate surgical management.

P024

RELATIVE AND NORMALIZED IODINE CONCENTRATIONS DERIVED FROM PHOTON COUNTING COMPUTED TOMOGRAPHY AND THEIR CORRELATION WITH TUMOR GRADE AND KI67 IN PANCREATIC NEUROENDOCRINE NEOPLASIA, A PILOT STUDY

Marwin-Jonathan Sähn^{1,2}, Simon Waltermann^{1,2}, Jonas Ottemöller^{1,2}, Raihanatou Diallo-Danebrock^{1,2}, Julius Henning Niehoff^{1,2}, Marcel Bähr^{1,2}, Berthold Gerdes^{1,2}, Jan Borggreffe^{1,2}, Alexey Surov^{1,2}, Nehara Begum^{1,2,3}

¹Johannes-Wesling Klinikum Minden, ²Ruhr-University Bochum, ³University Hospital Schleswig-Holstein, Campus Lübeck

Neuroendocrine neoplasms are a rare and complex tumor entity with rising incidence. Pancreatic neuroendocrine neoplasms (PanNEN) display an aggressive behavior. In recent publications, iodine concentration derived from dual energy computed tomography (DECT), was explored as a potential biomarker for tumor grade and Ki67 in PanNEN. However, methodologies exhibited significant variability with ambiguous outcome. With the advent of photon counting computed tomography (PCCT) this study aims to provide evidence for tumor characterisation using PCCT-derived iodine concentration.

Iodine concentration in PanNEN was analyzed in the portal venous phase regarding correlation with histopathological tumor grade and Ki67. Iodine concentration were normalized to aortic iodine concentration(normalized iodine concentration, NIC), and calculated relative to unaffected pancreatic tissue (relative iodine concentration, RIC). Correlations were analyzed using Spearman's rank correlation, mean concentrations were analyzed using Mann-Whitney-U-test.

18 cases with PanNEN were included. Relative Iodine concentration (RIC) exhibited a statistically significant correlation with tumor grade ($p = 0.54$, $p = 0,021$) and Ki67 ($p = 0.533$, $p = 0.023$). Mean RIC was higher in high-grade tumors ($p = 0.028$). NIC showed weak correlation with tumor grade ($p = 0.328$, $p = 0.183$, n.s.) and Ki67 ($p = 0.302$, $p = 0.224$). Mean NIC did not differ between low and high-grade PanNEN.

Our preliminary results show that PCCT derived relative iodine concentration (RIC) is a potential biomarker for tumor grade and Ki67 prediction in untreated PanNEN. The non-invasive method requires little additional resources and may support early therapeutic decisions without primary tumor biopsy.

P025

INCIDENCE AND ASSOCIATION OF THYROID CANCER IN PATIENTS WITH HYPERTHYROIDISM UNDERGOING THYROIDECTOMY: AN EXPERIENCE FROM AN INDIAN TERTIARY CARE CENTRE

Dibya Priyadarsini Behera¹, Anjali Mishra¹, Sabaretnam M¹, Gyan Chand¹, Gaurav Agarwal¹

¹Department of Endocrine Surgery, Sanjay Gandhi post graduate institute of Medical Sciences Lucknow, Lucknow, India

An increased incidence of Thyroid Cancer (TC) in patients with Hyperthyroidism is being reported recently, though considered uncommon earlier. However, evidence from India is scarce. Our study aimed to determine the incidence and clinicopathological association of TC in patients with Hyperthyroidism undergoing thyroidectomy, with Overall Survival (OS) assessed as a secondary end point.

Retrospective cohort study of all diagnosed Hyperthyroidism patients who underwent thyroidectomy between January 1999 to December 2024 at our centre. Clinical, demographic, imaging, and pathology records were reviewed. Hyperthyroidism types included Graves' disease (GD), Toxic multinodular goitre (TMNG), and Toxic adenoma (TA). The date of surgery was used as the index point for OS

Of 591 hyperthyroid patients (GD 54.6%, TMNG 36.8%, TA 8.5%), TC was identified in 3.5% (n=21), with the highest incidence in AFTN (6%), followed by GD (3.4%) and TMNG (3.2%). Median (IQR) age was 43 (39--65) years with female predominance. Papillary thyroid carcinoma (PTC) was the most common (66.6%), followed by follicular, medullary and poorly differentiated thyroid carcinoma in 19, 9,

and 4.8 % patients, respectively. A nodule was seen in 72.7% of GD patients. Total thyroidectomy with central compartment dissection was performed in 33.3% of patients. Median tumour size was 20 mm, with lymph node metastasis reported in 19% of cases. Adjuvant radioiodine was administered in 38%, and the Median follow-up was 50 months, with a 10-year OS of 93.8%

TC, including subtypes beyond PTC, may coexist with hyperthyroidism, and OS remains comparable to non-hyperthyroid cohorts.

P026

AN UNEXPECTED ENDOCRINE DUALISM: A RARE CASE STUDY

Dibya Priyadarsini Behera¹, Anjali Mishra¹

¹Sanjay Gandhi post graduate institute of Medical Sciences Lucknow, Lucknow, India

The synchronous occurrence of pheochromocytoma with papillary thyroid carcinoma (PTC) is extremely rare, with only a limited number of cases reported. No definitive genetic mutation or syndromic correlation has yet been established to explain this association. We report a case demonstrating the presence of this unexpected combination.

Case Details:

A 19-year-old boy with no significant family history presented with abdominal pain, excessive sweating for one month, and newly diagnosed severe hypertension (BP: 210/110 mmHg). There were no clinical features suggestive of a syndromic association. Abdominal CT revealed a right suprarenal lesion measuring 40 × 37 mm. Biochemical evaluation showed elevated 24-hour urinary normetanephrine with normal metanephrine. Screening for VHL and MEN2 was performed; the VHL mutation was negative. Neck ultrasound demonstrated a TIRADS-4 nodule measuring 10 × 8 mm in the left thyroid lobe. Fine-needle aspiration cytology reported Bethesda V, with a normal serum calcitonin. With a working diagnosis of pheochromocytoma and suspected thyroid malignancy, the patient underwent right posterior adrenalectomy followed by thyroid surgery in the same setting after optimisation. Intraoperative frozen section confirmed PTC, and a left hemithyroidectomy was performed. The postoperative course was uneventful. Histopathology confirmed pheochromocytoma with a PASS score of 2 and micropapillary thyroid carcinoma. At one-year follow-up, the patient remains normotensive with normal urinary catecholamines and thyroglobulin levels. Financial limitations precluded extended genetic analysis.

Whether this synchronous presentation reflects a true biological association or a coincidental occurrence remains uncertain. Advanced genetic profiling is required to better understand this rare clinical phenomenon

P027

IS ADRENOCORTICAL CARCINOMA OPERATED BY HIGH-VOLUME SURGEONS IN GERMANY? -- A MODEL-BASED APPROACH CONSIDERING VARIOUS LEVELS OF EXPERTISE

Maximilian Berlet¹, Alissa Jell¹, Stephan Schorn¹, Marc Martignoni¹, Weber Marie-Christin¹, Dirk Wilhelm¹, Helmut Friess¹, Costanza Chiapponi¹, Anna Miki¹

¹Technical University of Munich, School of Medicine and Health, TUM University Hospital, Department of Surgery, Munich, Germany

A consensus statement from ESES suggests that surgeons performing adrenalectomy (AE) for benign conditions should complete at least six procedures annually. Moreover, given the rarity of adrenocortical cancer (ACC), surgeons operating on ACC should perform a minimum of 12 procedures yearly due to the close link between surgical precision and prognosis. This study assesses the availability of AE and surgical options for ACC treatment across Germany by analyzing expertise levels in a multimodal healthcare model.

Using the self-developed Geo::Surg framework, which integrates quality data from hospitals, geographic data, and census information, we evaluated the distribution of adrenal gland surgeries (OPS 5-07[0-3\]) and surgically treated ACC cases (ICD-10-GM C74.0) in 2023.

3,182 partial and total AEs were performed across 682 surgical departments. Of these, 562 departments conducted fewer than 6 AEs per year (32.8% of all AEs). A total of 109 ACC cases were treated in 92 surgical departments, with case numbers ranging from 1 to 11. Only 27 of these

departments performed 12 or more AEs, meaning 59.6% of surgical ACC cases were treated in centers not meeting the recommended volume. Additionally, 44.0% of surgical ACC cases were managed in departments performing less than 6 AEs.

The treatment of adrenal cancer in Germany lacks the necessary centralization at high-volume centers, crucial for the sufficient surgical management of these rare tumors. The authors advocate for reasonable approaches to centralization. The developed model can easily be adapted for use in other regions and countries.

P029

MANAGING SUBCUTANEOUS EMPHYSEMA AFTER RE-EXPLORATION FOR RECURRENT PAPILLARY THYROID CARCINOMA

Marta Bertrand Torres¹, José Ignacio Rodríguez-Hermosa¹, Jordi Gironés-Vila¹, Judith Luquin Company¹, Ramon Farrés-Coll¹

¹Hospital Dr. Josep Trueta, Girona, Spain

Papillary thyroid carcinoma (PTC) is the most common malignant tumor of the thyroid gland. Nodal recurrence may require complex re-operations, increasing complication risks. Subcutaneous emphysema is an uncommon but potentially serious postoperative finding, and clinicians must remain alert to its possible causes.

A 71-year-old man previously underwent total thyroidectomy with right central and lateral neck dissection for PTC in 2019. Nodal recurrence at right levels II and VI was confirmed by fine-needle aspiration. Re-exploration with intraoperative ultrasound-guided excision was performed. Severe fibrosis from the previous surgery made identification of the recurrent laryngeal nerves and other structures difficult. The patient was discharged on postoperative day (POD) 3 after initial uneventful recovery.

He was readmitted 24 hours later with cervicofacial edema and subcutaneous crepitus. An urgent CT scan revealed diffuse subcutaneous emphysema without collections. Suspecting tracheal injury, immediate re-exploration was undertaken, though no air leak was identified. Drains were placed, and broad-spectrum antibiotics and corticosteroids were started. Surgical cultures grew *Streptococcus oralis*, an oral commensal. The patient recovered favourably, was extubated on POD 3, and discharged on POD 13.

Persistent subcutaneous emphysema beyond POD 3 is rare and may signal major complications. The differential diagnosis includes airway injury, gas-forming anaerobic wound infections, and seroma or hematoma. Although tracheal injury is extremely uncommon, with an incidence of approximately 0.06%, it must be considered due to its potential severity.

This case highlights the need for a broad differential when assessing postoperative cervical subcutaneous emphysema, including both structural and infectious causes.

P030

FUNCTIONAL PARATHYROID CYST PRESENTED WITH INTRA-CYST HAEMORRHAGE CAUSING TRACHEAL COMPRESSION: A DIAGNOSTIC AND THERAPEUTIC CHALLENGE.

Nada Binsaleem¹, Joseph LEHMANN¹, Assef Jawaada¹, Mishaal ALMISHAAL¹, Patrick Klang¹, Gabriele Galata¹, Klaus-Martin Schulte¹

¹King's College Hospital; Endocrine Surgery, London, United Kingdom

functional parathyroid cysts are rare causes of primary hyperparathyroidism (PHPT), they mimic carcinoma or giant adenoma due to size and hypercalcemia. Anticoagulant -induced intra-cyst haemorrhage causing airway compromise is exceptionally rare.

65-year-old male developed sudden acute airway obstruction secondary to haemorrhage within a functional parathyroid cyst while on anticoagulant and anti-platelet therapy for pulmonary embolism (PE) and cerebrovascular stroke. He presented with dyspnoea, stridor and hypercalcemia.

Investigations: significantly high Parathyroid hormone : 650pg/ml and Calcium level of 2.98 mmol/L.

Ultrasound, CT suggested cystic parathyroid mass of 8 cm with mildly enlarged inferior parathyroid glands.

Treatment: Enoxaparin was stopped, and en-bloc resection of right upper parathyroid with right thyroid lobe, plus bilateral inferior parathyroid gland removal, was performed. Histopathology confirmed parathyroid cyst with no malignant features

Outcome and follow-up: at six months, calcium and PTH normalized, with no symptoms recurrence.

this case highlights distinguishing cysts from carcinoma and adenoma, the cysts role in hypercalcemia and anticoagulation management challenges.

P031

LATE OLIGOPROGRESSIVE ADRENAL METASTASIS IN LONG-TERM CONTROLLED TRIPLE-POSITIVE BREAST CANCER TREATED WITH LAPAROSCOPIC RESECTION

Nada Binsaleem¹, Gabriele GALATA¹, Patrick KLANG¹, Assef JAWAADA¹, Joseph LEHMANN¹, Meshal ALMESHAL¹, Hasti TARZBAN¹, Klaus-Martin Schulte¹

¹King's College Hospital; Endocrine Surgery, London, United Kingdom

Adrenal metastasis from breast cancer is rare and usually occurs in the setting of widespread disease. We report a case of late oligoprogression to the adrenal gland after 6 years of disease stability.

A 58-year-old woman with triple-positive (ER/PR-positive, HER2-positive) invasive ductal carcinoma initially presented with a fungating breast tumour and spinal metastases. She received palliative chemotherapy, radiotherapy, and ongoing hormonal and anti-HER2 therapy, with stable spinal disease for 6 years. Surveillance CT revealed a new enlarging left adrenal mass measuring 3.7 cm. PET-CT showed intense FDG avidity confined to the adrenal lesion, with no progression at other sites.

Investigations and treatment

The patient underwent uncomplicated laparoscopic left adrenalectomy with para-aortic lymph node excision. Histopathology confirmed metastatic triple-positive breast carcinoma in the adrenal gland and one para-aortic lymph node.

Outcome and follow-up

The postoperative course was uneventful; the patient was discharged the next day and resumed systemic therapy.

This case demonstrates oligoprogression to the adrenal gland after prolonged control of metastatic triple-positive breast cancer and supports laparoscopic resection in selected patients with limited, resectable progression.

P032

LAPAROSCOPIC RESECTION OF A BENIGN ADRENAL TUMOR IN AN EXCEPTIONALLY RARE RETRO-CAVAL POSITION

Nada Binsaleem¹, Gabriele GALATA¹, Patrick Klang¹, Assef Jawaada¹, Mishaal AlMishaal¹, Joseph LEHMANN¹, Hasti TARZBAN¹, Klaus-Martin Schulte¹

¹Kings College Hospital; Endocrine Surgery, London, United Kingdom

Adrenal tumors in atypical anatomical positions can pose significant technical difficulties during minimally invasive surgery. We present an unusual case of benign right adrenal tumor located posterior to the inferior vena cava (IVC) and the insertion of the right renal vein.

A 44 year old female, presented with loss of appetite, unintentional weight loss of 4-5 pounds and occasional palpitation and night sweats, ultrasound and CT scan demonstrated a 7.6 well-circumscribed right adrenal lesion. Biochemistry showed normal levels of metanephrines, USP normal, (No markers for ACC)

PET CT: FDG avid. Right adrenal lesion, no active distant diseases.

After detailed preoperative planning, trans peritoneal laparoscopic right adrenalectomy was performed. Meticulous dissection with hook was required to gently mobilize the right renal vein

Inferiorly and develop the narrow plane between the tumor capsule and posterior wall of the IVC. right adrenal vein was identified and clipped then divided, then tumor was fully mobilized and complete excision was achieved laparoscopically without conversion. Operative time was less than 120 minutes with minimal blood loss. Final histopathology confirmed benign schwannoma.

This case highlights one of the rarest anatomical positions of an adrenal tumor---completely beneath the IVC and right renal vein confluence---and demonstrates that such challenging lesions can be safely removed using a fully minimally invasive approach.

P033

RETROSPECTIVE ANALYSIS OF SURGICAL TREATMENT OF PATIENTS WITH PAPILLARY THYROID CARCINOMAS OVER A 30-YEAR PERIOD BASED ON HOSPITAL REGISTRY DATA

Mykhailo Bolgov¹, Oleksii Omelchuk¹, Ivan Yanchiy¹, Yuriy Tarashchenko¹, Petro Zynych¹

¹*State Institution «v.p. Komisarenko Institute Of Endocrinology And Metabolism Of The Nams Of Ukraine», Kyiv, Ukraine*

Relevance. It is known that one of the main consequences of the Chernobyl nuclear power plant disaster in 1986 was an increase in cases of papillary carcinoma among the population of Ukraine. This primarily affected those who were under 18 at the time and residents of six northern regions. This report presents some of the results of a retrospective analysis of a group of patients with papillary thyroid carcinoma, based on data from the our hospital registry.

Materials and methods. All cases of surgical treatment of papillary thyroid carcinoma for the period 1990-2019 were selected from the hospital registry. Of the 8,060 such cases, 3,451 were under the age of 18 in 1986 (group A), while 4,609 constituted the comparison group (group B). Variational statistics methods were used for the analysis.

Results. The average age in group A was 32.35 ± 0.61 , and in group B, 47.61 ± 0.24 . When grouping the number of cases by 3 years (10 periods), it is clear that the percentage of males in group A statistically significantly predominates until 2008-2010, gradually decreasing from 35.4% to 17.9%. Further, there is no statistical difference in the percentage of males between groups A and B; in both groups, it fluctuates around 18-22% with a slight predominance in group A. A similar distribution is observed when comparing the number of cases of regional lymph node involvement: a decrease in group A from 63.1% to 28.7% by 2008-2010, followed by fluctuations of 17-20% with a slight predominance in group A.

P034

SURGICAL APPROACH FOR DIFFERENTIATED THYROID CANCER : A 10 YEARS RETROSPECTIVE ANALYSIS.

Elena Bonati¹, Tommaso Loderer¹, Paolo Del Rio¹

¹*Parma University Hospital; General and Specialistic Surgery Department, Parma, Italy*

Differentiated thyroid carcinoma (DTC) is the most common type of thyroid malignancy and generally carries an excellent prognosis. However, the optimal surgical approach for low-risk disease remains debated. The 2015 American Thyroid Association (ATA) guidelines recommended lobectomy for unilateral, low-risk differentiated carcinomas (cT1b--T2N0M0), along with a shift away from routine postoperative radioactive iodine ablation. The updated 2025 ATA guidelines further support lobectomy for unilateral cT1N0M0 tumors and suggest considering it for unilateral cT2N0M0 cases in low-risk patients. Although overall survival is similar between lobectomy and total thyroidectomy, recurrence rates tend to be higher after lobectomy. Conversely, total thyroidectomy carries a higher risk of surgical complications.

This retrospective observational study analyzed thyroidectomies performed at the General Surgery Clinic of the University Hospital of Parma from 2011 to 2020. Among 2611 thyroidectomies, 450 patients had preoperative DTC diagnosis. In 244 cases with unilateral or solitary cT1a--T2N0M0 disease, a total thyroidectomy was performed, though lobectomy would have been feasible. Based on ATA 2015 criteria, the hypothetical completion thyroidectomy rate would have been 24.3%, significantly decreasing to 15.4% considering ATA 2025. Histopathological reasons for completion procedures included perithyroidal tissue invasion, lymph node metastases, aggressive histologic variants, and angioinvasion. Notably, the 2025 guidelines no longer consider minimal extrathyroidal extension or incidental central-compartment micrometastases as indications for completion.

Overall, ATA 2025 criteria substantially reduce the need for completion thyroidectomy, supporting a more conservative approach. Nevertheless, randomized controlled trials are still required to confirm whether long-term outcomes remain equivalent between lobectomy and total thyroidectomy in low-risk

DTC.

P035

MINIMALLY INVASIVE RADIO-GUIDED SURGERY FOR PRIMARY HYPERPARATHYROIDISM: A SINGLE-CENTER EXPERIENCE AT A TERTIARY HOSPITAL AND PROTOCOL ADAPTATION FOR DISTRICT-LEVEL CARE.

Ana Briones Batista¹, Maria Magdalena Llompart Coll¹, Martí Manyalich Blasi¹, Diego Flores¹, Jordi Ardid Brito¹, Sergi Vidal Sicart¹, Ramón Rull Ortuño¹, Òscar Vidal Pérez¹

¹Hospital Clínic De Barcelona, Barcelona, Spain

Minimally invasive radioguided parathyroidectomy (MIRP) offers significant advantages in managing primary hyperparathyroidism (PHPT), particularly in cases with solitary adenoma. This approach improves gland localization, reduces operative time, and minimizes morbidity. A standardized protocol developed with Nuclear Medicine ensures optimal radiotracer localization and intraoperative guidance.

We conducted a retrospective single-center study at a tertiary hospital analyzing all patients who underwent MIRP for PHPT between January 2019 and December 2023, with a follow-up of more than two years. The protocol included preoperative localization with cervical ultrasound, Tc-99m sestamibi scan, and 18F-choline PET/CT. Intraoperative radioguidance was achieved using a gamma probe and portable gamma camera. Operative time, success rates, and postoperative calcium levels were assessed. The same protocol was adapted for outpatient surgery in a district hospital, which included streamlined radiotracer logistics and portable gamma probe.

A total of 104 patients (80,8% female) were included. The mean operative time was 27 minutes (18-43). The curative rate reached 96.1%, with persistent disease in 3.9% of cases. The median preoperative PTH levels were higher (298pg/mL vs 199pg/mL) in the group with disease persistence ($p = 0.025$). PTH levels higher than 184pg/mL at 2 weeks after surgery showed a sensitivity and specificity of 100% and 98.95%, respectively. Temporary hypocalcemia occurred in 16,3%, with no persistent cases.

Radioguided parathyroidectomy achieves excellent outcomes, high success rates, and reduced operative times. Protocol adaptation enables successful implementation in district hospitals and outpatient settings, even with limited resources, maintaining high standards of safety and efficacy

P036

ROBOTIC RADIOGUIDED RESECTION OF INTRATHYMIC ECTOPIC PARATHYROID GLAND IN A CASE OF PERSISTENT PRIMARY HYPERPARATHYROIDISM

Ana Briones Batista¹, Maria Magdalena Llompart Coll¹, Martí Manyalich Blasi¹, Diego Flores Ortega¹, Jordi Ardid Brito¹, Sergi Vidal Sicart¹, Anna Ureña¹, Ricard Ramos¹, Òscar Vidal Pérez¹

¹Hospital Clínic De Barcelona, Barcelona, Spain

Primary hyperparathyroidism (PHPT) is most often caused by a parathyroid adenoma, but ectopic localization within the thymus is rare and poses diagnostic and therapeutic challenges. We present a case of persistent PHPT with suspected intrathymic parathyroid tissue requiring reoperation.

A 51-year-old male with PHPT initially presented with hypercalcemia (12.4 mg/dL), hypercalciuria (445 mg/24h), and elevated PTH (141.5 pg/mL). Imaging (Tc-99m sestamibi, 18F-choline PET/CT, MRI) revealed a prevascular mediastinal nodule suggestive of ectopic parathyroid tissue within thymic hyperplasia. The patient underwent subxiphoid thymectomy in November 2023; histology showed involuted thymic tissue without parathyroid glands. Postoperatively, calcium normalized without cinacalcet, but PTH remained elevated (125--174 pg/mL) with progressive hypercalciuria (698 mg/24h). Persistent mediastinal nodule (6 mm) was noted on follow-up CT. In October 2025, robotic-assisted thoracic surgery (RATS) with radioguided excision of residual thymic tissue was performed.

Intraoperative gamma probe confirmed focal radiotracer uptake; complete resection of mediastinal fat and thymic remnants was achieved. Histopathology revealed an intrathymic ectopic parathyroid gland (0.5 cm) within thymic tissue. Postoperative recovery was uneventful; calcium and PTH levels normalized, and the patient was discharged on day two.

This case underscores the importance of multimodal imaging and radioguided surgery in managing ectopic parathyroid tissue. Persistent biochemical abnormalities after initial thymectomy should prompt re-evaluation and consideration of advanced localization techniques. Robotic radioguided resection

offers a safe and effective approach for complex mediastinal parathyroid adenomas.

P037

STREAM -- SIGNAL TRANSDUCTION IN ENDOCRINE ADRENAL MUTATIONS

Frederike Butz^{1,2}, Cara Gebauer², PD Dr Martina T. Mogl¹, Ute I. Scholl², Gabriel Stölting²

¹Charité - Universitätsmedizin Berlin; Department of Surgery, Campus Charité Mitte || Campus Virchow Klinikum Charité, Berlin, Germany, ²Berlin Institute of Health at Charité, Universitätsmedizin Berlin, Center of Genomic Medicine, Berlin, Germany

Surgery offers possible cure for patients with unilateral primary aldosteronism (PA). However, especially patients with nonclassical histology (caused by aldosterone-producing micronodules (APM)) are at higher risk for incomplete or absent clinical and biochemical success after surgery. APM frequently harbor somatic mutations in calcium-regulating genes, particularly CACNA1D. These mutations lead to increased calcium signaling, as demonstrated in murine models, suggesting adjunct therapy with calcium channel inhibitors. However, whether these findings can be translated to humans remains unexplored.

Fresh human adrenal gland samples from patients undergoing adrenalectomy were sliced immediately after resection and calcium imaging was performed under stimulation of angiotensin II. Subsequently, CYP11B2 staining for detection of aldosterone-producing lesions was done.

Human zona glomerulosa cells (ZG) exhibited intracellular calcium fluctuations in response to angiotensin II. Interestingly, frequency and fluctuation patterns were distinct from murine ZG cells. Calcium signaling correlated with physiological and pathological CYP11B2 expression.

Our results demonstrate significant functional differences between human and murine ZG cells, highlighting the need for further investigation of human-specific calcium signaling mechanisms in both, healthy and diseased adrenal glands. Understanding these differences will help to identify PA patients at risk for incomplete or absent success that might benefit from additional treatment.

P038

TOTAL OR PARTIAL ADRENALECTOMY? CLINICAL AND BIOCHEMICAL OUTCOMES IN UNILATERAL PRIMARY ALDOSTERONISM

Lotta Wilhelmine Sinn¹, Catarina Kunze², Charlotte Friederike Müller-Debus¹, Agata Dukaczewska¹, Johann Pratschke¹, PD Dr Martina T. Mogl¹, Frederike Butz¹

¹Charité - Universitätsmedizin Berlin, Department of Surgery, Campus Charité Mitte || Campus Virchow Klinikum Charité, Berlin, Germany, ²Charité -- Universitätsmedizin Berlin, Department of Pathology, Berlin, Germany

Primary aldosteronism (PA) is the leading cause of secondary hypertension and surgical treatment is the only curative option applicable to unilateral disease. The Primary Aldosteronism Surgical Outcome (PASO) criteria standardise the evaluation of postoperative biochemical and clinical success. Although total adrenalectomy is the standard approach, the role of partial adrenalectomy in preserving adrenal function without compromising the outcome remains unclear.

A retrospective analysis was performed on patients who underwent total or partial adrenalectomy for unilateral PA between 2009 and 2024 at Charité -- Universitätsmedizin Berlin. Outcomes were evaluated according to the PASO criteria at 6--12 months (FU1) and the final documented follow-up (FU2).

Of the 132 patients treated surgically for unilateral PA, 22 (16.7%) underwent partial adrenalectomy. Duration of surgery was shorter for partial adrenalectomy (94 vs. 69 minutes, $p=0.036$), with similar hospital stay. Median follow-up was 31 months. Absent biochemical success was more common after partial adrenalectomy at FU1 (0% vs. 33%, $p=0.036$), while clinical success rates were similar ($p=0.323$). At FU2, complete biochemical success was higher after total adrenalectomy (83% vs. 60%, $p=0.047$), with no differences in clinical success rates ($p=0.709$). No adrenal crisis occurred. One patient required completion adrenalectomy after partial resection.

Partial adrenalectomy for unilateral PA was associated with shorter operative time but showed lower biochemical cure rates than total adrenalectomy, while clinical outcomes were comparable. These findings support total adrenalectomy as the more reliable surgical option for achieving sustained biochemical success. However, larger studies are needed to confirm these findings.

P039

PREDICTING OUTCOMES IN FOLLICULAR THYROID CARCINOMA: KEY CLINICAL AND PATHOLOGICAL FACTORS

Matija Buzejjic¹, Teaching ass Milan Jovanovic^{1,2}, Teaching ass Branislav Rovcanin^{1,2}, Katarina Tausanovic^{1,2}, Nikola Slijepcevic^{1,2}, Bozidar Odalovic^{2,3}, Sara Ivanis¹, Jovan Ilic¹, Milan Parezanovic¹, Milan Marinkovic¹, Vladan Zivaljevic^{1,2}

¹Clinic For Endocrine Surgery, University Clinical Center Of Serbia, Belgrade, Serbia, ²School of Medicine, University of Belgrade, Belgrade, Serbia, ³School of Medicine, University of Pristina, Serbia

Follicular thyroid carcinoma (FTC) is classified as minimally invasive (MIFTC), encapsulated angioinvasive (EAI FTC), or widely invasive (WIFTC). Despite being the second most common thyroid malignancy, FTC is rare. This study aimed to define survival outcomes and identify key prognostic factors in FTC patients.

Over 25 years, 17,791 thyroid surgeries were performed at our center, with 5,546 (31.1%) histologically confirmed thyroid neoplasms. FTC was diagnosed in 130 patients (2.3% of thyroid malignancies; 0.7% of all thyroid surgeries). The mean age at surgery was 51.4 ± 14.3 years (range 18--82). Clinical data included demographics, tumor features, surgical approach, recurrence, and survival. Kaplan--Meier analysis and Cox proportional hazards regression identified independent predictors of cancer-specific survival (CSS) and disease-free interval (DFI).

During follow-up, 12 patients developed distant metastases. CSS at 5, 10, 15, and 20 years was 98.1%, 92.3%, 83.5%, and 79.8%, respectively. Independent adverse prognostic factors for CSS were WIFTC (HR 3.63, 95% CI 1.29--10.18), multifocality (HR 6.7, 95% CI 1.37--32.72), and distant metastases (HR 2.29, 95% CI 1.08--4.84). DFI rates were 92.3%, 85.3%, 82.0%, and 76.6% at 5, 10, 15, and 20 years, with WIFTC (HR 2.53, 95% CI 1.02--6.28) and multifocality (HR 7.69, 95% CI 1.07--55.17) predicting recurrence.

FTC represents a small fraction of thyroid malignancies, but long-term survival is generally favorable. Poor prognosis is driven by WIFTC, multifocal tumors, and distant metastases, while WIFTC and multifocality strongly predict recurrence. Identifying these factors can enhance risk stratification and guide individualized management strategies.

P040

DIAGNOSTIC SURGERY FOR INDETERMINATE HIGH-RISK THYROID CYTOLOGY: THE ROLE OF GENDER IN DETERMINING CANCER RISK

Benedetto Cali¹, Laura Croce², Flavia Magri², Tshering Dorji³, Spyridon Chytiris⁴, Simone Albertario¹, Mario Rotondi², Rubina Ruggiero¹

¹Department of General and Minimally Invasive Surgery, Istituti Clinici Scientifici Maugeri IRCCS, Pavia, Italy,

²Department of Internal Medicine and Therapeutics, University of Pavia, Pavia, Italy, ³Pathology Unit, Istituti Clinici Scientifici Maugeri IRCCS, Pavia, Italy, ⁴Unit of Endocrinology and Metabolism, Laboratory for Endocrine Disruptors, Istituti Clinici Scientifici Maugeri IRCCS, Pavia, Italy

High-risk indeterminate thyroid nodules (TIR3B) requires histological evaluation for the malignancy risk. The aim of this study was to assess if gender influence the detection of cancer and clinical outcomes.

Between 2017 and 2024, 7,821 thyroid fine-needle aspirations were performed and cytological diagnoses were reported using the Italian classification. 477 (6.09%) were classified as TIR3B. 343 patients underwent diagnostic surgery and subsequently followed up. 259 were females and 75 males (ratio 3.5:1). For all enrolled patients, clinical characteristics were recorded, including age, BMI, serum TSH, thyroid volume, and nodule size. After surgery, cancer cases were classified according to the 2015 American Thyroid Association (ATA) guidelines.

Both genders showed similar characteristics in terms of age, thyroid volume, maximum nodule diameter, and serum TSH values. Only BMI was significantly higher in males. The histological diagnosis of cancer was 36.3% in females and 43.5% in males and tumor size at histology was comparable (female 15.04 ± 11.4 mm vs male 15.04 ± 15.9 mm). ATA risk stratification revealed a significantly greater proportion of low-risk cases among females (52.6% vs 32%, $p = 0.030$). Evaluation of the initial treatment response did not show any differences (57.0% vs 47.0%, $p = 0.081$).

This study showed similar nodule characteristics and a comparable prevalence of cancer. The higher incidence of cancer among females may reflect an "artifact" related to more frequent use of screening programs. Cancer in males is associated with a higher ATA risk classification, suggesting the presence

of underlying genetic factors.

P041

SURGICAL MANAGEMENT OF ANAPLASTIC THYROID CARCINOMA: A DESCRIPTIVE STUDY

Javier Callau Pontague¹, Elena Jimenez Cubedo, Mariano Artes Caselles, Lucia Gil Cidoncha, Ana Sánchez Ramos, Celia Fidalgo Martinez, Cristian Grillo Marín, Guillermo Gómez García, Alejandro Ducos Torrubiano

¹*Hospital Universitario Puerta De Hierro Majadahonda, Majadahonda, Spain*

Anaplastic thyroid carcinoma (ATC) accounts for <2% of thyroid cancers but has a one-year mortality >50%. Identifying patients who may benefit from margin-negative resection and adjuvant chemoradiotherapy (CRT) is essential. This study analyzes clinical characteristics, surgical outcomes, disease course, and survival of patients diagnosed with ATC at our institution.

MATERIALS AND METHODS

25-year retrospective review was conducted including all biopsy-confirmed ATC cases treated at our center.

Among 27,098 thyroid biopsies, seven ATC cases were identified (five women), with a mean age of 75 years (63--93). Five patients underwent total thyroidectomy with central ± lateral lymphadenectomy. According to the 8th AJCC staging system, four presented with stage II disease and one with stage IVA due to jugular vein invasion. All surgically treated patients received adjuvant CRT. During follow-up, four developed distant metastases (bone or lung) within one year; one remained disease-free at 14 months. Postoperative complications included hypocalcemia requiring supplementation (n=2) and compressive cervical hematoma requiring reoperation (n=2). Two patients were not surgical candidates: a 93-year-old woman with tracheal and esophageal invasion referred to Palliative Care, and an 83-year-old woman with tracheal stenosis managed with stenting and CRT. Three patients remain alive, one with cervical recurrence.

ATC prognosis remains poor. Nevertheless, margin-negative resection followed by CRT improves local control---even in patients who later develop distant metastases---and may contribute to prolonged survival and quality of life.

REFERENCES

Chen DW, et al. Lancet. 2023;401:1531-44

Jannin A, et al. Cancers (Basel). 2022;14:1061

Silver Karcioglu A, et al. Endocr Pract. 2025

P042

GRÜNEWALD APPROACH FOR THE RESECTION OF INVASIVE RECURRENCES IN FOLLICULAR THYROID CARCINOMA

Javier Callau Pontague¹, Juan Gonzalez Gonzalez, David Gómez de Antonio, Elena Jimenez Cubedo, Celia Fidalgo Martinez, Manuel Fernandez Rodriguez, Alonso Sastre Marcos, Lola Enriquez

¹*Hospital Universitario Puerta De Hierro Majadahonda, Majadahonda, Spain*

Recurrences of follicular thyroid carcinoma (FTC) may occur in the neck or extend into the thorax, complicating conventional surgical approaches. For retrosternal or posterior mediastinal recurrences, the transmanubrial or Grünwald approach provides exposure while preserving osteomuscular structures. We present a case of a retrosternal FTC recurrence treated using this surgical technique.

A 67-year-old woman with total thyroidectomy and radioiodine ablation presented with dysphagia and a cervical mass. CT scan revealed a 4.3 cm mass extending retrosternally and contacting the left brachiocephalic vein. Fine-needle aspiration confirmed FTC recurrence. Multidisciplinary evaluation recommended surgical rescue.

Left lateral cervicotomy combined with transmanubrial approach and first rib mobilization was performed, preserving the sternoclavicular joint. En bloc resection included the tumor, internal jugular vein, and jugulo-subclavian confluence. Intraoperative recurrent laryngeal nerve monitoring showed potentials. Lymphadenectomy was extended to levels III--IV. Postoperative course was uneventful with calcium levels. Due to R2 resection, the patient was referred to endocrinology for consideration of a

second radioiodine ablation.

The Grünwald approach is a complex but valuable technique for resecting retrosternal or superior mediastinal thyroid cancer recurrences, providing excellent exposure with minimal osteomuscular and cosmetic impact. This procedure should be performed in specialized oncology centers with expertise.

REFERENCES

Xing M. RAS mutations and their impact on the prognosis and treatment of thyroid cancer. *Curr Opin Oncol*. 2018.

Mazzaferri EL, et al. Persistent and recurrent differentiated thyroid carcinoma. *Endocr Rev*. 2020.

Cooper DS, et al. Therapy of thyroid cancer: from surgery to targeted therapy. *Lancet*. 2019.

P043

GRAVES BASEDOW DESEASE: A 15 YEARS REVIEW

Alfonso Camacho Aroca², Soledad Alonso García¹, Luz Ardoz Suárez¹, Esther Colmenarejo García¹, Carla Ferrero San Román¹, Adela Valdazo Gómez¹, Paula Soto García¹, María Ramírez Bescós¹, Paloma Gadea Uría¹, Teresa Laloumet Garcimartín¹, Santiago Servando Álvarez Pérez¹, Mencía Moreno De Barreda Renier¹, Beatriz Alarcón Arenas¹, Eva Gutierrez Sanz¹, Teresa Caruano Campizano¹, Olalla Meizoso Pita¹, Isabel Huguet Moreno¹, María Llaveró Valero¹, Vanessa Triviño Yannuzzi¹, Alberto García Piorro¹, Luyi Zeng Zhang¹, M.Mar García González¹, Laura Rambla Aguilar¹, Natalia Salvador Peiró¹, Marta León Del Campo¹, Iciar Martín¹, Inmaculada Moreno¹, Federico Álvarez Rodríguez¹, Cristina Sevillano Collantes¹, Ester Martínez Negro¹, Lorena Brandariz Gil¹, Melanie Morote González¹, Javier Jesús Barambio Buendía¹, Rodrigo Tovar Pérez¹, Felipe Acedo Fernández De Pedro¹, Elena Viejo Martínez¹, Beatriz Fernández Escudero¹, Iris Sánchez Egido¹, Cristina Pardo Martínez¹, Gloria Paseiro Crespo¹, Lucía Latorre Marlasca

¹Hospital Universitario "Infanta Leonor", Madrid, Spain, ²Board in Endocrine Surgery. Hospital Universitario "Infanta Leonor", Madrid, Spain

The higher frequency of postoperative hypoparathyroidism, postoperative hemorrhage, and inferior laryngeal nerve injury in Graves Basedow's disease compared to other thyroid pathologies after total thyroidectomy, remains a surgical consequence with high variability among published series.

We present the series carried out to date of patients operated on for Graves-Basedow Disease and compare it with the recently published series.

Retrospective observational study. Review of electronic medical records from the "Infanta Leonor" Hospital, Vallecas, Madrid. Patients who underwent total thyroidectomy for Graves disease in the General Surgery and Digestive System Department, Endocrine Surgery Unit, from November 1, 2009 to November 30, 2025, inclusive.

Population structure according to the hospital's latest published report: < 14 years: 43,151; 14-64 years: 203,372; ≥ 65 years: 47,286; Total: 293,809 inhabitants.

In the studied series, the mean age of patients undergoing surgery for Graves' disease was 42 years; the female:male ratio was 5:1 (33 women and 6 men); 16 (41%) of the patients had a family history of thyroid disease; 9 of the 39 patients experienced postoperative hypocalcemia (23.07%). The mean length of stay was 2.2 days.

In the studied series, we had no cases of permanent postoperative hypoparathyroidism or postoperative hemorrhage requiring reoperation.

In accordance with the published series, in the studied series patients operated on for Graves-Basedow Disease presented higher incidence of family history of thyroid disease, higher incidence in younger women, higher probability of postoperative hypocalcemia and longer average hospital stay.

P044

DISCREPANCY BETWEEN THE BETHESDA SYSTEM CLASSIFICATION OF THYROID NODULES AND DEFINITIVE PATHOLOGY FINDINGS. A 16-YEAR REVIEW

Alfonso Camacho Aroca¹, Soledad Alonso García¹, Luz Ardoy Suárez¹, Esther Colmenarejo García¹, Carla Ferrero San Roman¹, Adela Valdazo Gómez¹, Paula Soto García¹, María Ramírez Bescós¹, Paloma Gadea Uría¹, Teresa Laloumet Garcimartín¹, Santiago Servando Álvarez Pérez¹, Mencía Moreno de Barreda Renier¹, Beatriz Alarcón Arenas¹, Eva Gutierrez Sanz¹, Teresa Caruana Campuzano¹, Federico Álvarez Rodríguez¹, Olalla Meizoso Pita¹, Isabel Huguet Moreno¹, María Llaveró Valero¹, Vanessa Triviño Yannuzzi¹, Alberto García Piorno¹, Luyi Zeng Zhang¹, M Mar García González¹, Laura Rambla Aguilar¹, Natalia Salvador Peiró¹, Marta León Del Campo¹, Inmaculada Moreno¹, Icíar Martín¹, Cristina Sevillano Collantes¹, Ester Martínez Negro¹, Lorena Brandariz Gil¹, Melanie Morote González¹, Javier Jesús Barambio Buendía¹, Rodrigo Tovar Pérez¹, Felipe Acedo Fernández de Pedro¹, Elena Viejo Martínez¹, Beatriz Fernández Escudero¹, Iris Sánchez Egido¹, Cristina Pardo Martínez¹, Gloria Paseiro Crespo¹, Lucia Latorre Marlasca¹

¹Hospital "Infanta Leonor", Madrid, Spain

Nowadays, thyroid nodules are a very frequent pathology in the population. The prevalence of thyroid nodules by palpation is estimated to be approximately 3% to 12%, the prevalence of thyroid nodules found on ultrasound is 60 to 70%.

Retrospective study by review of the results of the Fine Needle Aspiration Biopsy (FNAB) according to the Bethesda system and the definitive pathological anatomy in the thyroid nodules of the Infanta Leonor University Hospital series from 2009 to 2025.

A total of 674 patients were included. 470 were classified as Bethesda II (65,28%), 78 Bethesda III(11,57%), 103 Bethesda IV(15,28%), 68 Bethesda V (10,08%)and 34 as Bethesda VI(5,04%). The malignancy in the definitive pathology for each category was: 10,42% (Bethesda II), 26,92% (Bethesda III), 48,54% (Bethesda IV), 98,52% (Bethesda V), 100% (Bethesda VI).The percentage of microcarcinomas in each category was : Bethesda II 27 (5,74%), Bethesda III: 7(8,97%), Bethesda IV: 4(3,88%), Bethesda V:2 (2,94%) and Bethesda VI 2(5,88%).In two patients, the pathology result was papillary carcinoma whartin-like. In one patient, the finding was renal cell carcinoma metastasis.In 6 pathology results, parathyroid glands with normal characteristics were found as an incidental finding.

The percentages of malignancy observed in the studied serie are higher in all categories compared to the percentage proposed in the Bethesda System.

A team specializing in fine-needle aspiration of thyroid nodules, along with expert pathologists and technicians, is essential.

P045

SUCCESS OF 18F-CHOLINE PET/CT IN THE PRE-SURGICAL LOCALIZATION OF PRIMARY HYPERPARATHYROIDISM AND ITS CORRELATION WITH OTHER IMAGING TECHNIQUES, HISTOPATHOLOGICAL AND BIOCHEMICAL FINDINGS.

Eva Campana Diaz¹, M.Carmen Gonzalez Sanchez¹, Paloma García-Talavera San Miguel¹, J. Manuel Alvarez Perez¹, Carlos Montes Fuentes¹, Felipe Gomez-Caminero Lopez¹, Guzman Franch Arcas¹

¹Salamanca University Hospital, Spain

To determine the correlation between 18F-choline PET/CT results in patients with primary hyperparathyroidism, the intraoperative findings, and other imaging techniques.

We included 74 patients (59 females; 60.11±12.82 years) in whom 18F-choline PET/CT was performed for pre-surgical localization of PHPT in cases with negative or doubtful imaging techniques. Standard 18F-choline images were acquired 5 and 60 minutes after 185 MBq intravenous administration.

All patients had other imaging techniques: dual-phase scintigraphy with 99mTc-MIBI (72), ultrasound (52), CT (22), MRI (6), and 4D CT (13). All patients were surgically treated. PET/CT results were correlated with other imaging techniques, histological findings and laboratory parameters. Calcium and PTH levels were collected before and after the surgery to ensure surgical success.

During surgery, the pathological gland was located in 72 cases (66 solitary adenomas, 5 double adenomas, 1 hyperplasia). 72/74 patients had normalization of the PTH levels. The remaining 2 cases were 2 false positives in choline PET, due to papillary thyroid carcinoma and thyroid oncocyctic

adenoma. 18F-choline PET/CT had 2 false negatives in multiglandular disease cases.

The concordance between PET/CT and the other techniques was: MIBI scintigraphy: 13/72, ultrasound 13/52, CT 9/22, MRI 4/6 and cervical CT4D 5/17. It should be noted that in 30/74 cases, the only positive test was PET/CT. The sensitivity of PET/CT was 97.3% and PPV 97.3%.

18F-choline PET/CT is a recommended preoperative localization technique in patients with hyperparathyroidism with negative, doubtful or inconclusive imaging techniques, showing good correlation with intraoperative findings.

P046

ANALYSIS OF NORMOCALCAEMIC VS HYPERCALCAEMIC POPULATION IN THE DIAGNOSIS OF PRIMARY HYPERPARATHYROIDISM: DIFFERENCES IN METABOLIC AND HISTOLOGICAL PARAMETERS.

Eva Campana Diaz¹, M.Carmen Gonzalez Sanchez¹, Paloma García-Talavera San Miguel¹, J. Manuel Alvarez Perez¹, Carlos Montes Fuentes¹, Felipe Gomez-Caminero Lopez¹, Guzman Franch Arcas¹

¹Salamanca University Hospital, Spain

To evaluate whether there are differences in the morphological characteristics and uptake of 99mTc-MIBI and 18F-choline in the parathyroid glands in patients with normocalcaemic vs hypercalcaemic hyperparathyroidism.

We conducted a retrospective study that included 74 patients (59 females; 60.11±12.82 years) in whom 18F-choline PET/CT was performed for presurgical localization of primary hyperparathyroidism (PHPT). Two groups were analysed: 1) normocalcaemic PHPT (8.5--10.5), 2) hypercalcaemic PHPT (> 10.5).

The Mann-Whitney U test was used to determine whether there were statistically significant differences between the two groups for the following parameters: parathyroid SUVmax, SUVpeak and MTV in early and delayed imaging, maximum gland diameter measured by CT, adenoma weight and size after histological analysis, and positive MIBI scintigraphy results.

Before surgery, 27.1% of patients were normocalcaemic and 72.9% were hypercalcaemic. The mean normocalcaemic vs hypercalcaemic values were: diameter 0.91±0.48 vs 0.92±0.41; delayed parathyroid SUVmax 4.76±2.26 vs 4.82±3.66, delayed parathyroid SUVpeak 3.11±1.28 vs 3.14±2.12; delayed parathyroid MTV 1.68±1.09 vs 1.55±1.6, weight 0.75±0.93 vs 0.85±0.75, and size 1.44±0.55 vs 1.25±0.48. No statistically significant differences were observed.

In the group of patients with increased calcium levels prior to surgery, 11 (20.8%) had positive scintigraphy, and in the group with normal calcium values, 3 patients (15.8%) had positive scintigraphy, with no statistically significant differences.

No significant differences were observed in the 18F-choline PET/CT uptake parameters, MIBI scintigraphy positivity, or parathyroid gland morphological parameters between hypercalcaemic and normocalcaemic patients. However, studies with a larger number of patients are required.

P047

PREDICTORS OF CENTRAL AND LATERAL LYMPH NODE METASTASIS IN DIFFERENTIATED THYROID CANCER: A 474-PATIENT RISK MODEL

Ozden Canoz¹, Husnu Aydin², Muge Yurdacan Sahin¹, Nuri Alper Sahbaz³, Deniz Guzey¹, Tevhide Betul Icli⁴, Associate Professor Ahmet Surek¹, Associate Professor Murat Cikot¹, Associate Professor Alpen Yahya Gumusoglu¹, Ahmet Cem Dural⁴

¹Department of General Surgery, Bakirkoy Sadi Konuk Training and Research Hospital, University of Health Sciences, Istanbul, Türkiye, ²Department of General Surgery, Faculty of Medicine, Medipol Acibadem District Hospital, Medipol University, Istanbul, Türkiye., ³Department of General Surgery, Faculty of Medicine, Hisar Hospital, Gelisim University, Istanbul, Türkiye, ⁴Department of General Surgery, Faculty of Medicine, Liv Hospital, Istinye University, Istanbul, Türkiye, ⁵Department of Endocrinology, Şişli Hamidiye Etfal Training and Research Hospital, University of Health Sciences, Istanbul, Türkiye

Differentiated thyroid cancers (DTCs) often present with lymph node metastasis, influences surgical extent and postoperative risk stratification. This study aimed to identify clinical, ultrasound, and histopathological predictors of central (CLNM) and lateral lymph node metastasis (LLNM).

A retrospective analysis was conducted on 474 DTC patients who underwent surgery between 2017 and 2023. Demographic features, ultrasound findings, and pathological parameters were evaluated. Predictors of CLNM and LLNM were assessed using univariate and multivariate logistic regression, and ROC analysis identified optimal cut-off values.

Male sex and younger age were significantly associated with CLNM ($p=0.005$; $p<0.001$) and LLNM ($p=0.001$; $p=0.049$). In multivariate analysis, hypoechogenicity ($p=0.016$) and microcalcification ($p=0.023$) independently predicted CLNM. Additional independent predictors included tumor size (OR=1.10; 95%CI, 1.06-1.14; $p<0.001$), extrathyroidal extension (OR=9.24; 95% CI, 2.46-34.68; $p=0.001$), and lymphovascular invasion (OR=5.70; 95% CI, 1.95-16.71; $p=0.001$).

ROC analysis identified a 12.5-mm tumor size cut-off for CLNM (AUC=0.780).

For LLNM, hypoechogenicity ($p=0.002$), microcalcification ($p<0.001$), and irregular margins ($p<0.001$) were significant predictors. The number of metastatic central nodes independently predicted LLNM; ≥ 4 positive nodes showed high specificity (88.7%) (AUC=0.747). Tumor size cut-off for LLNM was 14.5 mm (AUC=0.753). Central positive lymph node ratio (PLNR) correlated with LLNM ($r=0.421$; $p=0.002$), with a 0.24 cut-off providing balanced predictive accuracy (AUC=0.713).

Male sex, younger age, tumor size, microcalcification, irregular margins, extrathyroidal extension, and lymphovascular invasion are significant predictors of CLNM and LLNM. Tumor size, central nodal burden, and PLNR demonstrate notable predictive value and may refine individualized nodal staging and surgical planning in DTC.

P048

RISK OF COMPLICATIONS IN PATIENTS UNDERGOING THYROIDECTOMY FOR GRAVES' DISEASE: A PROPENSITY SCORE MATCHING ANALYSIS FROM FIVE HIGH-VOLUME CENTERS

Gian Luigi Canu¹, Fabio Medas¹, Federico Cappellacci¹, Giulia Lanzolla², Leonardo Rossi³, Giacomo Di Filippo⁴, Angeliki Chorti⁵, Ioannis Pliakos⁵, Giovanni Lazzari⁴, Eleonora Morelli⁴, Klaudiya Dekova³, Luisa Sacco³, Lisa Fantina⁶, Nicolò de Manzini⁶, Francesco Boi², Sohail Bakkar⁷, Chiara Dobrinja⁶, Theodosios Papavramidis⁵, Gabriele Materazzi³, Pietro Giorgio Calò¹

¹Department of Surgical Sciences, University of Cagliari, Monserrato, Italy, ²Endocrinology Unit, Department of Medical Sciences, University of Cagliari, Monserrato, Italy, ³Endocrine Surgery Unit, University Hospital of Pisa, Pisa, Italy, ⁴Endocrine Surgery Unit, Department of Surgery and Oncology, Verona University Hospital, Verona, Italy, ⁵First Propedeutic Department of Surgery, Aristotle University of Thessaloniki, AHEPA University Hospital, Thessaloniki, Greece, ⁶Department of Medicine, Surgery and Health Sciences, University of Trieste, Trieste, Italy, ⁷Department of Surgery, The Hashemite University, Zarqa, Jordan

Surgery represents a therapeutic option for Graves' disease.

The main objective of this study was to evaluate the risk of complications in patients with Graves' disease undergoing total thyroidectomy by high-volume surgeons.

Patients undergoing thyroidectomy, in five centers, between 2019 and 2023, were retrospectively analysed.

Enrolled patients were divided in two groups: GD Group, including those with Graves' disease, and C Group (control group).

Complications were assessed after performing propensity score matching (1:1).

Based on inclusion criteria, 8518 patients were enrolled: 1067 in GD Group and 7451 in C Group. Following propensity score matching, the study population consisted of 1068 patients: 534 in GD Group and 534 in C Group.

In GD Group, there were 84 (15.73%) cases of postoperative hypoparathyroidism (65, 12.17%, temporary and 19, 3.56%, permanent), 15 (2.81%) unilateral recurrent laryngeal nerve lesions, 1 (0.19%) bilateral recurrent laryngeal nerve lesion, 15 (1.40%) temporary recurrent laryngeal nerve lesions, 2 (0.19%) permanent recurrent laryngeal nerve lesions, 22 (4.12%) neck hematomas (17, 3.18%, managed conservatively and 5, 0.94%, requiring surgical revision of hemostasis), and 2 (0.37%) wound infections.

Overall postoperative hypoparathyroidism, permanent hypoparathyroidism, unilateral recurrent laryngeal nerve injury, and temporary recurrent laryngeal nerve injury were significantly greater in GD Group.

Complications were greater in patients with Graves' disease, however occurrence rates were low.

Based on our findings, it can be stated that thyroidectomy in patients with Graves' disease, even for high-volume surgeons, represents a more challenging procedure, but it can nevertheless be considered a valid therapeutic option.

P049

IS THE 18F-CHOLINE PET-CT MORE COST-EFFECTIVE THAN STANDARD PROTOCOL FOR LOCATING A PARATHYROID ADENOMA?

Norberto Cassinello^{1,2}, Joaquin Ortea², Santiago Serrano¹, Raquel Alfonso^{1,2}, Rosa Martí¹, María Lapeña¹, Rafael Díaz³

¹Endocrine Surgery Unit. Hospital Clínico Universitario Valencia, ²Surgery Department. University of Valencia,

³Nuclear Medicine Department. Hospital Clínico Universitario

The most common cause (> 80% of cases) of primary hyperparathyroidism (PHPT) is parathyroid adenoma. Its diagnosis is conventionally made by cervical ultrasound and 99mTc-MIBI scintigraphy. However [18F-Choline PET-CT ([18F-FCh PET-CT) offers greater sensitivity and specificity, although at a high cost, which prevents it from being a first-line diagnostic method.

Observational retrospective cohort study of 100 consecutive patients operated on for PHPT by parathyroidectomy in a tertiary hospital. Patients were divided into two groups: Group 1, patients with successful diagnosis using conventional tests (42 patients) and Group 2, patients with an initial failed diagnosis who required 18F-FCh PET-CT (52 patients). A group with an ideal diagnostic strategy using only 18F-FCh PET-CT was simulated and the costs were compared with the groups in the sample.

The sample finally analyzed 94 patients, 78.7% female, mean age 61.73 years. 55,3 % of the patients required a 18F- FCh PET-CT for the location diagnosis. The group 2 required more consultations, more complementary tests and a longer interval between the first consultation and the intervention. The ideal diagnostic strategy (€1,399.77/patient) represents a lower cost than the other strategy (€1,730.61/patient).

The diagnosis of location of a parathyroid adenoma with 18F-FCh PET-CT required fewer complementary tests and consultations, reducing the interval until surgical intervention, with no difference in surgical results. The costs if 18F-Ch PET-CT is performed as the only location diagnostic test are lower when a group of patients is studied, so its use is recommended as a first line diagnostic tool.

P050

SKELETAL METASTASES AS ATYPICAL PRESENTATION AND MULTIMODAL MANAGEMENT OF FOLLICULAR THYROID CARCINOMA.

Ricardo Jesús Castro Lara, Mikel Rojo Abecia, Rosa María García Serrano, Javier Martín Ramiro, María Dolores Cancelas Felgueras, Asier Mañarikua Arnaiz, Sara Neira Melús, Alicia Moreno Robas

¹Severo Ochoa University Hospital ; Department of General and Digestive System Surgery ; Division of Endocrine Surgery, Leganés, Spain

Follicular Thyroid Carcinoma (FTC) is characterized by hematogenous dissemination, with bone metastases in approximately 4 % of cases, associated with a significantly poorer prognosis. We report two-case series illustrating the occult presentation and high metastatic skeletal tumor burden.

Method -- Case Series:

1\). Case 1: An 83-year-old woman with diagnosis of well-differentiated FTC was established in the context of bone pain due to lytic lesions in D11 and in the sacroiliac joint.

2\). Case 2: A 64-year-old man with skeletal pain. He presented extensive metastases in the D1-D3 vertebrae (associated to spinal cord compression), both iliac bones, bilateral pulmonary metastases, and jugular tumoral thrombosis.

In both patients, invasive FTC was confirmed. Total thyroidectomy was performed with the objective of maximizing the uptake of systemic treatment (I-131) prior to its administration. The 64-year-old male patient required urgent radiotherapy due to spinal cord compression.

The two patients successfully received radioiodine therapy (I-131), resulting in adequate symptomatic control and objective reduction of tumor activity in the osseous and pulmonary lesions.

The atypical presentation of FTC with extensive skeletal metastases underscores the necessity of a multimodal strategy. Total thyroidectomy is a key intervention preceding I-131, optimizing its efficacy for the palliative and systemic control of metastatic disease.

P051

OPTIMIZING SURGICAL MANAGEMENT OF RENAL HYPERPARATHYROIDISM: INSIGHTS FROM A SINGLE-CENTER EXPERIENCE

Sezer Akbulut¹, Tugba Matlim Ozel¹, Aykut Celik¹, Gorkem Yildiz¹, Emrehan Deniz¹, Serkan Sari¹

¹University Of Health Sciences, Basaksehir Cam And Sakura City Hospital; Department of General Surgery; Division of Endocrine Surgery, Istanbul, Turkey

Secondary and tertiary hyperparathyroidism are frequent complications in patients with end-stage renal disease and are often refractory to medical therapy. Surgical treatment remains the only definitive option in cases resistant to pharmacological management.

We retrospectively reviewed 720 patients who underwent parathyroid surgery between June 2020 and June 2025. Among them, 26 had renal hyperparathyroidism, and after applying exclusion criteria, 14 patients were included in the final analysis. Demographics, surgical strategies, perioperative biochemical data, complications, and follow-up outcomes were assessed.

The study population consisted of 10 males and 4 females, with a mean age of 39.8 ± 11.9 years. The mean dialysis duration was 9.7 years, and the mean hospital stay was 9.9 days. Surgical approaches included subtotal parathyroidectomy (n=5), total parathyroidectomy (n=4), and purge parathyroidectomy (n=5). Median preoperative PTH was 2649 pg/mL, decreasing to 49.2 pg/mL postoperatively. Mean calcium and phosphorus levels also demonstrated a marked postoperative decline. Recurrent laryngeal nerve palsy and disease recurrence were observed in none of the patients with long-term follow-up. Postoperative hypocalcemia requiring intravenous calcium therapy was observed in 5 patients, three of whom had undergone purge parathyroidectomy and two total parathyroidectomy.

Parathyroidectomy is a reliable option for refractory renal hyperparathyroidism. Surgical approach should be tailored to the patient and may be modified intraoperatively.

P052

THE IMPACT OF DESMOPLASTIC STROMAL REACTION ON THE EXTENT OF LYMPH NODE DISSECTION IN MEDULLARY THYROID CARCINOMA: COULD BE A CORNERSTONE IN THE TRANSITION FROM EXTENDED TO RESTRICTED SURGERY?

Tugba Matlim Ozel¹, Husnu Aydin², Sezer Akbulut¹, Aykut Celik¹, Gorkem Yildiz¹, Gokce Aylaz³, Muge Yurdacan Sahin⁴, Deniz Guzey⁴, Huseyin Karatay⁵, Nuri Alper Sahbaz⁶, Safa Toprak⁷, Orhan Agcaoglu⁷, Ahmet Cem Dural³, Serkan Sari¹

¹University Of Health Sciences, Basaksehir Cam And Sakura City Hospital; Department of General Surgery; Division of Endocrine Surgery, Istanbul, Turkey, ²Medipol University Faculty of Medicine, Department of General Surgery, Istanbul, Turkey, ³Istinye University, Faculty of Medicine, LIV Hospital, Department of General Surgery, Istanbul, Turkey, ⁴University of Health Sciences, Bakirkoy Dr. Sadi Konuk Training and Research Hospital, Department of General Surgery, Istanbul, Turkey, ⁵University of Health Sciences Turkey, Basaksehir Cam and Sakura City Hospital, Department of Pathology, Istanbul, Turkey, ⁶Istanbul Gelişim University, Faculty of Health Sciences, Department of General Surgery, Istanbul, Turkey, ⁷Koç University, School of Medicine, Istanbul, Istanbul

Medullary thyroid carcinoma (MTC) frequently presents with lymph node metastases (LNMs), and the extent of surgery remains controversial. The desmoplastic stromal reaction (DSR) has emerged as a potential histopathological predictor of metastatic spread.

We retrospectively analyzed 63 patients with sporadic MTC treated between 2016 and 2025 at four tertiary centers. Histopathological specimens were re-evaluated for DSR, which was graded as absent, low, moderate, or high. Clinicopathological features, biochemical markers, and oncologic outcomes were compared across groups.

Desmoplastic stromal reaction was absent in 27.0% of patients and present in 73% of patients. DSR positivity was significantly associated with higher calcitonin (Ctn) and carcinoembryonic antigen (CEA) levels, increased LNM (87% vs. 0%), lymphovascular invasion, advanced nodal stage, and stage IV disease. Biochemical cure was achieved in 94.1% of DSR-negative patients compared with 56.5% of

DSR-positive patients. Increasing DSR levels was correlated with higher metastatic burden and lymph node ratio.

DSR negativity reliably identifies an indolent subgroup with negligible metastatic risk, whereas increasing desmoplasia stratifies patients into higher-risk categories. The incorporation of DSR alongside established biomarkers such as Ctn may refine surgical decision-making and help tailor the extent of lymph node dissection in sporadic MTC.

P053

PAPILLARY THYROID CANCER IN GRAVES DISEASE: MORE THAN EXPECTED, LESS THAN FEARED BUT WHEN TO BE SUSPICIOUS?

Tugba Matlim Ozel¹, Mine Yilmaz¹, Sezer Akbulut¹, Aykut Celik¹, Gorkem Yildiz¹, Nilsen Erdogan², Serkan Sari¹

¹University Of Health Sciences, Basaksehir Cam And Sakura City Hospital; Department of General Surgery; Division of Endocrine Surgery, Istanbul, Turkey

The coexistence of Graves' disease (GD) and papillary thyroid carcinoma (PTC) remains a subject of clinical debate. While PTC is frequently detected incidentally after thyroidectomy for GD, its prevalence, clinicopathological behavior, and preoperative predictors remain insufficiently defined.

This single-center retrospective cohort study included 602 patients who underwent thyroidectomy between 2020-2025. Patients were categorized as: GD+PTC (n=51); GD-only (n=109); and PTC-only (n=442). Demographic, biochemical, radiological, surgical, and pathological data were analyzed. Univariate and multivariate logistic regression models were used to identify factors associated with PTC development in GD.

The prevalence of PTC among GD patients was 31.9%. Compared with PTC, GD-associated tumors were smaller (median 5 mm vs. 12 mm, $p<0.001$) and demonstrated fewer aggressive features including lymphatic invasion, capsular invasion, multifocality, bilaterality, and nodal metastasis (all $p<0.01$). GD+PTC patients were younger and showed a lower female predominance than those with sporadic PTC. When compared with GD-only patients, the GD+PTC group had significantly lower Thyroid-stimulating Immunoglobulin (TSI) titers (median 3.8 vs. 7.65 IU/L, $p=0.007$) and a higher prevalence of ultrasound-detected thyroid nodules (64.7% vs. 27.5%, $p<0.001$). In multivariate analysis, only US-detected nodules (OR 3.56, $p=0.003$) and lower TSI levels (OR 0.95, $p=0.03$) independently predicted PTC in GD.

PTC is relatively common among surgically treated GD patients, yet presents predominantly as microcarcinoma with less aggressive histopathological features. Ultrasound-detected thyroid nodules are the strongest preoperative predictor of malignancy. These findings support careful ultrasonographic assessment and a low threshold for Fine-Needle Aspiration Biopsy (FNAB) in selected GD patients.

P054

THE DIAGNOSTIC ROLE OF THE SYSTEMIC IMMUNE-INFLAMMATION INDEX AND THE IMPACT OF SURGICAL APPROACH ON IMMUNE RESPONSE IN PATIENTS UNDERGOING SURGERY FOR ADRENAL MASSES

Mert Uzunkulaoglu¹, Tugba Matlim Ozel¹, Sezer Akbulut¹, Aykut Celik¹, Gorkem Yildiz¹, Serkan Sari¹

¹University Of Health Sciences, Basaksehir Cam And Sakura City Hospital; Department of General Surgery; Division of Endocrine Surgery, Istanbul, Turkey

Surgical interventions create a controlled traumatic effect and lead to both pro-inflammatory and anti-inflammatory changes in host immunity. The Systemic Immune-Inflammation Index (SII) is considered to reflect the balance between tumor-related inflammation and anti-tumor immune responses, thus providing a consistent representation of immune status. This study aimed to evaluate the effects of disease etiology and surgical technique (open, laparoscopic, robotic) on systemic immune response in patients undergoing adrenal surgery, using SII as an indicator of immune activation.

Among 176 patients who underwent adrenal surgery at Başakşehir Çam and Sakura City Hospital between 2020 and 2025, 144 were included. Preoperative SII values were calculated from hemograms obtained during routine preoperative evaluation, and postoperative SII values were derived from hemograms taken at the 12th postoperative hour. Patients were classified according to preoperative diagnosis, final pathology, and surgical method. Data were analyzed retrospectively.

Of the 144 patients, 107 were female, with a mean age of 50 ± 10.81 years. Comorbidities were present in 50.7%, most commonly hypertension (46.5%). Although patients with Cushing's syndrome, Conn's syndrome, and pheochromocytoma had higher mean preoperative SII values than those with non-functioning adrenal masses, differences were not statistically significant. Carcinoma cases also showed higher SII values without significant difference. The robotic surgery group had significantly lower postoperative SII levels than the other groups ($p < 0.001$), while open surgery showed the highest levels.

SII, an accessible and non-invasive immune marker, indicates that minimally invasive approaches---especially robotic surgery---are associated with a reduced systemic immune response in adrenal surgery.

P055

ROBOTIC VERSUS LAPAROSCOPIC ADRENALECTOMY: FIVE-YEAR COMPARATIVE OUTCOMES FROM A HIGH-VOLUME TERTIARY ENDOCRINE SURGERY CENTER

Sezer Akbulut¹, Tugba Matlim Ozel¹, Aykut Celik¹, Gorkem Yildiz¹, Sebnem Burhan², Emrehan Deniz¹, Serkan Sari¹

¹University Of Health Sciences, Basaksehir Cam And Sakura City Hospital; Department of General Surgery; Division of Endocrine Surgery, Istanbul, Turkey, ²University of Health Sciences Turkey, Basaksehir Cam and Sakura City Hospital; Department of Endocrinology, Istanbul, Turkey

Robotic adrenalectomy (RA) has gained increasing acceptance over Laparoscopic adrenalectomy (LA) owing to its ergonomic and technical advantages. Whether these improvements translate into superior perioperative outcomes remains uncertain. This study compares perioperative outcomes of RA and LA in a high-volume tertiary endocrine surgery center, including a structured laterality-based analysis.

Material-Method

A retrospective cohort study was conducted including all consecutive patients who underwent minimally invasive adrenalectomy between June-2020 and September-2025. Patients who underwent open adrenalectomy, had paraganglioma, or had recurrent disease were excluded. A total of 187 patients were analyzed. Demographic, clinical, operative, and postoperative data were collected. Laterality-based subgroup analyses and multivariable linear regression were performed.

Overall, 181 patients were included in the final comparative analysis. Length of hospital stay was significantly shorter in the RA group (3 [2--3] vs. 3 [3--4] days; $p=0.019$), while operative time was significantly longer (130 [115--151] vs. 100 [80--130] minutes; $p=0.001$). Complication, transfusion, and conversion rates were similar between groups. Laterality-specific analysis showed longer operative times for RA on both sides (right: $p=0.001$; left: $p=0.001$), with no difference in complication or transfusion outcomes. Multivariable regression identified RA and tumor diameter as independent predictors of operative duration.

RA demonstrated comparable perioperative safety to LA, with shorter hospitalization but longer operative times. Side-specific findings confirmed that the time-related disadvantage of RA persists regardless of adrenal laterality. RA represents a safe and feasible minimally invasive option in experienced centers, though larger prospective studies remain necessary to further define its role.

P056

ROBOTIC MODIFIED RADICAL NECK DISSECTION USING GAS-INSUFFLATION ONE-STEP SINGLE-PORT TRANSAXILLARY (GOSTA) APPROACH

Young Woo Chang¹, Dohoe Ku¹, Da Young Yu¹, Hye Yoon Lee¹, Gil Soo Son¹

¹Korea University College of Medicine, Seoul, South Korea

To evaluate the feasibility, safety, and oncologic outcomes of robotic modified radical neck dissection (MRND) using the gas-insufflation one-step single-port transaxillary (GOSTA) approach compared with conventional open MRND.

Between January 2018 and December 2024, 69 patients with papillary thyroid carcinoma (PTC) underwent MRND, with 39 patients receiving open MRND (OMRND) and 30 undergoing robotic MRND (RMRND) using the GOSTA approach. Data on clinical and pathological characteristics, perioperative outcomes, and complications were analyzed using statistical tests to compare both groups.

The mean operative time was significantly longer in the RMRND group than in the OMRND group (297.8 ± 95.8 min vs. 237.2 ± 128.5 min, $p = 0.03$). However, there were no significant differences in postoperative hospital stay, unstimulated thyroglobulin (Tg) levels before first RAI, or stimulated Tg levels at the first radioactive iodine (RAI) therapy. The number of harvested and metastatic lateral lymph nodes was comparable between the groups ($p = 0.51$ and $p = 0.31$, respectively). The complication rates were similar, with no significant differences in transient or permanent recurrent laryngeal nerve palsy, hypoparathyroidism, or other surgical complications.

Robotic MRND using the GOSTA approach is a feasible and safe alternative to open MRND, providing comparable oncologic outcomes with enhanced cosmetic benefits.

P057

NEUROENDOCRINE TUMOUR OF THE GALLBLADDER: A RARE INCIDENTAL FINDING AFTER ROUTINE CHOLECYSTECTOMY

Despoina Chatzopoulou¹, Dionysia Thermou¹, Theodora Palyvou¹, Vasiliki Kanellopoulou¹, Stavroula Seferli¹, Theodora Imant¹, Georgios Anargyros Karantzikos¹

¹Department of Surgery, Hippocraton General Hospital of Athens, Athens, Greece

Neuroendocrine neoplasms (NENs) are a rare and heterogeneous group of tumors, with an overall incidence of approximately 5--9 cases per 100,000 individuals annually. Neuroendocrine neoplasms of the gallbladder (GB-NENs) are extremely rare, representing less than 1% of all NENs and only a very small proportion of gallbladder malignancies.

We present a rare case of a GB-NEN discovered after routine laparoscopic cholecystectomy performed for cholelithiasis.

A 61-year-old man with a history of cholelithiasis underwent an elective laparoscopic cholecystectomy due to recurrent episodes of right upper quadrant pain. Preoperative imaging and biochemical tests did not reveal any suspicious findings other than gallstones. The surgery was performed without complications and the postoperative course was uneventful. Histological examination revealed a well-differentiated neuroendocrine tumor (G1) measuring 7 mm, infiltrating the underlying adipose tissue, with low mitotic activity ($<2/10$ HPF, Ki-67 $\leq 3\%$). Immunohistochemistry was positive for Chromogranin, Synaptophysin, and CK8/18. The remaining specimen showed chronic calculous cholecystitis with cholesterol polyps and mucosal hyperplasia.

No further treatment was considered necessary, and the patient was placed on long-term follow-up in accordance with international guidelines.

Conclusion: GB-NENs are extremely rare entities, most often diagnosed incidentally after cholecystectomy. Their recognition requires not only the vigilance of the surgeon but also a high index of suspicion from the pathologist, as histological and immunohistochemical analysis is essential for diagnosis. Reporting such cases enriches the limited literature and highlights the importance of multidisciplinary collaboration and long-term monitoring.

P058

ADRENOCORTICAL CARCINOMA: A 15-YEAR SINGLE-INSTITUTION EXPERIENCE

Mao Li Cheng¹, Siti Maisarah Ismail¹, Visalini Sanmugachandran¹, Sadhana Mahamad¹, Anita Baghawi¹, Noor Hisham Abdullah¹

¹Putrajaya Hospital, Malaysia

Adrenocortical carcinoma (ACC) is a rare and aggressive malignancy with an incidence of 1--2 cases per million population. The median overall survival (OS) is 5 months in stage IV disease. Surgery remains the only curative modality. This study evaluates the surgical outcomes and prognosis of ACC patients at our institution.

All newly diagnosed ACC patients at the Endocrine Institute Putrajaya, from 1st January 2010 to 31st December 2024, with 1-year follow-up, were retrospectively reviewed.

Twenty-two patients were identified. The mean age was 49.6 ± 16.9 years (range 18- 82), with a female-to-male ratio of 3.4:1. Most patients presented with advanced disease: 63.6% at ENSAT stage IV, 31.8% at stage III and 4.5% at stage II. Half of the tumours were non-functioning, while 36.4% were cortisol-secreting ACC (36.4%), 4.5% androgen-secreting, and 9.1% dual androgen- and

cortisol-secreting. Fourteen patients underwent open adrenalectomy, including three multivisceral resections. Median tumour size was 13.3 (IQR 9.4,17.2). Median blood loss was 1750ml (IQR 750,2625), operative duration 195mins (IQR145,277.5), and hospital stays 11.4 days (IQR 8.5,12.5). Surgical complication rate was 13.6%. All surgically treated patients received adjuvant mitotane. Median OS was 29.0 months for stage III and 9.0 months for stage IV disease. Patients who underwent surgery and received mitotane demonstrated significantly longer median OS (34.0 months) compared with those managed non-operatively (3.0 months).

ACC is often diagnosed at an advanced stage in Malaysia. This provides an important benchmark for local outcomes and underscores the need for timely referral and centralised multidisciplinary care.

P059

HASHIMOTO'S THYROIDITIS AND PAPILLARY THYROID CARCINOMA: IMPLICATIONS FOR EXTENT OF SURGERY IN T2 TUMORS

Suzanne Roblot¹, Fabiana Pani², Sebastien Gaujoux^{1,3}, Camille Buffet^{2,3}, Fabrice Menegaux^{1,3}, Nathalie Chereau^{1,3}

¹Department of general, digestive and endocrine Surgery, Sorbonne University, Pitié Salpêtrière Hospital, France,

²Thyroid and Endocrine Tumor Department, Pitié Salpêtrière Hospital, APHP, Sorbonne University, France, ³Groupe de Recherche Clinique n°16 Thyroid Tumors, Sorbonne University, France

The prognostic influence of Hashimoto's thyroiditis (HT) on papillary thyroid carcinoma (PTC) remains uncertain, with limited data from European populations. Some studies suggest a protective effect driven by heightened immune activity. This study compared clinicopathological features, surgical outcomes, and long-term prognosis of PTC occurring with HT versus in a normal thyroid, with a specific focus on T2 tumors.

We performed a retrospective cohort study including all consecutive patients who underwent surgery for histologically proven PTC at a high-volume French endocrine surgery center from 2004 to 2023. Patients were categorized into PTC with HT (PTC-HT) and PTC without HT (PTC non-HT). Demographics, tumor characteristics, lymph node status, postoperative complications, and recurrence were assessed. A dedicated analysis was conducted for T2 tumors. Recurrence-free survival was evaluated using Kaplan--Meier curves with multivariable adjustments.

Among 5,812 patients (676 PTC-HT; 5,136 PTC non-HT), PTC-HT was associated with smaller tumors, reduced extrathyroidal extension, and lower lymph node metastatic burden, despite higher multifocality and bilaterality. Postoperative complication rates were similar between groups. After a median follow-up of 9 (6--14) years, recurrence was significantly lower in the PTC-HT group (3.0% vs 6.4%, $p=0.0004$). In the T2 subgroup ($n=804$), oncologic outcomes were comparable, with a trend toward fewer events in PTC-HT. No disease-related deaths occurred in patients with HT.

PTC coexisting with HT exhibits a less aggressive pathological profile and better recurrence-free survival. These findings support the safety of lobectomy in selected PTC patients with HT, including those with T2 tumors meeting favorable clinical criteria.

P060

MALIGNANT STRUMA OVARIUM WITH EXTENSIVE METASTATIC SPREAD: A PATIENT'S CLINICAL JOURNEY

Sergii Cherenko¹, Mykola Bodnar²

¹Citiductor International Medical Center, Kyiv, Ukraine, ²Lviv Oncologic Regional Clinical Center, Lviv, Ukraine

Struma ovarii (SO) is a rare ovarian teratoma, accounting for less than 1% of cases. Malignant transformation with metastasizing is uncommon, with fewer than 200 cases reported. Given the rarity of metastasis and the generally favorable prognosis, the role of aggressive management---including oophorectomy, total thyroidectomy, and radioactive iodine (RAI) therapy---remains controversial, with recent trends favoring de-escalation in malignant SO

We present a clinical case highlighting delayed diagnosis and a complex therapeutic course.

A 42 year old woman underwent three surgeries before optimal treatment was established. In 2022, laparoscopic resection of a 4 cm ovarian mass was misdiagnosed as benign. In 2024, ascites, enlargement of abdomen and local recurrence led to open panhysterectomy with resection of abdominal metastases; CA 125 was elevated (115 U/mL). Histology confirmed follicular thyroid carcinoma arising in SO. MRI and a third laparoscopic revision with omental biopsy revealed multiple

persistent metastases of follicular carcinoma. The patient stayed euthyroid with markedly elevated thyroglobulin (>500 ng/mL). Subsequent total thyroidectomy showed only benign nodules. RAI therapy (9000 MBq) demonstrated widespread uptake in pelvis, liver, peritoneum, including humerus and femur metastases. Serum thyroglobulin decreased to 23 ng/mL in 6 months. The patient remains clinically well, continues professional activity, and is scheduled for second RAI course.

Initial misdiagnosis and delayed recognition resulted in multiple unnecessary surgeries, complicating definitive management of malignant SO. Nevertheless, favorable response to RAI highlights its essential role in disease control and long-term survival. Aggressive multimodal treatment remains crucial in metastatic SO, despite its rarity.

P061

THE USE OF PROBE-BASED AUTOFLUORESCENCE DEVICES DURING TOTAL THYROIDECTOMY AND POSTOPERATIVE TRANSIENT HYPOPARATHYROIDISM: PRELIMINARY RESULTS OF PTEYE STUDY

Angeliki Chorti^{1,2}, Moysis Moysidis², Ioannis Pliakos², Sohail Bakkar³, Theodossis Papavramidis^{1,2}

¹1st Propaedeutic Department Of Surgery, Thessaloniki, Greece, ²Unit of Minimally Invasive Endocrine Surgery, Kyranos Stavros, Thessaloniki, Greece, ³Department of Surgery, The Hashemite University, Amman, Jordan

Transient hypoparathyroidism remains the most frequent postoperative complication following thyroidectomy. Real-time intraoperative identification of parathyroid glands can be achieved by the application of autofluorescence devices. The aim of this study is to assess the effectiveness of probe-based devices on preventing postoperative hypoparathyroidism.

Patients undergoing total thyroidectomy from September to November 2025 were enrolled prospectively in this study and allocated randomly to groups A (PTeye) and B (control). In group A, probe-based autofluorescence device was applied for intraoperative parathyroid identification, while in group B only visual parathyroid identification by two expert endocrine surgeons were held.

Sixty patients were included in each group. For group A, in 92% of cases, 3 out of 4 parathyroid glands were identified, while in group B only in 84.5%. The mean postoperative PTH for group A was 27.88 ± 14.41 , while for group B 21.57 ± 11.88 ($p=0.05$). When the mean numeric score of autofluorescence were correlated with postoperative PTH and calcium values, no statistically significant correlation were found.

Autofluorescence devices can be useful tools in experienced hands to increase surgeons' ability of identifying parathyroid glands intraoperatively and indirectly prevent postoperative hypoparathyroidism.

P062

RECURRENCE REVEALS THE DIAGNOSIS: LESSONS FROM PARATHYROID CARCINOMA AND ATYPICAL ADENOMA IN A 15-CASE SERIES FROM A TERTIARY HOSPITAL

Patricia Marco¹, Katarzyna Maria Wcislo¹, Ana Ciscar¹, José Ignacio Pérez¹, Montserrat Clos¹, Mireia Solans¹, Jose Antonio Gonzalez¹, Antonio Moral¹

¹Hospital De La Santa Creu I Sant Pau, Barcelona, Spain

Parathyroid carcinoma (PC) is a rare endocrine malignancy characterized by slow growth but potential for local invasion and metastasis. Atypical parathyroid adenoma (APA) is a benign entity that shares overlapping histopathological features with PC. Both may present with marked hypercalcemia and remain therapeutically challenging. This study reports the clinical, diagnostic, therapeutic, and follow-up characteristics of cases managed at a tertiary center.

A descriptive observational study was conducted including all patients who underwent parathyroid surgery (14/11/2013-18/10/2025) and received a final pathological diagnosis of PC or APA, (initial surgery or at recurrence). Demographic, biochemical, imaging, pathological, treatment, and follow-up data were collected and analyzed.

Fifteen cases were identified: eight males (53.3%), mean age of 61 years. Mean corrected preoperative calcium and iPTH were 13.13 mg/dL and 350.64 pg/mL [range 15.5--2009]. Nine cases (60%) were diagnosed as PC and six (40%) as APA. Selective parathyroidectomy was performed in nine patients (60%), three of whom developed recurrence. A total of four recurrences (26.7%) were recorded (mean

of 713 postoperative days [range 34--3067]), including two cases initially classified as APA.

This case series highlights the low incidence of PC and the consequent limitations in refining diagnostic and therapeutic approaches. Although histopathology remains the diagnostic gold standard, differentiation between PC and APA may only become evident through clinical evolution, particularly recurrence. This constraint may contribute to non-radical initial surgery and subsequent recurrence. Enhanced clinical suspicion, systematic follow-up, and consideration of more extensive initial surgery are mandatory when PC cannot be definitively excluded.

P063

DIAGNOSTIC ACCURACY OF ULTRASOUND FOR PREDICTING HISTOPATHOLOGICAL FEATURES OF LATERAL NECK METASTASES IN DIFFERENTIATED THYROID CARCINOMA

Marc Vallve Bernal¹, Luciana Contino¹, Erlinda Daniela Padilla Zegarra¹, Ana Megia Colet¹, Paula García de Vinuesa Benítez³, Lucía Pérez Sibajas³, Carla Vanesa Merma Linares⁴, Juan Carlos Flores Martín⁴, Rosa Maria Jorba Martín²

¹Endocrine Surgery Unit; Hospital Joan XXIII, Tarragona, Spain, ²General and Gastrointestinal Surgery Department, Hospital Joan XXIII, Tarragona, Spain, ³Rovira i Virgili University, Tarragona, Espanya, ⁴Otolaryngology Department; Hospital Joan XXIII, Tarragona, Espanya

Ultrasound (US) is the primary tool for evaluating cervical lymph nodes in differentiated thyroid carcinoma (DTC). However, its diagnostic performance varies among lateral neck levels, particularly in regions with low metastatic prevalence but high surgical morbidity, such as IIB and V. Assessing level-specific accuracy is essential to optimize selective neck dissection.

To determine the diagnostic accuracy of preoperative US for detecting metastatic involvement in individual lateral neck levels in patients with DTC.

Prospective observational study (2015--2024) including 45 lateral neck dissections performed in 39 patients at a tertiary hospital endocrine surgery unit. For each cervical level, preoperative US findings were compared with definitive histopathology. Sensitivity, specificity, false-positive and false-negative rates were calculated. Postoperative morbidity, including accessory nerve dysfunction, was analysed by level dissected.

Metastatic involvement was 20% in level IIB and 18% in level V, while the main metastatic corridor (III--IV--VB) accounted for 95% of all positive nodes. US specificity remained high across levels (~95%), whereas sensitivity was limited: 37% in IIB and 59% in V. US failed to detect 59% of microscopic metastases. Morbidity associated with dissection was highest in level II (27.6%) and lower in level V (10%).

US demonstrated excellent specificity but limited sensitivity for detecting lateral neck metastases in DTC. Given the low metastatic prevalence and higher morbidity of levels IIB and V, a selective, accuracy-guided approach is advised. Routine dissection should prioritize levels IIA-III-IV-VB, reserving IIB and VA for cases with convincing US suspicion or high-risk tumour biology.

P064

LYMPHANGIOGRAPHY AS A THERAPEUTIC STRATEGY FOR PERSISTENT CERVICAL CHYLE LEAK FOLLOWING NECK DISECTION: A CASE REPORT

Luciana Contino¹, Marc Vallve Bernal¹, Erlinda Padilla Zegarra¹, Marta Defez Martín¹, María Esther Alba Rey¹, Elena Serrano Alcalá¹, Estefania Berge Garrido¹, Rosa Maria Jorba Martín¹

¹Hospital Universitari Joan XXIII, Tarragona, Spain

Cervical chyle leak is an uncommon but clinically significant complication of cervical lymphadenectomy. High-output leaks (>500 mL/day) often require escalation beyond conservative measures. Lipiodol lymphangiography has emerged as a minimally invasive diagnostic and potentially therapeutic option for persistent chylous fistulas.

A 61-year-old man with papillary thyroid carcinoma and lateral lymph node metastases developed a postoperative high-output cervical chyle leak following left modified radical neck dissection. Initial drainage was approximately 500 mL/day. Conservative management---including total parenteral nutrition and octreotide---reduced the output to <200 mL/day; however, the leak persisted for an additional 20 days. Magnetic resonance lymphography was performed, using heavily T2-weighted fast spin-echo sequences with maximum-intensity-projection reconstruction, demonstrating the site of the

lymphatic leak. Subsequently, Lipiodol lymphangiography was performed through ultrasound-guided intranodal injection into the bilateral inguinal lymph nodes. Selective embolization was not feasible because catheterization of the cisterna chyli could not be achieved.

Following the procedure, chyle output progressively decreased, leading to complete spontaneous closure of the fistula within 24 hours. No surgical re-exploration was required.

Lipiodol lymphangiography should be considered an effective second-line therapy for persistent high-output cervical chyle leaks that are refractory to conservative management. Even when embolization is not possible, Lipiodol may promote definitive closure and reduce the need for reoperation.

Keywords:

cervical chyle leak; Lipiodol; lymphangiography; cisterna chyli; lateral neck dissection.

P065

THE IMPACT OF PRE-OPERATIVE VITAMIN D STATUS ON POST-PARATHYROIDECTOMY HYPOCALCAEMIA: A SYSTEMATIC REVIEW

Fintan Conway¹, Reno Cheung¹

¹Imperial College London, London, United Kingdom

Postoperative hypocalcaemia and hungry bone syndrome (HBS) are common complications following parathyroidectomy (PTX). Vitamin D deficiency is often cited as a risk factor. However, its independent contribution remains uncertain.

MEDLINE and EMBASE were searched for studies of adults undergoing first-time PTX for primary hyperparathyroidism (PHPT) with pre-operative 25OHD measured ≤ 3 months. Only studies published in English from inception to Oct 2025 and reporting outcomes stratified by baseline 25(OH)D were eligible. Primary outcomes were clinically significant transient hypocalcaemia (< 96 h), HBS, and biochemical cure (> 6 months). Two independent reviewers performed screening and data extraction. Risk of bias was assessed using ROBINS-I. Due to heterogeneity in 25OHD thresholds and outcome definitions, synthesis was qualitative (PRISMA 2020).

Ten studies ($n=7,034$) were included in this review. Six were assessed as Serious and four as Moderate Risk of Bias. Definitions of 25(OH)D deficiency and postoperative protocols varied. The two largest cohorts found no independent association between vitamin D status and transient hypocalcaemia. Conversely, single-centre studies suggested higher hypocalcaemia in deficient patients, often confounded by higher pre-operative PTH and markers of bone turnover. For HBS, one adjusted cohort found no relationship with 25(OH)D, identifying pre-operative PTH as the key predictor. Long-term cure was not associated with baseline 25(OH)D in large cohorts.

Pre-operative Vitamin D deficiency serves as a marker of more severe PHPT but shows minimal independent contribution to early hypocalcaemia or HBS once adjusted for PTH and bone turnover. Evidence does not justify delaying parathyroidectomy solely to normalise 25(OH)D levels.

P066

CONTRALATERAL ADRENAL METASTASIS FROM CLEAR CELL RENAL CELL CARCINOMA: CLINICAL FEATURES AND SURGICAL MANAGEMENT -- TWO CASE REPORTS AND LITERATURE REVIEW

Elena Crespo Álvarez¹, María D. Balsalobre Salmerón¹, María Aránzazu García López¹, Nuria María Torregrosa Pérez¹, Pablo Rodríguez García¹, Mónica Pujante Menchón¹, Julia García Urbán¹, Ikram El Baraka Aissaoui¹

¹Hospital General Universitario Santa Lucía, Cartagena, Spain

Adrenal metastases occur in approximately 10% of patients with advanced clear cell renal cell carcinoma (ccRCC), most often ipsilateral to the primary tumor. Contralateral adrenal involvement is rare, with an estimated incidence of 0.7%. These lesions are usually asymptomatic and incidentally detected on follow-up imaging. Accurate diagnosis requires correlation of imaging findings with clinical and immunohistochemical data to distinguish metastatic ccRCC from primary adrenal neoplasms.

We present two cases of contralateral adrenal metastases from ccRCC managed surgically at our institution, alongside a literature review. Diagnosis was based on contrast-enhanced computed tomography (CT) and confirmed by histopathology and immunohistochemistry (PAX8, CAIX, RCC

markers). Both patients underwent robot-assisted adrenalectomy.

Case 1: An 80-year-old woman with prior right nephrectomy (pT3N0M0, 2022) developed a left adrenal lesion in 2025 (figure 1). Pathology confirmed contralateral adrenal metastasis of ccRCC.

Case 2: A 43-year-old woman with left nephrectomy (pT2bN0M0, 2022) presented in 2025 with a right adrenal mass (figure 2); adrenalectomy confirmed metastatic ccRCC.

Both procedures were completed without complications, with negative margins and satisfactory postoperative recovery.

Contralateral adrenal metastasis from ccRCC represents an exceptionally rare event, typically detected incidentally during follow-up. Imaging, supported by immunohistochemical profiling, is essential for accurate diagnosis. In selected patients with isolated adrenal involvement and controlled systemic disease, adrenalectomy---preferably through minimally invasive or robotic approaches---offers favorable oncologic outcomes and potential long-term survival.

P067

RADIOFREQUENCY OR MICROWAVE ABLATION VERSUS SURGERY FOR TREATMENT OF BENIGN NON-TOXIC, TOXIC NODULES, AND TOXIC DIFFUSE AUTOIMMUNE HYPERTHYROIDISM (GRAVES' DISEASE)

Jakob Dahlberg¹, Kaj Stenlöf², Per Bümmering³, Anders Hammarström⁶, Lennart Jivegård⁴, Francisca Jorna⁵, Jahangir Kahn⁴, Sebastian Wallén⁷, Petteri Sjögren⁴

¹University of Gothenburg, Sahlgrenska Academy, Department of Surgery, Gothenburg, Sweden, ²Department of endocrinology, Carlanderska Hospital, Gothenburg, Sweden, ³Department of surgery, Carlanderska Hospital, Gothenburg, Sweden, ⁴Institute of medicine, University of Gothenburg, Gothenburg, Sweden, ⁵Department of surgery, NÄL, Trollhättan, Sweden, ⁶Department of head and neck surgery, NÄL, Trollhättan, Sweden, ⁷Department of radiology, Carlanderska Hospital, Gothenburg, Sweden

Thermal ablation (TA) techniques have gained widespread use in the treatment of benign thyroid nodules. Clinical studies have demonstrated that TA significantly reduces the volume of thyroid nodules. While TA has proven to be a safe and effective treatment option for benign and toxic thyroid conditions, it is not without risks.

We performed a health technology assessment (HTA) analysis of TA vs surgery for 1) benign non-toxic nodules 2) toxic nodules and 3) Graves'.

PICO (P-Population, I - Intervention, C - Comparators, O - Outcomes) was defined. P1: patients with benign non-toxic nodules, P2 - patients with toxic nodules, P3 - patients with Graves'. I - TA. C - Surgery. O - Critical for decision making: symptom change, complications, recurrence, re-intervention, malignancy and mortality. Important for decision making: time consumption, volume reduction, biochemical response.

Literature search included the following types of studies: RCTs, non-randomized controlled studies and case series.

Four RCTs and 14 cohort studies were included. TA in adults with benign or toxic thyroid nodules was associated with a reduction in nodule volume by 65-93% and a reduced operation time, length of hospital stay, and need for hormone replacement therapy when compared with conventional surgery. In addition, we found that TA may result in improvement in HRQoL and improved biochemical response. However, it is uncertain if TA is associated with any difference in complications, malignancy or re-intervention.

In conclusion, TA may be an alternative for select patients with benign non-toxic or toxic disease.

P068

TOWARDS REDUCING THE RATE OF INSUFFICIENT SAMPLING IN THYROID NODULES: THE ROLE OF CORE BIOPSY

Sarah Hillary¹, Joanna Aldoori¹, Emma Collins¹, Sheila Fraser¹, Mechteld De Jong¹

¹St James's University Hospital, Leeds, United Kingdom

Patients with thyroid nodules frequently undergo fine needle aspiration cytology (FNAC) to guide treatment and reduce unnecessary diagnostic surgery. Many patients have an initial indeterminate result and require further sampling. A second insufficient (Thy1) sample may lead to the patient having diagnostic surgery. An alternative to FNAC is a core biopsy (CB) which, although more invasive, can

provide a better representative specimen.

A retrospective review of FNAC results from patients under Endocrine Surgery between September 2010 to January 2025 was performed. Patients were included if they had an initial atypical FNAC result (Thy3a) and underwent further diagnostic sampling and/or surgery. Histopathological results from FNAC or CB were analysed.

One-hundred-twenty-eight patients were included. Forty-eight patients went straight for surgery due to other clinical factors, and 14 were lost-to-follow-up or are under surveillance.

Twenty-seven underwent a second FNAC (FNAC2) and 39 had a CB (CB2). Among the second biopsy, 5 (19%) were non-diagnostic in the FNAC2 group versus 2 (5%) in the CB2 group ($p=0.11$; possibly due to small numbers). Additionally, one patient was diagnosed with lymphoma on CB2. Among CB2, most were downgraded (Thy2: $n=15$; 38%) or upgraded (Thy3f/Thy4: $n=18$; 46%). In total, 11 nodules remained atypical (FNAC2=8(30%); CB2=3(8%)), more common in the FNAC2-group ($p=0.04$).

FNAC is a less invasive initial test for patients diagnosed with a thyroid nodule. Although hindered by small numbers, CB has the potential to reduce the number of insufficient samples, allowing for a more definite decision about surgery.

P069

HEMITHYROIDECTOMY AND THE DE-ESCALATION OF THYROID CANCER MANAGEMENT --- IS THIS FEASIBLE?

Alvaro De Mora Gómez¹, Raquel Arranz Jiménez¹, Elisa York Pineda¹, Paola Parra Ramírez², Lara Fuentes Gómez¹, Rebeca Abad Moret¹, Joaquín Gómez Ramírez¹, Constantino Fondevila Campo¹

¹Department of General and Digestive Surgery, University Hospital of La Paz, Madrid, Spain, ²Department of Endocrinology and Nutrition, University Hospital of La Paz, Madrid, Spain

Hemithyroidectomy (HT) is an increasingly accepted initial surgical approach for small, low-risk differentiated thyroid cancers. However, some patients may require a completion thyroidectomy based on final histopathological findings or a reassessment of recurrence risk. The aim of this study is to analyse the rate of subsequent totalization and the preoperative and anatomopathological characteristics associated with the need for completion surgery.

We conducted a retrospective study between October 2022 and October 2025. Preoperative variables, ultrasound findings, postoperative anatomopathological characteristics, and the need for totalization were collected.

Seventeen patients were included. 12 in the non-totalized group and 5 in the totalized group. The mean age was similar between groups (46.58 ± 15.35 vs. 43.40 ± 13.91 years). Females represented the majority of the cohort (82.35%). Median ASA score was II across all groups. The totalized group showed higher median TIRADS (V) and Bethesda (V) categories. Tumor size was significantly larger in the totalized group (18.40 ± 16.96 mm) compared with the non-totalized group (8.02 ± 3.73 mm). Positive surgical margins and extrathyroidal invasion were observed only in the totalized group (40% each). Multifocality was slightly more frequent in totalized patients (20% vs. 8.33%). Overall, 11.76% of the cohort presented multifocality or adverse pathological features.

The low completion thyroidectomy rate (29,4%) suggests that initial HT selection was appropriate and aligned with current guidelines. Correlating final pathological features with the need for totalization could further refine selection criteria.

P070

REEVALUATING RETROPERITONEOSCOPIC ADRENALECTOMY IN PRIMARY ALDOSTERONISM: OUTCOMES AND PREOPERATIVE PREDICTORS OF BIOCHEMICAL AND CLINICAL CURE

Alvaro De Mora Gómez¹, Raquel Arranz Jiménez¹, Elisa York Pineda¹, Paola Parra Ramirez², Lara Fuentes Gómez¹, Rebeca Abad Moret¹, Joaquín Gómez Ramírez¹, Constantino Fondevila Campo¹

¹Department of General and Digestive Surgery, University Hospital of La Paz, Madrid, Spain, ²Department of Endocrinology and Nutrition, University Hospital of La Paz, Madrid, Spain

Primary aldosteronism causes hypertension and organ damage. Adrenalectomy can cure unilateral cases, but indications and outcome predictors remain debated. This study aims to evaluate surgical effectiveness and identifies preoperative predictors of biochemical and clinical cure.

We conducted a retrospective study between June 2022 and September 2025. Pre and postoperative clinical variables, biochemical parameters, and antihypertensive requirements were collected. Biochemical cure was defined as normalization of renin, potassium, and aldosterone-to-renin ratio. Clinical cure was defined as normotension without antihypertensive medication. Postoperative quality of life was assessed with the SF-36 questionnaire.

Sixteen patients were included. 65% were male and mean age was 57 ± 12.3 years. Preoperatively, patients required 3 (IQR 2--3) antihypertensives. All patients underwent a posterior retroperitoneoscopic adrenalectomy with no postoperative complications. SF-36 quality-of-life score reached 83,37%. Moreover 92.31% of patients would undergo surgery again.

During follow-up, potassium increased by 27.34%, aldosterone decreased by 50%, and renin increased by 287.22%. Antihypertensive requirement decreased significantly to 1 (IQR 0--2.75) ($p < 0.05$). Biochemical cure was achieved in 67% of patients and clinical cure in 33%. Potassium normalized in all patients with preoperative hypokalemia.

Multivariate analysis show younger age [OR 0.80 (0.676 - 0.949)] and lower preoperative renin [OR 0.024 (0.001 - 0.906)] as significant predictors of biochemical cure.

These findings demonstrate that adrenalectomy is a safe, minimally invasive treatment with high biochemical cure rates and significant reduction medication burden. Identifying predictive factors may improve patient selection and preoperative counseling.

P071

OPEN THYROID SURGERY IN 2025: MINIMALLY INVASIVE OPEN THYROIDECTOMY IN THE ERA OF REMOTE-ACCESS SURGERY -- A SINGLE-SURGEON'S PERSPECTIVE FROM 40-YEARS OF EXPERIENCE

Leonardo de Moura Volpi¹, Simone Dutenhefner², Mauricio Omokawa³, Rubens Kenji Aisawa³, Erivelto Volpi³

¹*Irmandade da Santa Casa de Misericórdia De Sao Paulo, Sao Paulo, Brazil*, ²*Hospital Santa Catarina, Sao Paulo, Brazil*, ³*Oswaldo Cruz German Hospital, Sao Paulo, Brazil*

Over recent decades, patients seek "minimally invasive" procedures. In thyroid surgery, this concept is often equated with techniques using small or hidden incisions, such as MIVAT and remote-access approaches. However, higher costs, longer times and steep learning curves limit their dissemination, especially in resource-constrained settings. Adapting conventional open thyroidectomy to a minimally invasive mindset may reduce dissection and improve recovery while preserving oncologic and safety outcomes.

A multidimensional definition of minimal invasiveness was used, considering incision length, extent of subplatysmal dissection, operative time, pain, length of stay, return to work, complications and cost, informed by a literature review. Operative principles that deviate from standard thyroidectomy to favour a minimally invasive open approach were described. Consecutive cases of minimally invasive open thyroidectomy performed by a single high-volume thyroid surgeon with 40 years of experience and extensive MIVAT background were analysed. Demographic, clinical and complication data were collected over a 1.5-year period.

The minimally invasive open technique was applied in 226 patients with benign and malignant disease; postoperative hypoparathyroidism occurred in approximately 11% and vocal fold palsy in 1%. Key technical elements included platysma division with preservation of strap muscles, stepwise small-field dissection, limited capsular dissection, systematic identification and careful dissection of the recurrent laryngeal nerve, hydrodissection guided by anticipated nerve course, and routine use of advanced energy devices and haemostatic adjuncts.

Minimally invasive open thyroidectomy appears feasible and oncologically sound, offering a favourable option for surgeons aiming to provide open thyroidectomy with improved cosmetic and functional outcomes

P072

MICROWAVE ABLATION FOR SUBCENTRIMETRIC PAPILLARY THYROID CARCINOMA: A HIGH-VOLUME CENTER EXPERIENCE

Andrea De Palma¹, Gianvito Candita³, Leonardo Rossi¹, Piermarco Papini¹, Benard Gjeloši¹, Chiara Becucci¹, Carlo Enrico Ambrosini¹, Arianna Ghirri², Antonio Matrone², Eleonora Molinaro², Marco Puccini¹, Rossella Elisei², Laura Crocetti³, Gabriele Materazzi¹

¹Endocrine Surgery Unit - University Hospital of Pisa, Pisa, Italy, ²Endocrinology Unit - University Hospital of Pisa, Pisa, Italy, ³Interventional Radiology Unit - University Hospital of Pisa, Pisa, Italy

This study evaluates the feasibility and safety of microwave ablation (MWA) performed with the TATO® (TERUMO) system in treating small papillary thyroid carcinoma (PTC)

A prospective study started in July 2023. Eligible patients presented with PTC ≤ 10 mm without extrathyroidal extension or lymph node metastasis. Complete ablation was defined as the presence of an hypoechoic ablation zone encompassing the tumor with margins (3 mm) and the absence of vascularity within the treated ablation area on post-procedural high-resolution ultrasound. In selected cases, post-MWA contrast-enhanced ultrasound (CEUS) was performed to confirm the absence of residual enhancement. The primary endpoint was the complete ablation rate.

Among 16 enrolled patients, 9 (56.3%) were female, with a mean age of 41.6 $\pm$ 12.4 years. The median tumor diameter was 7.5mm (IQR: 5-8.5). The median applied energy was 15W (IQR: 10-15), and the median procedure time was 240seconds (IQR: 210-375). Only one (6.3%) complication occurred, consisting of a pericapsular hematoma managed conservatively. Over a median follow-up of 10.0 months (IQR: 5.5-14.5), the median volume reduction rate was 60% (IQR: 50-70.7), consistent with post-treatment scarring. MWA achieved complete ablation in 15 patients (93.8%). One patient (6.3%) demonstrated persistent post-MWA enhancement consistent with residual disease, despite significant tumor size shrinkage, and underwent a second MWA session, resulting in complete ablation. No local recurrence or lymph node metastasis appearance occurred in the whole cohort (Table 1).

These preliminary short-term results indicate that MWA is a safe, feasible, and effective treatment option for subcentimetric PTC.

P073

SURGICAL SITE INFECTIONS AFTER THYROIDECTOMY: A FRENCH NATIONWIDE STUDY OF 485,041 PATIENTS

Monsieur Guillaume Deloche¹, Camille Marciniak, Xavier Lenne, Aghiles Hamroun, Amelie Bruandet, Gregory Baud, Mathilde Gobert, Mikael Chetboun, Didier Theis, François Pattou, Robert CAIAZZO

¹CHU de Lille, Lille, France

Background and Aims

Prospective studies report surgical site infection (SSI) rates of 0.5--1% after thyroidectomy, and current guidelines do not recommend routine antibiotic prophylaxis. However, many surgeons still use prophylactic antibiotics. This study aimed to determine the real-world incidence of SSIs after thyroidectomy and to identify independent clinical risk factors to define subgroups that may benefit from targeted prophylaxis.

We conducted a retrospective population-based study using the French National Health Data System (SNDS) from 2010 to 2024, including all patients who underwent thyroidectomy. The primary endpoint was 30-day SSI. Secondary endpoints included identification of independent predictors of infection. SSIs were captured using complementary criteria: diagnosis of infection during the index stay, postoperative antibiotic prescriptions likely related to SSI, early surgical reconsultation, or infection-related readmission within 30 days.

A total of 485,041 thyroidectomies were performed (mean age 52.8 years; 82.3% female). The main indication was non-toxic goitre (n=322,274; 66.4%). Lateral neck dissection was performed in 15,018 cases (3.1%). Thirty-five percent of patients (n=169,681) had a hospital stay of ≤ 1 night.

The 30-day SSI rate ranged from 0.4--0.6% (strict definition) to 5.8--8.1% (inclusive definition). Independent predictors of SSI included low surgical volume (< 1 procedure/week; OR 1.4), male sex (OR 1.6), age ≥ 70 years (OR 1.2), lateral neck dissection (OR 1.4), and chronic diseases (p < 0.001).

According to our study, patients undergoing lateral neck dissection, with at least one chronic disease comorbidity index, or over 70y could benefit from antibiotic prophylaxis.

P074**SKELETAL IMPACT OF PARATHYROID SURGERY IN PATIENTS EVALUATED IN A RHEUMATOLOGY SETTING**

Charles Demory¹, Camille Marciniak¹, Mathilde GOBERT¹, Grégory Baud¹, Mikael Chetboun¹, Bernard Cortet¹, Geoffrey Jacquemin¹, Tobias Schick¹, Olivier Muller¹, Robert Caiazzo¹, François Pattou¹

¹Lille University Hospital, Lille, France

Mild Primary Hyperparathyroidism (MPH), whether normocalcemic or not, is frequently identified within rheumatology pathways but remains poorly characterized. In these forms, the skeletal benefit of parathyroidectomy is uncertain. Better defining its impact may help clarify the value of surgery beyond biochemical cure alone.

we conducted a single-center retrospective study between 2011 and 2024, including patients initially evaluated in rheumatology for skeletal involvement and subsequently operated on for MPH (total calcium ≤ 110 mg/l). The skeletal impact of parathyroidectomy was assessed at 2 years on lumbar spine and total hip Bone Mineral Density (BMD), two relevant sites because of their sensitivity to postoperative changes.

among the 160 patients seen in rheumatology, 27 had MPH (mean total calcium 102,7 g/l; mean PTH 105 pg/ml) with skeletal involvement (osteoporosis in 81,5 %). Immediate surgical success was 100 % according to the Miami criterion (≥ 50 % PTH drop). Postoperative complications including transient hypoparathyroidism (18,5 %), transient recurrent nerve palsy (7,4 %), and one surgical site infection. At 2 years, total calcium and PTH had normalized in all patients (mean reductions of 9,3 mg/l and 64,3 pg/mL, respectively), confirming sustained biochemical cure. In contrast, BMD remained stable at both the lumbar spine and total hip, with no significant postoperative improvement.

in patients with MPH and skeletal involvement, parathyroidectomy stabilizes BMD at 2 years but does not induce measurable improvement, despite complete biochemical normalization. These findings suggest that the skeletal benefits of surgery may be limited in mild forms.

P075**FACTORS ASSOCIATED WITH MULTIGLANDULAR DISEASE IN PATIENTS UNDERGOING PARATHYROIDECTOMY FOR PRIMARY HYPERPARATHYROIDISM.**

Giacomo Di Filippo¹, Giovanni Lazzari¹, Claudia Bonifazi², Giulia Gobbo², Ilaria Maistri², Dorin Serbusca¹, Eleonora Morelli¹, Andrea Ruzzenente^{1,2}

¹Endocrine Surgery Unit, Integrated University Hospital of Verona, Italy, Verona, Italy, ²University of Verona, Verona, Italy

Preoperative identification of multiglandular parathyroid disease (MGD) is pivotal, as failure to detect additional hyperfunctioning glands may increase the risk of persistent or recurrent disease. The present study aimed at identifying clinical factors associated with MGD in patients undergoing parathyroidectomy for primary hyperparathyroidism (PHPT).

This is a retrospective, single-center, observational study. Data were collected from 376 consecutive patients who underwent parathyroidectomy for PHPT at the Endocrine Surgery Unit of the Verona University Hospital between January 2016 and December 2024. Patients were divided into two groups based on the number of histologically confirmed parathyroid glands removed: patients with single-gland disease (SGD; N=332) and patients with MGD (N=44). Chi-square and logistic regression analyses were employed to identify factors associated with MGD. A subgroup analysis was conducted on a cohort of patients with ultrasound evidence of a single pathological gland.

Younger age ($p=0.004$), male gender ($p=0.027$), family history of hyperparathyroidism ($p<0.0001$), absence of osteoporosis ($p=0.03$), and discordance between ultrasound and scintigraphy ($p=0.009$) were factors associated with MGD. In patients with ultrasound evidence of a single pathological gland, further associated factors included lower preoperative calcium levels ($p=0.01$), discordance between PET/CT and ultrasound ($p<0.0001$), and lower gland volume ($p=0.03$).

Our study found clinically relevant factors that may aid the surgeon in identifying PHPT cases at higher risk for MGD, with potential implications for preoperative diagnostic evaluation and surgical planning.

P076**SKIP METASTASES IN PAPILLARY THYROID CARCINOMA: EVIDENCE FROM A MULTICENTER EUROPEAN RETROSPECTIVE STUDY.**

Giacomo Di Filippo¹, Gian Luigi Canu², Giulia Gobbo³, Claudia Bonifazi³, Fabio Medas², Leonardo Rossi⁴, Federico Cappellacci², Piermarco Papini⁴, Marinunzia Paternoster⁴, Angeliki Chorti⁵, Ioannis Pliakos⁵, Moysis Moysidis⁵, Giovanni Lazzari¹, Eleonora Morelli¹, Dorin Serbusca¹, Andrea Ruzzenente¹, Theodosios Papavramidis⁵, Gabriele Materazzi⁴, Pietro Giorgio Calò²

¹Endocrine Surgery Unit, Integrated University Hospital of Verona, Italy, Verona, Italy, ²Department of Surgical Sciences, University of Cagliari, SS554 Bivio Sestu, Monserrato, 09042, Cagliari, Italy, ³University of Verona, Verona, Italy, ⁴Endocrine Surgery Unit, University Hospital of Pisa, Via Paradisa 2, 56100, Pisa, Italy, ⁵First Propedeutic Department of Surgery, AHEPA University Hospital, Aristotle University of Thessaloniki, 85 Karakasi Str., 54453 Thessaloniki, Greece, Thessaloniki, Greece

Papillary thyroid carcinoma (PTC) frequently involves cervical lymph nodes. Lateral nodal involvement without central compartment disease (Skip Metastasis, SM) poses diagnostic and staging challenges. We aimed to characterize clinicopathological features of SM in a large multicenter European cohort comparing SM+ (lateral only) and SM- (central + lateral) disease.

We conducted a retrospective study across four high-volume European centers (01/2020-12/2022). Adults with histologically proven PTC, confirmed lateral cervical metastases, and both central (level VI) and lateral (levels II-IV) dissections were included. Additional subanalyses among pT1a and cases with ≥ 2 central nodes retrieved were employed to control for confounders.

Among 283 patients, 48 (17.0%) were SM+. SM+ patients were older ($p=0.006$) and had smaller primaries ($p=0.008$), fewer microfoci ($p=0.013$), fewer lateral nodes retrieved ($p=0.004$), fewer positive nodes ($p<0.001$), and smaller largest metastatic node ($p=0.010$). Follicular variant was prevalent in SM+ ($p=0.001$). Features of aggressiveness were less frequent in SM+: multifocality ($p=0.016$), bilaterality ($p=0.024$), microscopic ETE ($p=0.016$), LVI ($p<0.001$), and extranodal extension ($p=0.043$). Findings persisted in different subanalyses (≥ 2 central nodes; $n=252$. pT1a tumors $n=73$). In multivariable analysis, central nodal yield (OR 1.13, $p=0.003$) and LVI (OR 6.5, $p=0.005$) were associated with SM-, whereas follicular variant was inversely associated (OR 0.24, $p=0.028$).

SM were not uncommon and associated with a less aggressive clinicopathologic profile and increased proportion of follicular variant. While limited central nodal yield may pose false positive risks, key associations persisted after adjustment. Prospective studies are warranted to refine risk stratification and surgical planning.

P077**PREDICTIVE FACTORS FOR LEVEL II AND V INVOLVEMENT IN LATERAL NECK DISSECTION FOR PN1B PAPILLARY THYROID CARCINOMA.**

Patricia Díaz Ríos¹, Paula Díaz Artigot², Pedro Navarro García¹, Ana Belén Bustos Merlo¹, Antonio Becerra Massare¹, Doctora Nuria Victoria Muñoz Pérez¹, Jesús María Villar del Moral¹

¹Hospital Universitario Virgen De Las Nieves, Granada, Spain, ²Hospital Universitario Clínico de Valladolid, Valladolid, España

In papillary thyroid carcinoma (PTC) with laterocervical lymphatic involvement (pN1b), the optimal extent of neck dissection remains debated, particularly for levels II and V. Recent evidence suggests these levels may be approached selectively based on clinicopathological risk factors. Our objective was to describe the pattern of cervical lymph node metastasis and to identify factors associated with involvement of levels II and V in patients with pN1b PTC.

We conducted a single-center retrospective study including 70 patients with pN1b/PTC who underwent lateral neck dissection between 2019 and 2025. Clinical and pathological variables were collected. Qualitative variables were described using absolute numbers and percentages, quantitative with median and interquartile range (IQR). A bivariate analysis was performed to identify predictors of metastasis to levels II and V.

Median age was 45 years, and 60% of patients were women. Classic PTC represented 68.5% of cases, while 14.3% corresponded to aggressive variants. Median number of harvested lymph nodes was 51.5, with a median of 10 metastatic nodes. The median metastatic-to-harvested ratio was 0.24 (IQR 0.11-0.37). Rates of nodal involvement by level were: II 54.2%, III 82.8%, IV 65.7%, and V 23.9%. Male sex was significantly associated with level II involvement ($p=0.031$). No clinical or pathological predictors were identified for level V metastasis.

In pN1b PTC, levels III and IV are most frequently involved. Level II metastasis occurs in just over half of cases, being more likely in men. The low involvement of level V supports a selective approach to its dissection.

P078

THYROID METASTASES FROM COLORECTAL CARCINOMA: CLINICAL FEATURES, DIAGNOSTIC CHALLENGES, AND SURGICAL OUTCOMES

Jorge Díaz-Roldán¹, Rosario Jurado Jiménez¹, Jesús Cañete Gómez¹, Mercedes Díaz Oteros¹, Alberto Gallego Vela¹

¹Hospital Universitario de Valme, General Surgery Department, Endocrine Surgery Section, Seville, Spain

Thyroid metastases from colorectal cancer (CRC) are extremely rare and often mimic primary thyroid malignancies. Recognizing this entity is essential to avoid diagnostic delays and optimize management strategies.

We retrospectively reviewed all patients with colorectal carcinoma (n = 3547) and thyroid carcinoma (n = 862) who underwent surgery at our institution between 1992 and 2023. Three cases of thyroid metastases from CRC were identified. Data on clinical presentation, imaging, cytology, immunohistochemistry, and surgical management were analyzed. A literature review was conducted to compare our findings with published evidence.

Two cases were synchronous, and one was metachronous. Fine-needle aspiration (FNA) was inconclusive in two patients, requiring surgery for definitive diagnosis. Immunohistochemistry showed SATB2 and CDX2 positivity, confirming colorectal origin. All patients underwent total thyroidectomy, with central neck dissection in one case for nodal involvement. None had preexisting thyroid disease. Early surgical intervention appeared to be associated with improved outcomes in patients with limited metastatic burden.

Although exceedingly uncommon, thyroid metastases from CRC should be considered in patients with a history of colorectal malignancy presenting with thyroid nodules. Immunohistochemical profiling is crucial for accurate diagnosis. Surgical resection remains an important therapeutic option that may improve prognosis when integrated into multidisciplinary care.

P079

UNPLANNED STERNOTOMY FOR INNOMINATE VEIN INJURY DURING CENTRAL NECK DISSECTION: A LIFE-SAVING MANEUVER NOT PREVIOUSLY DESCRIBED IN SIMILAR CASES

Jorge Díaz-Roldán¹, Rosario Jurado Jimenez¹, Mercedes Díaz Oteros¹, Jesús Cañete Gómez¹

¹Hospital de Valme, SEVILLA, Spain

Although rare, vascular injury during thyroid or neck dissection can lead to life-threatening hemorrhage. The innominate (brachiocephalic) vein lies close to the lower cervical field and may be inadvertently damaged, particularly during central or mediastinal lymphadenectomy. Prompt recognition and surgical control are essential to prevent catastrophic outcomes.

We report the case of a 41-year-old woman with papillary thyroid carcinoma who underwent total thyroidectomy without central neck dissection. Follow-up revealed a level VI lymph node with fine-needle aspiration positive for papillary carcinoma. During right central neck dissection, brisk venous bleeding occurred, revealing an iatrogenic laceration of the left innominate vein at its confluence with the internal jugular vein. Immediate hemostatic maneuvers through the cervical incision failed, prompting an unplanned median sternotomy for vascular control.

The vein was repaired primarily with continuous 5-0 polypropylene sutures under direct vision. Hemodynamic stability was restored, and postoperative recovery was uneventful except for upper-limb edema secondary to thrombosis extending from the innominate vein to the left jugular-axillary confluence. The thrombosis resolved completely with conservative treatment. The patient was discharged on postoperative day ten without neurological or vascular sequelae. Final histopathology confirmed metastatic papillary carcinoma in central neck nodes, with no residual vascular abnormality on follow-up imaging.

Unplanned sternotomy can be life-saving in cases of major venous injury during thyroid or neck surgery. To our knowledge, this specific maneuver for controlling innominate vein injury during central

neck dissection has not been previously described, highlighting its potential value in critical intraoperative scenarios.

P080

REAL-WORLD PERFORMANCE OF TIRADS AND BETHESDA SYSTEMS IN THYROID NODULE ASSESSMENT: INSIGHTS FROM A UNIVERSITY HOSPITAL EXPERIENCE

Jorge Díaz-Roldán¹, Rosario Jurado Jimenez¹, Mercedes Díaz Oteros¹, Jesus Cañete Gómez¹, Miguel Cañas Orellana¹

¹Hospital de Valme, Sevilla, Spain

Accurate stratification of thyroid nodules is crucial to guide clinical and surgical management. The TIRADS (ultrasound-based) and Bethesda (cytological) systems are essential diagnostic tools, although their correlation with final histopathology may vary across institutions.

To assess the diagnostic accuracy of the TIRADS and Bethesda systems in relation to definitive histopathological findings in patients undergoing thyroid surgery.

A retrospective single-center observational study included patients with thyroid nodules who underwent fine-needle aspiration (FNA) followed by total or hemithyroidectomy between January and December 2024. Each nodule was categorized according to TIRADS and Bethesda systems, and results were compared with postoperative histopathology.

A total of 109 thyroidectomies were analyzed. Nodules were classified as Bethesda II (n=34), III (n=25), IV (n=32), V (n=17), and VI (n=1). Malignancy rates were 20% (7/34) for Bethesda II, 50% (16/32) for Bethesda IV, and 88% (15/17) for Bethesda V, likely influenced by local selection criteria. The TIRADS classification demonstrated limited correlation with histopathology, reducing its reliability as an independent criterion for surgical indication.

The Bethesda system remains a valuable cytological tool, though malignancy rates in categories II, IV, and V were higher than those typically reported (3%, 25--40%, and 60--75%, respectively). TIRADS showed limited predictive value for surgical decision-making. These findings highlight the need to adapt diagnostic protocols to local practice and to periodically reassess classification performance based on institutional outcomes.

P081

HIGHER FREQUENCY OF UNFAVORABLE HISTOPATHOLOGICAL FEATURES OF PAPILLARY THYROID CARCINOMA IN PATIENTS WITH OBESITY AND OVERWEIGHT

Andrii Dinets^{1,2,3}, Maksym Gorobeiko^{2,3}, Igor Lurin³

¹Verum Expert Clinic, Kyiv, Ukraine, ²Department of Healthcare, Kyiv Agrarian University, Kyiv, Ukraine, ³National Academy of Medical Sciences of Ukraine, Kyiv, Ukraine

Papillary thyroid carcinoma (PTC) is most common malignant neoplasm of thyroid gland. Evidence suggests obesity as risk factor for PTC, but its role for aggressive biological characteristics. Aim of the study was to investigate and evaluate the pathomorphological features of PTC in patients with obesity.

A 91 patients with were identified for the study at Verum Expert Clinic (Kyiv, Ukraine). These individuals were categorized into groups of patients with PTC and normal weight (body mass index (BMI) < 24 kg/m², PTC and overweight (BMI 24-29 kg/m²), PTC and obesity (BMI > 30 kg/m²). Clinical data were obtained from the archived medical records. Analyses of histopathological differences was performed using Kruskal-Wallis statistics test.

The mean size of the carcinoma was 1.6 cm in the group of obese PTC patients, 1.0 cm in the group of overweight PTC patients, and 0.95 cm in PTC patients with normal weight (p=0.043). A higher frequency of microcarcinomas was among patients with normal weight 16 (62%) vs. 6 (30%) patients in group of PTC with obesity, vs. 8 (62%) patients in group of PTC with overweight (p=0.041). Higher proportion of perineural invasion was detected in 3 (14%) obese patients with PTC vs. none among the patients with normal weight (p=0.031).

PTC is associated with higher frequency of large cancer (> 1 cm) in patients with obesity and overweight, indicating higher frequency of microcarcinoma in the patients with PTC and normal weight. Obesity and overweight might be considered as sign of worse prognosis.

CONCOMITANT THYROID CARCINOMA IN SURGICAL SPECIMENS WITH NON-INVASIVE FOLLICULAR THYROID NEOPLASM WITH PAPILLARY-LIKE NUCLEAR FEATURES (NIFTP): A LARGE MULTI-CENTRE ANALYSIS

Chiara Dobrinja¹, M.D. Daniele Gasparini², M.D. Manuela Mastronardi¹, M.D. Fulvia Martellani³, Stella Bernardi⁴, M.D. Elena Bonati⁵, Marco Bononi⁶, Pietro Giorgio Calò⁷, M.D. Glian Luigi Canu⁷, M.D. Federico Cappellacci⁷, M.D. Maria Grazia Chiofalo⁸, M.D. Loredana De Pasquale⁹, Carmela De Crea¹⁰, M.D. Marco Stefano Demarchi¹¹, Paolo Del rio⁵, M.D. Giacomo Di Filippo¹², Giovanni Docimo¹³, M.D. Rita Gervasi¹⁴, Giuseppa Graceffa¹⁵, Angela Gurrado¹⁶, Maurizio Iacobone¹⁷, M.D. Eduardo Marcelo Iervolino¹³, M.D. Nadia Innaro¹⁴, M.D. Rita Laforgia¹⁸, M.D. Giovanni Lazzari¹², M.D. Petra Makovac¹⁹, Gabriele Materazzi²⁰, Fabio Medas⁷, M.D. Eleonora Morelli¹², M.D. Barbara Mullineris²¹, M.D. Piermarco Papini²⁰, Francesco Pennestri²¹, Angela Pezzolla¹⁸, Marco Raffaelli²², Esther Diana Rossi²², Leonardo Rossi²⁰, M.D. Malik Rouatbi¹⁹, M.D. Gregorio Scerrino²³, M.D. Luca Sessa²⁴, Mario Testini¹⁶, M.D. Emanuela Traini²⁵, Dario Gregori², Nicolò de Manzini¹

¹UCO Clinica Chirurgica. Department of Medicine, Surgery and Health Sciences, University of Trieste. Azienda Sanitaria Universitaria Giuliano Isontina (ASUGI), Cattinara Teaching Hospital, Trieste, Italy., Trieste, Italy, ²Unit of Biostatistics, Epidemiology and Public Health, University of Padova, Padova, Italy., Padova, Italy, ³UCO Anatomia Patologica. Azienda Sanitaria Universitaria Giuliano Isontina (ASUGI), Cattinara Teaching Hospital, Trieste, Italy., Trieste, Italy, ⁴SS Endocrinologia -- UCO Medicina Clinica. Department of Medicine, Surgery and Health Sciences, University of Trieste, Azienda Sanitaria Universitaria Giuliano Isontina (ASUGI), Cattinara Teaching Hospital, Trieste, Italy., Trieste, Italy, ⁵Department of Medicine and Surgery, Unit of General Surgery, University Hospital of Parma, Italy., Parma, Italy, ⁶DAI Chirurgia Generale, Chirurgia Plastica e Ortopedia, Policlinico Umberto I Sapienza, Rome, Italy., Rome, Italy, ⁷Department of Surgical Sciences, University of Cagliari, Monserrato, 09042 Cagliari, Italy., Cagliari, Italy, ⁸SC Chirurgia Oncologica della Tiroide, Istituto Nazionale Tumori, IRCCS Fondazione G. Pascale, Napoli, Italy., Napoli, Italy, ⁹Thyroid and Parathyroid Surgery Unit-Otolaryngology Unit, ASST Santi Paolo e Carlo, Department of Health Sciences, Università degli Studi di Milano, Milan, Italy., Milano, Italy, ¹⁰Ospedale Isola Tiberina, Gemelli Isola, Centro di Ricerca in Chirurgia delle Ghiandole Endocrine e dell'Obesità, Università Cattolica del Sacro Cuore, Rome, Italy., Rome, Italy, ¹¹Department of Thoracic and Endocrine Surgery and Faculty of Medicine, University Hospitals of Geneva, Rue Gabrielle-Perret-Gentil 4, 1205 Geneva, Switzerland., Geneva, Switzerland, ¹²Endocrine Surgery Unit, Department of Surgery and Oncology, Verona University Hospital, p.le L.A. Scuro 10, 37134 Verona, Italy., Verona, Italy, ¹³Azienda Ospedaliera Universitaria "Luigi Vanvitelli" Unità Operativa Semplice Dipartimentale di Chirurgia Tiroidea -- Napoli., Napoli, Italy, ¹⁴UOC Endocrinochirurgia AOU Dulbecco Catanzaro, Italy., Catanzaro, Italy, ¹⁵POLICLINICO P. GIACCONE Dipartimento MEPre-J, Università degli Studi di Palermo -- Chirurgia Oncologica., Palermo, Italy, ¹⁶UOC Chirurgia Generale Universitaria "V. Bonomo", Dipartimento di Medicina di Precisione e Rigenerativa e Area Jonica (DiMePre-J). Università degli Studi di Bari., Bari, Italy, ¹⁷Endocrine Surgery Unit, Department of Surgery, Oncology and Gastroenterology, University of Padova, Padova, Italy., Padova, Italy, ¹⁸Department of Precision and Regenerative Medicine and Jonic Area (DiMePre-J), Section of Surgery, Laparoscopic and Emergency General Surgery Unit, Hospital University of Bari, Bari, Italy., Bari, Italy, ¹⁹Servizio di Chirurgia, Ospedale Regione di Mendrisio --OBV, EOC (CH) Via Alfonso Turconi 23, 6850 Mendrisio, Mendrisio, Switzerland, ²⁰Department of Surgical, Medical and Molecular Pathology and Critical Area, University of Pisa, Pisa, Italy., Pisa, Italy, ²¹Department of General, Emergency and New Technologies, University Hospital of Modena, Baggiovara Civil Hospital, Modena, Italy., Modena, Italy, ²²UOC Chirurgia Endocrina e Metabolica, Centro Dipartimentale di Chirurgia Endocrina e dell'Obesità, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy., Rome, Italy, ²³Unit of Endocrine Surgery, Department of Surgical Oncological and Oral Sciences, Policlinico "P. Giaccone", University of Palermo, Via Liborio Guffrè 5, 90127 Palermo, Italy., Palermo, Italy, ²⁴Division of Endocrine Surgery, Fondazione Istituto G.Giglio, 90015 -- Cefalù -- Sicilia-Università Unicamillus, Saint Camillus International University of Health Sciences, Rome, Italy., Rome, Italy, ²⁵UOC Chirurgia Endocrina Ospedale San Carlo di Nancy -- Roma, Italy., Rome, Italy

Non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) is considered an indolent entity, yet the clinical impact of synchronous thyroid carcinoma (STC) remains uncertain and may influence surgical and follow-up strategies. Aim of the study was quantify the prevalence of STC in patients with NIFTP and compare their clinicopathological features with NIFTP cases without associated carcinoma.

We analyzed 1,201 thyroid surgical specimens with a histological diagnosis including NIFTP. Presence of "cancer in NIFTP" was used to stratify cases (N=1,139 without, N=62 with STC). Continuous variables were summarized as median (I-III quartile) and categorical variables as percentages; between-group comparisons used Wilcoxon and Pearson tests with Benjamini--Hochberg--Yekutieli adjustment for multiplicity (reported as Q-values).

STC was present in 5.2% of NIFTP-containing specimens. Age, sex, and nodule diameter were similar between patients with and without STC. NIFTP was the main histological component in 58% of cases overall, frequently associated with follicular-variant papillary thyroid carcinoma and follicular

carcinoma, with similar distributions in patients with and without STC. Mean diameter of STC was 5,16 mm (range: 0.5-10). Adverse pathological features were rare: angioinvasion and lymphatic invasion rates were comparable. However, reoperation was significantly more frequent in the NIFTP+carcinoma group.

In this large series, STC occurred in a small percentage of NIFTP cases and was not associated with a clearly more aggressive pathological profile. Nevertheless, patients with concomitant carcinoma underwent reoperation more frequently, underscoring the importance of meticulous histopathological analysis and risk assessment to guide surgical and follow-up strategies.

P083

COMBINED USE OF NIRAF AND ICG IN THYROID CANCER: IMPACT IN DECREASING POSTOPERATIVE HYPOPARATHYROIDISM. EXTENDED EXPERIENCE OVER 5 YEARS IN A UNIVERSITY SETTING.

José Luis Carrillo Lizarazo¹, Mariana Teixeira Moraes¹, Sohail Bakkar², Lucas Shafiee Koor¹, Haythem Najah³, Gianluca Donatini¹

¹CHU Poitiers - France, Poitiers, France, ²Hashemite University, Zarqa, Jordan, ³CHU Orleans, Orleans, France

Introduction.

Postoperative hypoparathyroidism represents the most common complication after total thyroidectomy, with rates of transient and permanent postoperative hypoparathyroidism may reach 51.9% and 16.2%. Near-infrared autofluorescence(NIRAF) enhances PG identification, while indocyanine green(ICG) angiography provides real-time perfusion assessment.

We evaluated the impact of NIRAF alone and NIRAF+ICG on postoperative hypoparathyroidism in patients undergoing total thyroidectomy for thyroid cancer.

Methods.

All patients operated for thyroid cancer between January 2020 and September 2025 were included and divided into three groups: Control Group (CG) with visual PG identification, NIRAF group(AF), and ICG Group(ICG) in which ICG was used. Primary outcomes: transient and permanent postoperative hypoparathyroidism rate. Secondary outcomes: postoperative calcium, PTH levels, inadvertently resected PGs and length of surgery.

Results.

Overall, 388 patients underwent thyroidectomy: 156 in CG, 86 in AF, and 144 in ICG, respectively. Transient hypoparathyroidism rate was 34,0% in CG, 23,3% in AF, and 11.1% in ICG group($p < 0.001$), while permanent hypoparathyroidism rate was 4.5% in GC, 1.2% in AF, and 0% in ICG($p = ns$). Inadvertent resection of PGs: 57/624(CG), 19/344(NG), and 13/576(ICG)($p < 0.00001$). Median post-operative calcium did not differ significantly, while median PTH was 20.0 pmol/L in CG, 23.0 in AF and 25.0 in ICG ($p < 0.001$). Mean surgery time was 153' in CG, 117' in AF and 131' in ICG ($p = NS$).

NIRAF and ICG offer complementary valuable intraoperative informations and significantly reduce both transient and permanent postoperative hypoparathyroidism, with fewer inadvertent parathyroidectomies and no increase in operative time. It represents a valuable adjunct when thyroidectomy for cancer has to be performed.

P084

HYPOPARATHYROIDISM AFTER THYROID SURGERY IN PATIENTS WITH A HISTORY OF MALABSORPTIVE BARIATRIC SURGERY: A PROPENSITY SCORE MATCHED ANALYSIS IN A HIGH-VOLUME CENTRE

Silvia Dughiero¹, Klaas Van Den Heede¹, Dr, Sam Van Slycke¹

¹Department Of General And Endocrine Surgery, Azorg Hospital, Aalst, Belgium

Post-operative hypoparathyroidism (HypoPTH) is the most common complication after total thyroidectomy. A history of malabsorptive bariatric surgery can be a risk factor for prolonged hypocalcaemia. The aim of the study was to assess the incidence, behaviour, treatment, and follow-up of hypocalcaemia after total thyroidectomy in patients with a history of malabsorptive bariatric surgery, considering the rising prevalence of the obesity and its related surgery.

This retrospective cohort study included patients who underwent total thyroidectomy at a Belgian tertiary referral centre, between 2010 and 2021. Patients with prior malabsorptive bariatric surgery (n = 15) were matched 1:3 by age and indication for thyroid surgery to controls without a history of bariatric surgery (n=45). Clinical and peri-operative data, pre- and postoperative calcium levels, postoperative parathyroid hormone (PTH) levels, incidence of hypoparathyroidism, need for calcium supplementation, and six-weeks follow-up data were analysed.

Early postoperative hypoparathyroidism occurred in 40% of patients in the bariatric group and 42% in the control group (p=0.88). Postoperative calcium supplementation was required in 40% of the bariatric group, compared to 33% of the control group (p=0.64). The prevalence of hypocalcaemia requiring supplementation at six weeks post thyroidectomy was identical in both groups (7% vs. 7%, p=0.98).

A history of malabsorptive bariatric surgery did not significantly increase the risk of hypocalcaemia following total thyroidectomy. Despite slightly lower postoperative calcium levels in the bariatric group, the incidence of hypoparathyroidism and the need for calcium supplementation were comparable.

P085

HYPOPARAPP: A WEB-BASED TOOL TO ESTIMATE THE RISK OF POSTOPERATIVE HYPOPARATHYROIDISM AND NEED FOR CALCIUM THERAPY AFTER TOTAL THYROIDECTOMY

Silvia Dughiero¹, Dr, Francesca Torresan¹, Dr, Maurizio Iacobone¹

¹Department of Endocrine Surgery, University Hospital of Padua, Padua, Italy

Postoperative hypoparathyroidism (HypoPTH) is the most frequent complication after total thyroidectomy; it is defined by inadequate PTH levels and, if not recognised promptly, can cause symptomatic hypocalcaemia. This study aimed to develop a web-based tool able to estimate the risk of HypoPTH (even when PTH measurements are unavailable) and assess the probability of needing postoperative calcium therapy.

Using demographic, surgical and biochemical data from 2432 consecutive patients undergoing total thyroidectomy (2016--2024) in a single high-volume referral centre, multivariable logistic regression models to predict HypoPTH and need for calcium therapy at discharge were built. These models were implemented in HypoParApp, a web-based calculator with a user-friendly interface where clinicians enter patient data (demographics, type of surgery, calcium/phosphate levels and, when available, PTH levels on the first postoperative day) in order to obtain numerical probabilities of having HypoPTH and needing calcium supplementation at discharge. Model performance was further validated in a more recent cohort totalling 2554 patients by comparing app-based predicted categories with observed outcomes using Fisher's exact test.

HypoParApp correctly classified 94% of patients who did not develop HypoPTH and 56% of those who did (p<0.001); it also correctly identified 97% of patients not requiring calcium supplementation and 84% of patients needing it (p<0.001).

HypoParApp is a simple, innovative and validated web-based tool. It may effectively support clinicians in estimating the risk of postoperative HypoPTH and the need for calcium therapy on the first postoperative day, facilitating early and safe discharge planning.

P086

WHEN METASTASIS IS NOT METASTASIS: GRANULOMATOUS CERVICAL LYMPHADENITIS MIMICKING LYMPH NODE INVOLVEMENT IN PAPILLARY THYROID CARCINOMA

Ahmet Cem Dural¹, Seda Turgut², Demet Ozgil Yetkin², Kubilay Ukinç³, Bercem Aycicek⁴, Emel Ceylan⁵, Mehmet Arda Inan⁶, Adem Ucar⁷, Ali Aslan Demir⁸, Mehmet Aydoğan⁹, Zehra Cagla Karakoc¹⁰, Ismet Aslan¹¹

¹Istinye University, Faculty of Medicine & LIV Hospital, Department of General Surgery, Istanbul, Turkey, ²LIV Hospital Ulus, Department of Endocrinology, Istanbul, Turkey, ³LIV Hospital Vadistanbul, Department of Endocrinology, Istanbul, Turkey, ⁴Istinye University, Faculty of Medicine & LIV Hospital, Department of Endocrinology, Istanbul, Turkey, ⁵Istinye University, Faculty of Medicine & LIV Hospital, Department of Nuclear Medicine, Istanbul, Turkey, ⁶Acibadem Mehmet Ali Aydınlar University, Faculty of Medicine, Department of Pathology, Istanbul, Turkey, ⁷Istinye University, Faculty of Medicine & LIV Hospital, Department of Radiology, Istanbul, Turkey, ⁸LIV Hospital Vadistanbul, Department of Radiology, Istanbul, Turkey, ⁹LIV Hospital, Department of Pulmonology, Istanbul, Turkey, ¹⁰Istinye University, Faculty of Medicine & LIV Hospital, Department of Infectious Diseases, Istanbul, Turkey, ¹¹Istanbul University, Faculty of Medicine & LIV Hospital ENT Head and Neck Surgery, Istanbul, Turkey

Cervical lymphadenopathy has been reported in up to 56% of papillary thyroid cancers. In clinically node-positive cases, lymph node dissection is indicated. While central neck dissection may be planned without biopsy when sonographic metastases are detected, lateral disease requires confirmation by FNAB with thyroglobulin-washout. Sarcoidosis, a multisystem granulomatous disease of unknown etiology, is rarely associated with thyroid cancer. In contrast, granulomatous lymphadenopathy due to tuberculosis may coexist with thyroid cancer in endemic regions. We present patients with differing clinical presentations and discuss their management.

All patients were evaluated in endocrinology or endocrine surgery departments; those with Bethesda category ≥ 3 cytology were reviewed by a Multidisciplinary Endocrine Board. Preoperative neck USG and calcitonin testing were performed. Patients with suspected lateral metastasis underwent FNAB and Thyroglobulin-washout. Postoperatively, all cases were re-evaluated, and patients diagnosed with sarcoidosis or tuberculosis were referred to pulmonology and/or infectious diseases.

The first case was a 24-year-old woman with multinodular goiter whose repeated biopsies showed AUS; central dissection revealed sarcoidosis. The second case, a 71-year-old woman with multi-nodular goiter, had two biopsies showing AUS. Lateral lymph nodes appeared malignant on ultrasound; thyroglobulin-washout levels were markedly elevated (26 and 245 ng/mL). Despite this metastatic impression, bilateral functional lateral neck dissection revealed granulomatous lymphadenitis consistent with tuberculosis. The remaining two cases also demonstrated tuberculosis on FNAB despite initial suspicion of metastasis.

Cervical lymphadenopathy is common in thyroid cancer but may mimic granulomatous disease. Detailed, multidisciplinary evaluation is essential to prevent unnecessary extensive surgery and associated morbidity.

P087

\("PARTIAL THYROIDECTOMY FOR RESIDUAL THYROID FOCUS IN SYSTEMIC METASTATIC BREAST CANCER: A PALLIATIVE/CYTOREDUCTIVE APPROACH IN HER2-POSITIVE OLIGOMETASTATIC DISEASE\"

Simone Dutenhofner³, Fabiano Mesquita Callegari², Antonio Cavaleiro de Macedo Filho¹, Leonardo Moura Volpi¹, Mauricio Omokawa¹

¹Hospital Santa Catarina, São Paulo, Brazil, ²Universidade Federal do Estado de São Paulo, São Paulo, Brazil,

³Universidade Municipal de São Caetano do Sul, São Paulo, Brazil

Introduction and Case Report

Metastases to the thyroid gland are rare, and distinguishing them from a primary thyroid cancer poses a diagnostic challenge, especially in patients with a history of prior malignancy. We present the case of APLRA, 44 years old, with a history of HER2-Positive Breast Carcinoma (2009). In 2022, she presented with a thyroid nodule classified as Bethesda III, an ambiguous cytological result. Subsequent investigation revealed multiple suspicious cervical lymph nodes, and the diagnosis was confirmed by immunohistochemistry as intrathyroid and nodal metastasis of Breast Carcinoma. Staging revealed advanced systemic disease (bone, pulmonary, and lymph node metastases).

The patient underwent systemic oncological treatment, achieving a remarkable response by July 2024, with complete remission of all systemic metastases, confirmed by control PET-CT. However, the thyroid lesion persisted, highlighting the difficulty in distinguishing whether the nodule represented a new primary cancer or the only residual breast disease after two years of therapy. This solitary residual focus characterized oligometastatic disease. Partial Thyroidectomy was indicated with a dual objective: diagnosis (histological confirmation of the persistent metastasis) and palliative/cytoreductive treatment, aiming for local control of the disease and potential increase in progression-free survival. The case illustrates the importance of high suspicion for metastases in thyroid nodules of oncology patients, even with indeterminate cytology, and the role of surgery in managing oligometastatic disease.

P088

WHEN CONVENTIONAL THERAPY FAILS: DISCUSSION ON THE USE OF CORTICOSTEROIDS, CHOLESTYRAMINE, AND PLASMAPHERESIS IN THE SURGICAL PREPARATION OF SEVERE IATROGENIC HYPERTHYROIDISM.

Simone Dutenhofner², Ricardo DiRienzo¹, Valéria Muoio¹, Leonardo Volpi⁴, Erivelto Volpi³

¹Hospital Santa Catarina, São Paulo, Brazil, ²Universidade Municipal de São Caetano do Sul, São Caetano do Sul, Brazil, ³Hospital Alemão Oswaldo Cruz, São Paulo, Brazil, ⁴Faculdade de Medicina da Santa Casa, São Paulo, Brazil

Severe Hyperthyroidism is a critical endocrine condition requiring aggressive management to block the synthesis and peripheral effects of thyroid hormones. Decompensation can be iatrogenic, such as that induced by iodinated contrast (Jod-Basedow Effect), significantly increasing the risk of complications. Standard treatment involves Thionamides (Methimazole/PTU) to inhibit synthesis and Betablockers to mitigate adrenergic effects. The challenge arises when the patient has contraindications to these standard drugs, necessitating the use of alternative rescue therapies, such as Corticosteroids, Cholestyramine, or Plasmapheresis, for pre-surgical stabilization.

We present the case of EPS, 55, with a history of hyperthyroidism, who developed severe hyperthyroidism following computed tomography angiography for acute arterial thrombosis. Methimazole treatment led to liver toxicity and agranulocytosis, and betablockers were restricted due to thrombosis. With Free T4 at 8.23 ng/dL, urgent total thyroidectomy was decided upon. Given the lack of clinical options, an alternative preparation was performed with Dexamethasone pulse therapy (2 mg IV every 6 hours for 48 hours). The surgery was uncomplicated, utilizing intraoperative nerve monitoring and followed by ICU recovery. Prolonged cervical drainage was maintained due to the reintroduction of postoperative anticoagulation.

Thyroidectomy is the most efficient treatment for hyperthyroidism. While delaying surgery until euthyroidism is debated, in cases of therapeutic failure and high risk, preparation with rescue therapies (like Corticosteroids) combined with extra intra- and postoperative safety measures by experienced teams is the paramount choice for patient security.

P089

\"PARTIAL THYROIDECTOMY FOR RESIDUAL THYROID FOCUS IN SYSTEMIC METASTATIC BREAST CANCER: A PALLIATIVE/CYTOREDUCTIVE APPROACH IN HER2-POSITIVE OLIGOMETASTATIC DISEASE\"

Simone Dutenhofner³, Fabiano Mesquita Callegari², Antonio Cavaleiro de Macedo Filho¹, Leonardo Moura Volpi¹, Maurício Omokawa¹

¹Hospital Santa Catarina, São Paulo, Brazil, ²Universidade Federal do Estado de São Paulo, São Paulo, Brazil,

³Universidade Municipal de São Caetano do Sul, São Paulo, Brazil

Introduction and Case Report

Metastases to the thyroid gland are rare, and distinguishing them from a primary thyroid cancer poses a diagnostic challenge, especially in patients with a history of prior malignancy. We present the case of APLRA, 44 years old, with a history of HER2-Positive Breast Carcinoma (2009). In 2022, she presented with a thyroid nodule classified as Bethesda III, an ambiguous cytological result. Subsequent investigation revealed multiple suspicious cervical lymph nodes, and the diagnosis was confirmed by immunohistochemistry as intrathyroid and nodal metastasis of Breast Carcinoma. Staging revealed advanced systemic disease (bone, pulmonary, and lymph node metastases).

The patient underwent systemic oncological treatment, achieving a remarkable response by July 2024, with complete remission of all systemic metastases, confirmed by control PET-CT. However, the thyroid lesion persisted, highlighting the difficulty in distinguishing whether the nodule represented a new primary cancer or the only residual breast disease after two years of therapy. This solitary residual focus characterized oligometastatic disease. Partial Thyroidectomy was indicated with a dual objective: diagnosis (histological confirmation of the persistent metastasis) and palliative/cytoreductive treatment, aiming for local control of the disease and potential increase in progression-free survival. The case illustrates the importance of high suspicion for metastases in thyroid nodules of oncology patients, even with indeterminate cytology, and the role of surgery in managing oligometastatic disease.

P090

INTRODUCING EUS-GUIDED RADIOFREQUENCY ABLATION TREATMENT FOR INSULINOMAS - AN EXPLORATORY STUDY OF THE FIRST CASES PERFORMED IN SWEDEN

Anna-Karin Elf^{1,2}, Per Hedenström^{1,3}, Penelope Trimpou^{1,3}, Oskar Ragnarsson^{1,3}, Riadh Sadik^{1,3}

¹Sahlgrenska University Hospital, ²Inst of Clinical Sciences, Dept of Surgery, Sahlgrenska Academy, ³Inst of Medicine, Dept of Internal Medicine and Clinical Nutrition Sahlgrenska Academy

Insulinomas are typically benign tumors, but can lead to severe hypoglycemia with alarming neuroglycopenic symptoms. Standard treatment is surgery, however post-operative complications such as fistulas can be demanding for patients. Endoscopic ultrasound (EUS)-guided radiofrequency ablation (RFA) of pancreatic lesions is a novel treatment with usually mild side effects.

The three first patients treated with EUS-guided RFA of insulinomas at Sahlgrenska University Hospital, Sweden, were observed. All patients had confirmed the diagnosis with 68Ga-DOTATOC-PET and contrast enhanced CT and EUS-guided biopsies. Lesions were considered benign and localized. Standard therapeutic echoendoscope with a 4.0mm working channel was used and RFA with EUS-guidance was performed by a 19-gauge, 5mm probe (EUSRATM, TaeWoong) with 50W setting.

All patients in this explorative study had lesions located in the head of the pancreas. No patient developed pancreatitis or any other serious complication. Patients experienced mild abdominal pain and slightly raised blood glucose levels. All patients were dismissed at post-operative day 1. All patients were considered cured after the first treatment, since normoglycemia was achieved after treatment. At the follow-up EUS after 3 months no patients had signs of viable tumor or any other significant pathological findings in the pancreas.

This exploratory study describes the outcome of the three first patients with insulinomas treated with EUS-guided RFA in Sweden. It confirms that the treatment is effective and has mild side effects. However, a larger prospective study with control patients treated with pancreatic surgery is needed to further understand the treatment efficacy.

P091

PROSPECTIVE SERIES OF 84 CASES WITH NON-RECURRENT INFERIOR LARYNGEAL NERVE: ANALYSIS OF INTRAOPERATIVE COURSE, NEUROSTIMULATION AND IMAGING

Malik Elwerr¹, Maria Sánchez Rodríguez², Jordi Nunez³, Rick Schneider¹, Kerstin Lorenz¹

¹Medical Faculty, Martin Luther University, Halle-wittenberg, Halle (Saale), Germany, ²Department of Surgery, Gregorio Marañón General University Hospital, Madrid, Spain, ³3 Department of Surgery, Hospital Universitario Ramón y Cajal, Madrid, Spain

a non-recurrent inferior laryngeal nerve (NRLN), linked to the aberrant lusorian artery, represents a risk factor for surgical damage, thus early intraoperative detection in thyroid and parathyroid surgery is crucial. Vagus nerve stimulation at the most distal point reached and appreciation of a short vagal latency facilitates validation and tracking of the course of the NRLN, thereby improving injury prevention in this anatomical variant.

this is the largest single center prospective series of 82 patients undergoing neck surgery with NRLN being exclusively on right side. All NRLN were identified using magnification loops, and functionally confirmed using intraoperative neuromonitoring.

Intermittent (n=23, 29%) and continuous (n=59, 71%) neuromonitoring demonstrated a significantly shorter median latency of the right vagal nerve with 2.5 ms (1.25 -- 6.34 ms). According to Toniato's classification, 15 (19%) were type 1, 41 (53%) Type 2a and 21 were Type 2b (28%). With 153 nerves at risk (NAR), intraoperative loss of signal (LOS) with temporary right vocal cord palsy occurred in three cases (1.96%). Pre- or postoperative imaging was available in 74 (90%) patients and confirmed the aberrant A. lusoria in all, five (7%) displaying a retrotracheal and 69 (93%) retroesophageal course.

A short stimulation latency of 2.5ms or less, combined with a failure of signal detection at the most distal point reached of the right vagus in neuromonitoring, facilitates recognition of a NRLN early in the procedure. Temporary NRLN palsy in this series was comparable to incidence rates described in literature with normal anatomy.

P092

ELEVATED PROCALCITONIN WITHOUT INFECTION: COULD IT BE CANCER? A CASE REPORT

Beatriz Enríquez¹, Cristina Sánchez¹, Santiago Ochagavía¹, Ana Gallardo¹, Rodrigo Calleja¹, Adriana Ruano¹, Luis Díez Valladares¹

¹Hospital Clínico San Carlos, Madrid, Spain

Procalcitonin is a key biomarker used in the diagnosis of bacterial infections, and its elevation often triggers an automatic search for an infectious source. However, procalcitonin may also rise in non-infectious conditions such as trauma, major surgery, shock, or neuroendocrine tumors including medullary thyroid carcinoma (MTC).

A 44-year-old woman with a prior history of elevated CEA and constitutional symptoms under investigation in 2022, with negative abdominal and breast imaging, presented in 2024 to the emergency room with intermittent periumbilical abdominal pain radiating to both iliac fossae. Laboratory tests showed markedly elevated procalcitonin (30 ng/mL).

She was admitted for evaluation of a possible infection, but no infectious focus was identified. Further studies revealed high calcitonin (4523 ng/mL) and CEA (42.2 ng/mL). Thyroid ultrasound and PET/CT demonstrated a solid nodule in the inferior pole of the left thyroid lobe with suspicious paratracheal lymph nodes.

Lymph node biopsy confirmed malignant cells compatible with metastatic carcinoma and positive immunostaining for calcitonin, TTF1, and focal CEA. A total thyroidectomy with bilateral central and lateral neck dissection was performed. Postoperatively, she developed transient hypocalcemia and dysphonia.

Histology confirmed low-grade MTC (T2N1b). At one month, calcitonin decreased to 38.7 ng/mL and CEA to 2.1 ng/mL. A three-month ultrasound showed no recurrence. RET genetic testing is pending.

In this case, isolated procalcitonin elevation led to the incidental diagnosis of MTC in a patient with no thyroid symptoms. Significant non-infectious procalcitonin elevation should prompt broader evaluation, as early detection of MTC is crucial for prognosis.

P093

FACTORS THAT CONTRIBUTE TO POSTOPERATIVE HYPOCALCEMIA IN PARATHYROIDECTOMIES FOR PARATHYROID ADENOMA

Pilar Salvador-Egea^{1,2,3}, Aitor Redondo-Expósito^{1,2,3}, Cristina Erce^{1,2,3}, José Luis Ramírez-Cervera^{1,2,3}, Irati Omar-López^{2,3}

¹Endocrine Surgery Unit, ²Department of Surgery, ³Hospital Universitario de Navarra, Pamplona, Spain

Hungry bone syndrome is characterized by a sudden drop in blood calcium levels, and requires calcium and vitamin D supplementation. We studied parameters that may alert us of high risk of developing this syndrome.

Retrospective observational study of 377 parathyroid adenomas treated at our hospital from August 2016 to May 2024. We recorded age, sex, body mass index (BMI), pre- and post-operative calcium and parathyroid hormone (PTH) levels, preoperative vitamin D, weight of the adenoma, thyroid function, number of adenomas removed and associated thyroid surgery. Postoperative PTH was collected 4 hours after surgery, and calcium 24 hours after surgery.

We observed 37 cases of hungry bone syndrome (9.81%). 74.4% were women and mean age was 57 years. Mean BMI was 27, mean preoperative calcium 2.87 mmol/L and preoperative PTH 28.56 pmol/L. Preoperative vitamin D averaged 56.65 nmol/L. Postoperative data showed calcium of 2.41 mmol/L and PTH of 4.49 pmol/L, with an average adenoma weight of 1323.59 mg. None of these data showed statistical significance.

All patients were euthyroid prior to surgery. Neither obesity ($p=0.312$), nor double adenoma removal ($p=0.537$), second surgery for a double adenoma ($p=0.646$) or combined thyroidectomy and parathyroidectomy surgery ($p=0.537$) showed higher rate of hypocalcemia. ROC curve assay identified immediate postoperative calcium ≤ 2.11 mmol/L or PTH ≤ 1.43 pmol/L as predictors for developing this syndrome.

Hungry bone syndrome occurred in 9.18% of patients. Early postoperative calcium ≤ 2.11 mmol/L and PTH ≤ 1.43 pmol/L. showed highest predictive sensitivity for developing this syndrome.

P094

USE OF INDOCYANINE GREEN (ICG) DURING THYROID AND PARATHYROID SURGERY

Giorgiana Fagarasan¹

¹University Of Medicine And Pharmacy Iuliu Hatieganu Cluj Napoca, Queen Mary Hospital Cluj Napoca, Cluj Napoca, Romania

Indocyanine green (ICG) fluorescent imaging has emerged as a valuable adjunct in thyroid and parathyroid surgery for Intraoperative identification and vascular assessment of parathyroid glands. ICG angyography, performed with near-infrared fluorescence, enables real-time visualisation of parathyroid gland perfusion, facilitating their preservation and guiding decisions regarding autotransplantation when devascularization is detected [1]. Recent retrospective and prospective studies demonstrate that ICG-guided techniques significantly increase parathyroid identification rates and reduce both transient and permanent postoperative hypocalcemia compared to conventional visual assessment alone. The fluorescence intensity of ICG correlates with postoperative parathyroid function, providing an objective intraoperative predictor of outcomes. Consensus among international experts highlights the complementary roles of ICG angiography and autofluorescence imaging, with ICG being superior for perfusion assessment and autofluorescence for localisation. Despite the lack of standardised protocols for ICG dosage and timing, the technique is considered safe, repeatable, and feasible in routine endocrine surgery.

In summary, ICG fluorescence imaging enhances intraoperative parathyroid gland management, improves postoperative outcomes, and is increasingly recommended for integration into thyroid and parathyroid surgical practice [2].

1\ Lahiri A, Yadav V, Arora V, Sharma P, Dewan AK. Assessment of ICG fluorescence in identification and preservation of parathyroid glands in thyroid surgeries and correlation with postoperative parathormone and serum calcium levels. *Endocrine*. 2025 May;88(2):564-570. doi: 10.1007/s12020-024-04158-8. Epub 2025 Jan 8.

2\ Moreno-Llorente P, García-Barrasa A, Pascua-Solé M, Videla S, Otero A, Muñoz-de Nova JL. Usefulness of ICG Angiography-Guided Thyroidectomy for Preserving Parathyroid Function. *World J Surg*. 2023 Feb;47(2):421-428. doi: 10.1007/s00268-022-06683-x. Epub 2022 Aug 9.

P095

ADRENAL MASSES IN ONCOLOGY PATIENTS: MALIGNANCY RISK BY SIZE AND PRIMARY TUMOUR TYPE

Amirhossein Fattahzadeh¹, Agnieszka Dworzyńska², Michał Kusiński²

¹Medical University of Lodz, English Division, Łódź, Poland, ²Clinical Department of General and Endocrine Surgery, UM Łódź, Łódź, Poland

In oncology patients, adrenal masses may represent benign lesions or malignant tumours, including metastases. We evaluated how tumour size and primary cancer type influence the likelihood of adrenal metastasis in patients undergoing laparoscopic adrenalectomy.

We reviewed consecutive laparoscopic adrenalectomies performed at a single tertiary centre from 2021 to 2025. Data included demographics, oncological history, tumour size and histopathology. Cases were grouped by prior extra-adrenal malignancy and histology (benign, primary adrenal malignancy,

metastasis).

Among 405 adrenalectomies, 22 (5.4%) were adrenal metastases. Overall, 63 patients (15.6%) had a history of extra-adrenal malignancy; 23.8% (15/63) of these had adrenal metastases compared with 2.0% (7/342) without prior cancer. History of malignancy was strongly associated with adrenal metastasis (odds ratio 15.0, 95% CI 5.8--38.5; $p < 0.001$). Renal cell carcinoma ($n=10$) and lung cancer ($n=6$) were the most frequent primaries; one case arose from breast cancer. Median tumour size was 7.0 cm in metastases and 5.0 cm in non-metastatic lesions. Tumours exceeded 4 cm in 78% of metastases versus 55% of others, and exceeded 6 cm in 57% versus 23%, indicating increasing metastatic risk with larger size.

Adrenal metastases were more frequent in patients with renal or lung primaries and were generally larger than non-metastatic lesions. Integrating tumour size thresholds with oncological history may improve selection for adrenalectomy and guide imaging follow-up in oncology patients with adrenal masses.

P096

HAS CALCITONIN CEASED TO BE A RELEVANT PREDICTOR OF LYMPH NODE INVOLVEMENT IN MEDULLARY THYROID CARCINOMA?

Inmaculada Ros-Madrid¹, Beatriz Febrero¹, Juan José Ruiz-Manzanera¹, Miriam Abellán¹, Pedro Segura¹, Mercedes Ferrer¹, José Manuel Rodríguez¹

¹Virgen De La Arrixaca Hospital, Spain

Surgery is the treatment of choice for medullary thyroid carcinoma (MTC), but the optimal extent of lymph node dissection remains controversial. Current guidelines use preoperative calcitonin (Ct) thresholds to guide compartment-oriented dissection.

To identify the variable with the greatest predictive value for lymph node involvement in MTC, to define Ct cut-offs by nodal compartment, and to compare sporadic versus hereditary MTC.

Retrospective study in a tertiary hospital including patients with MTC without distant metastases. Recorded variables were sex, age, hereditary status, preoperative Ct and CEA, tumour size, CSI and lymph node status. ROC curves (SPSS v.29) were used to assess quantitative predictors of nodal metastasis. Cut-offs were chosen for maximum sensitivity. Statistical significance was $p < 0.05$.

Ninety-three patients were included (median age 34 years, 47% male); 25% ($n=23$) had sporadic MTC and 52% ($n=48$) lymph node metastases. Ct showed the highest AUC among the studied variables (0.829). Overall, $Ct \geq 45$ g/mL predicted nodal involvement with 100% sensitivity and 28% specificity. By compartment, Ct cut-offs were 100 pg/mL for ipsilateral lateral and 337 pg/mL for contralateral lateral metastases (both with 100% sensitivity; specificity 50% and 61%, respectively). According to hereditary status, Ct cut-offs for nodal disease were consistently lower in hereditary than in sporadic MTC (central: 45vs200 pg/mL; ipsilateral lateral: 100vs287 pg/mL; contralateral lateral: 333vs419 pg/mL).

Calcitonin remains an important predictor of lymph node involvement in MTC and supports the use of practical, compartment- and heredity-specific cut-off values to individualise the extent of lymph node dissection.

P097**INTRAOPERATIVE NEAR-INFRARED AUTOFLUORESCENCE PROBE FOR PARATHYROID IDENTIFICATION IN THYROID SURGERY: RESULTS OF A MULTICENTER IBERIAN STUDY**

Beatriz Febrero¹, Miriam Abellán¹, Óscar Vidal², Martí Manyalich², M^a Fé Candel³, Benito Flores⁴, Manuel Felices⁵, María Balsalobre⁶, Eduardo Ferrero⁷, Javier Guardarrama⁷, Manuel Durán⁸, Tamara Díaz⁸, José Luis Muñoz⁹, Cristina Martínez-Santos¹⁰, Jesús Villar del Moral¹¹, Carolina Beiras¹², Mercedes Rubio-Manzanares¹³, Eugenia Caballero¹⁴, Joao Capela¹⁵, Carlos Serra¹⁶, Ana Rafael¹⁷, Miguel Allen¹⁸, Joaquín Gómez¹⁹, Norberto Cassinello²⁰, Luis Ocaña²¹, Aitor De la Quintana²², Leyre Lorente²³, Antonio Del Moral²⁴, Francisco De Santos²⁵, Antonio Picardo²⁶, Guzmán Franch²⁷, Henrique Candeias²⁸, Enrique Mercader²⁹, Juan José Ruiz-Manzanera¹, JM Rodríguez¹

¹Virgen De La Arrixaca Hospital. Instituto Murciano de Investigación Biosanitaria Pascual Parrilla, Universidad de Murcia, El Palmar, Spain, ²Hospital Clinic, Barcelona, Spain, ³Hospital Reina Sofía, Murcia, Spain, ⁴Hospital Morales Meseguer, Murcia, Spain, ⁵Hospital Torrecárdenas, Almería, Spain, ⁶Hospital Santa Lucía, Cartagena, Murcia, Spain, ⁷Hospital 12 de Octubre, Madrid, Spain, ⁸Hospital Rey Juan Carlos, Madrid, Spain, ⁹Hospital de la Princesa, Madrid, Spain, ¹⁰Hospital Costa del Sol, Marbella, Málaga, Spain, ¹¹Hospital Virgen de las Nieves, Granada, Spain, ¹²CHUS, A Coruña, Spain, ¹³Hospital Virgen del Rocío, Sevilla, Spain, ¹⁴Hospital de la Candelaria, Tenerife, Spain, ¹⁵Hospital de São João, Oporto, Portugal, ¹⁶SAMS, Lisboa, Portugal, ¹⁷ULSLO - Hospital Egas Moniz, Lisboa, Portugal, ¹⁸Hospital da Luz, Lisboa, Portugal, ¹⁹Hospital de la Paz, Madrid, Spain, ²⁰Hospital Clínico de Valencia, Spain, ²¹Hospital Virgen de la Victoria, Málaga, Spain, ²²Hospital de Cruces, Bilbao, Spain, ²³Hospital del Mar, Barcelona, Spain, ²⁴Hospital de la Santa Creu i Sant Pau, Barcelona, Spain, ²⁵Hospital de Cáceres, Spain, ²⁶Hospital Infanta Sofía, Madrid, Spain, ²⁷Hospital de Salamanca, Spain, ²⁸Hospital Curry Cabral, Portugal, ²⁹Hospital Gregorio Marañón, Madrid, Spain

Background/Aim

Near-infrared autofluorescence (NIRAF) probes allow real-time, dye-free identification of parathyroid tissue during thyroid surgery. While single-centre studies have shown promising results, large multicentre data from routine practice are scarce. This study aimed to evaluate the utility of an intraoperative NIRAF probe for parathyroid identification and 6-month outcomes in a multicentre Iberian cohort.

We conducted a multicentre observational study in 29 Spanish and Portuguese hospitals, including 271 consecutive patients undergoing thyroid surgery with intraoperative use of a NIRAF probe (PTeye®, Medtronic). The number of parathyroid glands identified, false positives, inadvertent parathyroidectomy, autotransplantation, and early postoperative calcium and PTH values were recorded. Six-month follow-up, including PTH and calcium/vitamin D supplementation, was analysed.

Of the 271 patients, 81.2% underwent total thyroidectomy and 18.1% hemithyroidectomy. Surgeons visually identified 644 parathyroid glands (mean 2.37 per patient). With NIRAF, the total number increased to 834 (3.08 per patient), an absolute mean gain of 0.71 glands per patient ($p < 0.001$), representing a 30% relative increase over visual inspection alone. Overall, 198 glands (24% of all identified) were first detected by NIRAF. False positives were infrequent. Inadvertent parathyroidectomy occurred in 3.7% of patients and autotransplantation in 1.4%. Six-month follow-up was available for 120 patients (44%); median PTH was 44.5 pg/mL, and only 3 patients (2.5%) had PTH < 15 pg/mL.

In this large multicentre Iberian experience, intraoperative NIRAF probing was a practical and highly useful adjunct for parathyroid identification in thyroid surgery, with low rates of long-term biochemical hypoparathyroidism.

P098**"A UNIFIED SURGEON-PERFORMED PATHWAY FOR THYROID ULTRASOUND, FNAC AND SURGERY IN A SETTING WITH CONSTRAINED ACCESS TO SPECIALIZED CARE: A CONSECUTIVE SERIES OF 86 CASES"**

Sofiane Feliachi¹, Imane Djoudjou, Nadia Khelifi

¹Private Endocrine Surgery and Endocrinology Practice, ouled djellal, Algeria", Ouled djellal, Algeria

In many regions, patients face delays and fragmented pathways between ultrasound, cytology and surgical consultation. Surgeon-performed ultrasound and FNAC offer the possibility of a more direct, reassuring and efficient evaluation. This study describes the experience of a single endocrine surgeon providing a unified, continuous diagnostic pathway in a setting with limited access to specialized thyroid imaging and cytology.

This retrospective study included 86 consecutive patients who underwent thyroid surgery between September 2022 and June 2024 in a private endocrine surgery practice in Algeria. All ultrasounds, EU-TIRADS classifications, and ultrasound-guided FNACs were performed in-office by the same surgeon. Cytology was reported using the 2023 Bethesda system. Concordance between EU-TIRADS, Bethesda and final histopathology was evaluated, along with adequacy, non-diagnostic rate and diagnostic accuracy.

A total of 327 FNACs were performed during the study period, with 0% non-diagnostic samples. EU-TIRADS 4--5 lesions showed strong agreement with Bethesda IV--VI categories and malignant histology. The overall diagnostic accuracy of the unified pathway reached 82%. Three incidental papillary microcarcinomas (≤ 5 mm) were found on final pathology but did not correspond to the punctured nodules. Patients benefited from fewer consultations, shorter waiting times and a clearer, more continuous surgeon--patient relationship.

When ultrasound, FNAC and surgery are performed by the same trained endocrine surgeon, the diagnostic pathway becomes more fluid, accessible and reassuring for patients. In resource-limited settings, this unified model remains safe, accurate and clinically meaningful, while strengthening continuity of care and reducing delays to definitive management.

P100

HOSPITAL AT HOME (HAH) FOR POST-OPERATIVE HYPOCALCEMIA AFTER ENDOCRINE SURGERY: A RETROSPECTIVE OBSERVATIONAL STUDY.

Diego Flores-Ortega¹, Maria Llompart-Coll¹, Martí Manyalich-Blasi¹, Marta Vicente-López¹, Ainoa Ugarte¹, David Nicolás¹, Ana Briones¹, Jordi Ardid-Brito¹, Ramon Rull-Ortuño¹, Òscar Vidal¹

¹Hospital Clínic Barcelona, Barcelona, Spain

Hospital-at-Home (HaH) has been implemented as an alternative to conventional inpatient care for post-operative hypocalcemia following total thyroidectomy and parathyroidectomy.

Between October 2023 and October 2025, 407 patients underwent surgery; 114 (28%) developed transient post-operative hypocalcemia (corrected calcium ≤ 8.5 mg/dL). Mild cases (≤ 8 mg/dL; n=47) were managed with early discharge and oral supplementation. Moderate-to-severe cases (≤ 8 mg/dL; n=67) required extended care, of whom 41 (61.2%) were admitted to HaH. Eligible patients lived within the hospital catchment area, had caregiver support, and were hemodynamically stable at 24 hours post-surgery. Follow-up included home visits for clinical assessment, calcium and PTH measurement, wound care, pain management, and treatment education. Primary outcomes were HaH duration and total post-operative care.

Mean HaH duration varied by procedure and diagnosis: 7.35 days (95% CI 4.14--10.55 p ≤ 0.05) after total thyroidectomy and 2.93 days (95% CI 1.86--4.01 p ≤ 0.05) after parathyroidectomy. By diagnosis, mean duration was 3.0 days (95% CI 1.86--4.14 p ≤ 0.05) for primary hyperparathyroidism and 11.6 days (95% CI 1.69--21.51 p ≤ 0.17) for Graves' disease. Duration also differed by sex (males 9.3 vs females 4.58 days) and pathology (parathyroid adenoma 2.93 vs papillary carcinoma 8.0 days). Patient satisfaction was high (NPS 9.11/10, response rate 43%). Considering inpatient cost of €484.43/day versus €194.64/day for HaH, estimated per-patient savings ranged from €285 to $\leq$ €4,000, yielding an overall saving of €68,000 for the cohort. No patient required hospital readmission, and none developed permanent hypocalcemia or experienced other complications.

HaH is safe, feasible, and cost-effective for post-operative hypocalcemia management, providing equivalent clinical outcomes to inpatient care while optimizing resource utilization and patient experience.

P101

INVESTIGATING NEURODEGENERATIVE AND INFLAMMATORY BLOOD BIOMARKERS BEFORE AND AFTER PARATHYROIDECTOMY- A PILOT STUDY

Sara Freidenfelt¹, Sofia Björnsdotter Öberg², Anna Koman^{1,2}, Francesca Mangialasche³, Andréa Lessa Benedet⁴, Henrik Zetterberg⁴, Inga-Lena Nilsson^{1,2}, Anna Matton³, Carolina Nylén^{1,2}

¹Department of Breast, Endocrine tumours and Sarcoma, Karolinska University Hospital, Stockholm, Sweden,

²Department of Molecular Medicine and Surgery, Karolinska Institutet, Solna, Sweden, ³Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Solna, Sweden, ⁴Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden

Primary hyperparathyroidism (pHPT) is associated with cognitive impairment. Previous studies indicate that cognition may improve after parathyroidectomy. Biomarkers of neurodegeneration and inflammation in blood, available in research and clinical evaluation of Alzheimer's disease and other dementias, may offer insights into whether similar pathophysiological mechanisms are present in pHPT. This study investigates whether such biomarkers in blood change following parathyroidectomy and whether these changes relate to potential cognitive improvement.

Cognitive performance, depression, and anxiety were assessed using MoCA and HADS scoring before and three months after parathyroidectomy in 17 women (age 69 ± 9.5 (mean $\pm$ SD). Blood samples were collected at corresponding time points and analysed with the NULISA CNS panel, a highly sensitive multiplex proteomics assay targeting biomarkers linked to neurodegeneration, synaptic function and inflammation.

All patients were normalised in ionised calcium and phosphate after surgery. MoCA scores improved from 26.4 ± 2.4 to 27.8 ± 1.5 (mean $\pm$ SD) $p < 0.01$. HADS scores for depression improved from 7.2 ± 4.1 to 5.1 ± 2.9 (mean $\pm$ SD) $p < 0.05$ and for anxiety from 4.5 ± 3.1 to 2.0 ± 1.7 (mean $\pm$ SD) $p < 0.05$. No statistically significant changes in measured blood biomarkers were detected after parathyroidectomy, nor any associations with MoCa scores, evaluated with linear regression analysis (model fit using R²). However, several markers showed directional trends that may reflect underlying biological processes.

Scores of cognitive performance, depression and anxiety improved after parathyroidectomy in postmenopausal women patients with pHPT. No significant changes in neurodegenerative or inflammatory blood markers were detected to account for the improvement. These preliminary results warrant further investigation in a better-powered study.

P102

OUTCOMES OF ADRENAL VENOUS SAMPLING FOR PRIMARY HYPERPARATHYROIDISM: RESULTS OF A MONOCENTRIC STUDY

Samuel Frey¹, Delphine Drui, Delphine Drui, Karine Renaudin, Mounia Elhannani, Kalyane Bach-Ngohou, Frederic Douane, Eric Frampas, Eric Mirallié

¹Nantes University Hospital, Nantes, France

Primary hyperaldosteronism (PA) results from unilateral or bilateral adrenal aldosterone secretion, the former being surgically curable. Adrenal venous sampling (AVS) remains the gold standard for determining secretion lateralization, although not consistently performed. This study assessed the impact of systematic AVS in patients with PA.

All consecutive PA patients diagnosed at Nantes University Hospital who underwent AVS between 2015 and 2023 were included. Unilateral adrenal nodule or hyperplasia defined unilateral CT-scan finding. AVS selectivity was defined by a cortisol adrenal vein/inferior vena cava ratio ≥ 2 ; unilateral secretion by a lateralization index ≥ 4 . Postoperative clinical and biochemical success (complete, partial or absent success) was assessed according to PASO criteria.

Among 114 included patients (median age 49.6 [Q1--Q3 44.1 -- 56.8] years; 36.8% women), 98.2% had hypertension (median 2.0 [1.0--3.0] drugs), and 86.0% hypokalemia. Unilateral CT-scan finding was noted in 70.2%, and lateralized AVS in 62.3%. Discordance between AVS and CT-scan was observed in 43.0%, including 14.0% reclassified as surgical candidates despite bilateral imaging and 26.3% spared surgery despite unilateral CT-scan. Clinical success was complete, partial, or absent in 45.0, 45.0, and 10.0%, respectively; biochemical success was complete in 82.8%, partial or absent in 8.6% each (median follow-up 23.4 [12.2--66.9] months). Among patients with unilateral CT-scan findings, concordant AVS was associated with lower kalemia (3.2 [2.9--3.4] vs. 3.4 [3.2--3.8] mmol/L, $p=0.007$).

AVS modified surgical management in 43.0% of patients, regardless of CT findings. Hypokalemia was the only factor associated with unilateral secretion, supporting routine AVS even with unilateral CT findings.

P103**CLINICAL RELEVANCE OF THYROTOXICOSIS DUE TO SURGICAL MANIPULATION: A PROSPECTIVE STUDY**

Lara Fuentes Gómez¹, Raquel Arranz Jiménez¹, Sylwia Bilas Sudol¹, Álvaro De Mora Gómez¹, Paola Parra Ramírez¹, Elisa York Pineda¹, Constantino Fondevila Campo¹, Joaquín Gómez Ramírez¹

¹Hospital Universitario La Paz, Madrid, Spain

Manipulation of the thyroid gland during parathyroidectomy appears to trigger transient thyrotoxicosis. The symptom relevance remains unknown.

This study evaluates the incidence and duration of postoperative biochemical hyperthyroidism in patients undergoing surgery for primary hyperparathyroidism, and examines potential differences according to surgical approach.

We conducted a prospective, two-center observational study including adults with primary hyperparathyroidism who underwent parathyroidectomy between October 2024 and November 2025. Collected variables included demographics, preoperative TSH, vitamin D, PTH, and serum calcium, as well as imaging findings and surgical characteristics (operative time, technique, and approach). Measurements of TSH, PTH, calcium, and thyroglobulin were obtained on postoperative day 1, at 1 month, and at 6 months.

Patients completed a symptom-based survey derived from the Wayne index.

A multivariate analysis was conducted using PTH, TSH, thyroglobulin and calcium levels across the three surgical approach groups to evaluate their time-dependent changes by surgical technique.

Sixty-seven patients met inclusion criteria. The analyzed variables are shown in Table 1. Selective parathyroidectomy was performed in 80.6%, predominantly via an anterior approach. Postoperative TSH decreased significantly on day 1 ($0.61 \pm 0.42 \mu\text{U/mL}$, $p < 0.001$) but returned to baseline by month 1 and remained stable thereafter (Table 2). No patient exhibited clinically relevant hyperthyroid symptoms.

Thyroglobulin was the only parameter showing significant intergroup differences, with a greater postoperative rise in the bilateral neck exploration group (Figure 1).

Parathyroid surgery induces a transient biochemical hyperthyroid state attributable to thyroid manipulation, accompanied by increased thyroglobulin release, without clinically significant symptoms.

P104**TRANSPERITONEAL LAPAROSCOPIC APPROACH TO LARGE ADRENAL TUMOURS: 22 MONTHS EXPERIENCE.**

Gabriele Galata¹, Joseph Lehmann¹, Patrick Klang¹, Assef Jawaada¹, Meshal Al Meshal¹, Nada Binsaleem¹, Hasti Tarzban¹, Klaus-Martin Schulte¹

¹King's College Hospital Nhs Foundation Trust, London, United Kingdom

Laparoscopic approach to adrenal tumours is now considered the gold standard surgical approach. There is no consensus forum regarding the surgical management of large adrenal masses. We propose this study to assess clinical outcomes of laparoscopic transperitoneal approach to large and small adrenal lesions.

We analysed retrospectively all laparoscopic adrenalectomy performed by a single surgeon in a tertiary referral centre between January 2024 and November 2025. Patients were divided in two cohorts according to the tumour size. Any lesion equal or larger than 6 cm measured on the pre-operative CT scan were considered as large adrenal mass. All lesions inferior to 6 cm were defined small tumour. Open procedures were excluded from the study.

Between January 2024 and November 2025 there were a total of 59 laparoscopic adrenalectomies. Fifty-two lesions (88%) were below 6 cm, of which 20 (34%) were between 4 cm and 6 cm. Seven of the 59 procedures (12%) were performed on lesions between 6 cm and 10 cm (3 pheochromocytoma, 2 ACC, 1 leiomyosarcoma, 1 Schwannoma). The post-operative time, conversion rate, intra- and post-operative complications and hospital stay were similar between the two groups.

According to the current international guidelines, the cut off for laparoscopic approach to malignant adrenal masses is 6 cm. The literature is demonstrating, with an exponential increased number of studies published recently that laparoscopic resection of large adrenal masses is becoming doable and

safer in the hands of expert adrenal laparoscopic surgeons operating in large volume centres.

P105

LIGHTING THE WAY IN THYROID AND PARATHYROID SURGERY IN ASIA-- AN INITIAL EXPERIENCE OF PARATHYROID AUTOFLUORESCENCE IN A TERTIARY HOSPITAL IN SINGAPORE

Tiffany Rui Xuan Gan¹, Wei Keat Cheah¹, Man Hon Tang¹, Joel Wen Liang Lau², Han Boon Oh¹

¹*Division of Thyroid & Endocrine Surgery, Department of General Surgery, Ng Teng Fong General Hospital, Singapore, Singapore, Singapore,* ²*Department of Head and Neck Surgery, Singapore General Hospital, Singapore, Singapore*

Parathyroid glands are small and frequently obscured within adipose tissue, making intraoperative identification challenging. Their intrinsic near-infrared autofluorescence (NIRAF) allows for objective, real-time localization, with potential benefits including reduced postoperative hypocalcemia after thyroidectomy and lower rates of persistent hyperparathyroidism or reoperation in parathyroidectomy. We report our institution's initial experience with NIRAF-guided thyroidectomy and parathyroidectomy.

All cases utilized the Fluobeam LX® NIRAF system (Figure 1). Parathyroid glands were visualized as autofluorescent structures using a standardized workflow: identification of the superior gland after division of the superior pole vessels; identification of the inferior gland after ligation of the middle thyroid vein; surveying the surgical field for in vivo glands; ex vivo evaluation of resected specimens for inadvertently excised glands. Demographics, operative findings, and histology were collected.

Seventeen patients underwent NIRAF-assisted surgery between April 2024 and May 2025 (Table 1). Thirteen underwent thyroidectomies, including two transoral cases (seven hemithyroidectomies and six total thyroidectomies). Three underwent parathyroidectomy (one total, one focused, one bilateral inferior exploration), and one underwent a combined hemithyroidectomy with focused parathyroidectomy. NIRAF identified parathyroid glands in all thyroidectomies, either in vivo or ex vivo, enabling timely autotransplantation when required. One patient developed transient hypoparathyroidism, with biochemical recovery within five days. No thyroidectomy specimens contained parathyroid tissue, and all parathyroidectomies achieved biochemical cure without reoperation.

NIRAF was useful across four main indications (Figure 2), and has promising value as an intraoperative adjunct. This represents the first reported clinical application of this technology in Asia and supports further evaluation across diverse surgical scenarios.

P106

DO THYROIDECTOMY SCARS IMPROVE OVER TIME? A PROSPECTIVE 3- AND 6-MONTH PSAQ STUDY

Kushagra Gaurav¹, Akshay Anand¹, Abhinav Arun Sonkar¹

¹*King George's Medical University, Lucknow, India*

Neck scar remains an important determinant of postoperative satisfaction in thyroid surgery. Objective assessment of scar appearance, symptoms, and psychosocial impact helps evaluate surgical quality. The Patient Scar Assessment Questionnaire (PSAQ) provides a validated tool for measuring these outcomes.

This prospective observational study included patients undergoing total thyroidectomy at a tertiary endocrine surgery unit over 24 months. Forty-five patients completed PSAQ assessments at 3 and 6 months across four domains: appearance, consciousness, satisfaction with appearance, and satisfaction with symptoms. The primary endpoint was change in PSAQ scores over time. Statistical analysis was performed using SPSS v24.0, with paired and independent t-tests; $p < 0.05$ was considered significant.

The mean age was 40.84 ± 13.27 years, and 84.44% were female. Multinodular goitre (37.78%) was the most common indication, followed by papillary thyroid carcinoma (13.33%). PSAQ scores showed no significant change between 3 and 6 months for appearance (10.47 ± 1.94 vs 10.49 ± 2.45 , $p = 0.914$), consciousness (7.49 ± 2.78 vs 7.67 ± 3.06 , $p = 0.185$), satisfaction with appearance (9.24 ± 2.06 vs 9.31 ± 2.68 , $p = 0.696$), or symptoms (7.42 ± 2.26 vs 7.24 ± 2.41 , $p = 0.242$). Age and gender showed no significant association with any domain.

Scar satisfaction remained high and stable between 3 and 6 months after thyroidectomy, with no effect of age or gender. These findings underscore the value of counselling and structured scar-care protocols and support the favourable cosmetic outcomes of standard cervical thyroidectomy.

P107

DIAGNOSTIC RELIABILITY OF TC-99M SESTAMIBI SCINTIGRAPHY IN PARATHYROID ADENOMA: CORRELATION WITH PATHOLOGICAL FINDINGS IN 210 PATIENTS

PERSEFONI GIONGA¹, ANGELIKI CHORTI¹, Associate Professor ANTHOULA CHATZIKYRIAKIDOU², IOANNIS IAKOVOU³, DANIEL PARAMYTHIOTIS¹, THEODOSIOS PAPAVERAMIDIS¹

¹First Propaedeutic Department of Surgery, Aristotle University of Thessaloniki, AHEPA University General Hospital of Thessaloniki, Thessaloniki, Greece, ²Laboratory of General Biology and Genetics, Medical School, Aristotle University of Thessaloniki, Greece, ³Second Academic Department of Nuclear Medicine, University Hospital AHEPA, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece, Thessaloniki, Greece

Primary hyperparathyroidism is most frequently caused by a solitary parathyroid adenoma, and accurate preoperative localization is crucial for successful minimally invasive parathyroidectomy. Tc99m-sestamibi scintigraphy, particularly when used in combination with SPECT/CT, is widely applied for this purpose. Nevertheless, the correlation between preoperative imaging and definitive histopathological findings remains under continued investigation. This study evaluates the concordance between Tc99m-sestamibi imaging and histological localization in patients undergoing parathyroidectomy.

A retrospective study was performed on 210 patients who underwent surgery for a single parathyroid adenoma. All patients had preoperative Tc99m-sestamibi scans. Imaging results were compared to postoperative histopathological localization. Statistical analysis included cross-tabulation and Pearson's chi-square test. Additional variables such as age, serum calcium, parathyroid hormone (PTH) levels, and adenoma weight and size were also evaluated.

Tc99m-sestamibi most frequently identified adenomas in the lower parathyroid glands: 43.8% in the left lower and 35.2% in the right lower quadrant. Histology confirmed similar distributions. Concordance between imaging and histology was highest in the left lower (100%) and right upper glands (100%), followed by the right lower (91.9%) and left upper (87%). Pearson's chi-square test demonstrated a significant association ($\chi^2=559.721$, $df=16$, $p<0.001$). No significant correlation was found between localization accuracy and patient demographics or biochemical markers.

Tc99m-sestamibi scintigraphy demonstrates excellent concordance with histopathological findings and continues to serve as a reliable method for preoperative localization of parathyroid adenomas. These findings further support its ongoing use in guiding targeted surgical management in patients with Primary hyperparathyroidism.

P108

DOES THE USE OF 3D-PRINTED TECHNOLOGY IMPROVE THE SURGICAL STRATEGY IN THYROID--PARATHYROID PATHOLOGY?

Jordi Gironès Vila¹, Jose Ignacio Rodríguez Hermosa¹, Dra Marta Bertrand¹, Bernat Montané¹, Alejandro Ranea², Dra Raquel Sanchez-Jimenez², Ramon Farres¹

¹Hospital Trueta, Girona, Spain, ²Hospital Sta Caterina, Salt. Girona, Spain

Currently, the application of 3D technology in surgical planning is used more frequently, thus facilitating the final outcome of the surgery.

To evaluate the use of 3D printing in the surgical planning of thyroid and parathyroid surgery.

We present 3 cases of complex thyroid surgery: two goiters larger than 10 cm and a medullary carcinoma with lymph node metastases; and 2 cases of parathyroid surgery: one ectopic adenoma and one carcinoma. In all cases, additive 3D printing was used based on DICOM images.

The process begins with obtaining CT images in DICOM format. Then, using the 3D Slicer software, a three-dimensional model is obtained through a segmentation process of the anatomical structures in order to achieve a correct definition of the anatomy. The file is generated in .STL format and printed as a 3D model. For surgical planning, the 3D print was compared with the 3D image provided by the CT software.

Results and Conclusions: 3D planning improves the efficiency of the intervention, allowing better identification of anatomical structures and enhancing the surgical approach. It improves the safety of the procedure by reducing the inherent risks of complex processes. The main advantage of 3D printing compared to imaging is its usefulness in teaching.

P109

USE OF INDOCYANINE GREEN FLUORESCENCE IN MINIMALLY INVASIVE VIDEO-ASSISTED THYROIDECTOMY: PRELIMINARY RESULTS

Paolo Gisonni¹, Casimiro Nigro^{2,3}, Drs Serena Elisa Tempera², Drs Giulia Salvi², Luca Sessa^{1,4}, Drs Rosa Maria Paragliola¹, Pietro Princi^{1,2}

¹Unicamillus Univeristy, Rome, Italy, ²UOC Multifunctional Center of Endocrine Surgery, Cristo Re General Hospital, Rome, Italy, ³Department of General Surgery, University of Rome "Tor Vergata", Rome, Italy, ⁴Fondazione "Giglio", Cefalù, Italy

Post-thyroidectomy hypoparathyroidism, commonly resulting from injury or devascularization of the parathyroid glands, is the most frequent complication after total thyroidectomy. Intraoperative indocyanine green (ICG) fluorescence imaging facilitates real-time assessment of parathyroid gland perfusion and may help to reduce hypoparathyroidism rates, especially during minimally invasive video-assisted thyroidectomy (MIVAT).

Methods

In this preliminary study were included patients who underwent total thyroidectomy via the MIVAT approach and ICG technique between October 2024 and July 2025. Intraoperative ICG fluorescence angiography (0.2--0.4 mg/kg) was performed using a near-infrared imaging system (Striker®), classifying parathyroid gland perfusion by PTX scoring (0--4). Patient demographics, surgical data and postoperative complications, particularly hypoparathyroidism, were considered.

Ten patients (mean age 60.4 ± 16.2 years) were included with indications represented by multinodular goiter (n=8), suspicious TIR4 nodule (n=1) and Graves' disease (n=1). Mean operative time was 109 ± 14.7 minutes. Histology was benign in nine patients; one had papillary thyroid carcinoma, follicular variant. Satisfactory ICG fluorescence (scores 2--4) enabled in situ parathyroid preservation in seven cases. Three patients had reduced fluorescence, correlating with transient hypoparathyroidism (mean Ca 8.0 ± 0.1 mg/dL; i-PTH 4.2 ± 0.8 pg/mL), while those with higher scores had normal function. All patients discontinued supplementation within six months, and no permanent hypoparathyroidism occurred.

ICG fluorescence during MIVAT with Striker ® system is a reliable, safe and effective method for intra-operative parathyroid identification and preservation, potentially minimizing postoperative hypocalcemia. Larger multicenter trials and prospective randomized studies are needed to standardize ICG application and scoring.

P110

PARAPHARYNGEAL LYMPH NODE METASTASIS IN PAPILLARY THYROID CARCINOMA: A RARE BUT TECHNICALLY DEMANDING SURGICAL ENTITY

Benard Gjeloši¹, Carlo Enrico Ambrosini¹, Leonardo Rossi¹, Dr.ssa Chiara Becucci¹, Liborio Torregrossa¹, Luigi De Napoli¹, Gabriele Materazzi¹

¹Pisa University Hospital, Pisa, Italy

Parapharyngeal lymph node (PPLN) metastasis from papillary thyroid carcinoma (PTC) is exceedingly rare (0.4--2.5%) and typically associated with aggressive disease. The deep location and complex anatomy of the parapharyngeal space make both diagnosis and surgical management particularly challenging.

We retrospectively reviewed all patients with confirmed PPLN metastasis from PTC treated at the University Hospital of Pisa between 2018 and 2023. Clinical, radiological, surgical, and follow-up data were collected and analyzed.

Among over 3,500 PTC patients who underwent surgery, four cases of PPLN metastasis (≈0.1%) were identified. Two patients presented with primary PTC associated with synchronous PPLN metastasis, while the other two developed PPLN involvement as delayed recurrence after prior thyroidectomy and lateral neck dissection. All patients exhibited aggressive histologic features and extensive ipsilateral lateral neck disease. An extended transcervical approach---including dissection of the external carotid

artery and division of the posterior belly of the digastric muscle---enabled complete tumor removal in all cases, with no major complications. After a median follow-up of 36 months, all patients remained disease-free or clinically stable.

Although rare, PPLN metastasis represents a clinically significant manifestation of aggressive PTC. Cross-sectional imaging is crucial for timely detection, particularly in patients with bulky disease in the upper jugular chain or prior extensive cervical surgery. An extended transcervical approach allows safe and effective resection with low morbidity. Early recognition and multidisciplinary management are essential to optimize outcomes in these uncommon but complex cases.

P111

PREDICTING STERNOTOMY IN HIGH-RISK MEDIASTINAL GOITER: INSIGHTS FROM A 10-YEAR COHORT IN A HIGH-VOLUME CENTER

Benard Gjeloši¹, Leonardo Rossi¹, Carlo Enrico Ambrosini¹, Dr.ssa Chiara Becucci¹, Andrea De Palma¹, Dr.ssa Klaudiya Dekova¹, Piermarco Papini¹, Marco Puccini¹, Gabriele Materazzi¹

¹*Pisa University Hospital, Italy*

Mediastinal goiter often requires surgical management. While most cases can be treated via a cervical approach, a subset of high-risk cases may require sternotomy or thoracotomy. We aimed to evaluate surgical outcomes in high-risk mediastinal goiter and identify factors associated with the need for thoracic access. Methods: From 13,000 thyroid surgeries performed at our institution between 01/01/2014 and 31/12/2023, 630 patients had at least partially mediastinal goiters. We included 54 high-risk cases, defined as goiters with an estimated volume ≥ 100 mL and $\geq 50\%$ located below the thoracic inlet, or completely intrathoracic goiters. We assessed the risk factors for sternotomy using a multidimensional logistic regression model. Results: Goiter extension below the thoracic inlet ranged from 4 to 16 cm (median 9 cm), classified as prevascular (28.8%), retrovascular/paratracheal (42.4%), or retrotracheal (28.8%). Intrathoracic ectopic goiter occurred in 4 patients (7.4%). Most goiters (86.1%) were successfully removed via a transcervical approach. Sternotomy or thoracotomy was required in 7 cases (12.9%). In univariate analysis, recurrent goiter ($p=0.03$), ectopic intrathoracic goiter ($p=0.006$), and extension ≥ 10 cm ($p=0.008$) were significantly associated with sternotomy. Multivariate logistic regression was limited by the small number of events and complete separation, preventing reliable estimation of independent predictors. Postoperative complications occurred in 27% of patients, including hypocalcemia (17%) and recurrent laryngeal nerve injury (5.7%). Conclusions: Surgery for high-risk mediastinal goiter is associated with low morbidity and mortality, but requires specialized surgical expertise. The cervical approach is safe and effective in most cases, while intrathoracic access is reserved for selected cases.

P112

COST-EFFECTIVENESS ANALYSIS OF PROPHYLACTIC CALCIUM AND VITAMIN D SUPPLEMENTATION AFTER TOTAL THYROIDECTOMY - A PROSPECTIVE COHORT STUDY

Raquel Gomes¹, José Pedro Fernandes, Carolina Matos, Cristina Monteiro, Luísa Calais, M^a João Koch, Licínio Rego

¹*Unidade Local De Saúde Do Alto Minho, Portugal*

Transient hypoparathyroidism is a common complication after total thyroidectomy. This prospective cohort study assessed the safety of prophylactic calcium and vitamin D supplementation over 23 months.

A total of 169 participants were randomly assigned to two groups. The study group (84 participants) received calcium carbonate (3 times daily) and vitamin D (twice daily). The control group (85 participants) had oral supplementation based on postoperative PTH and calcium levels.

In the study group, 10 (11.9%) participants experienced hypocalcemic symptoms; 5 (6%) had true hypocalcemia, and 3 (3.6%) became permanent. In the control group, 8 (9.4%) participants reported symptoms; 3 (3.5%) had confirmed hypocalcemia, with 2 (2.4%) permanent cases.

Among 12 patients with hyperthyroidism, included in the last 6 months, one (20%) in the study group (5 cases) had symptoms of hypocalcemia with normal calcium dosing, while the control group (7 cases) had 5 (71%) cases of transient asymptomatic hypocalcemia.

However, no significant differences in hypocalcemic symptoms were found between the groups (p-value=0.428).

The study group achieved cost savings of €329 by excluding PTH and calcium dosing after surgery, which also enabled earlier discharges.

The study supports the safety of prophylactic calcium and vitamin D supplementation after thyroidectomy, including in patients with hyperthyroidism. Larger studies are needed for confirmation, but cost savings indicate potential improvements in healthcare efficiency.

P113

PARADUODENAL PARAGANGLIOMA MIMICKING A SUBEPITHELIAL DUODENAL TUMOR: A DIAGNOSTIC PITFALL

Gabriela Gonzales¹

¹*Gruppo Ospedaliero Moncucco, Lugano, Switzerland*

Paraduodenal paragangliomas are extremely rare extra-adrenal neuroendocrine tumors that may closely resemble subepithelial gastrointestinal lesions, particularly gastrointestinal stromal tumors (GISTs) or neuroendocrine tumors (NETs). Their atypical location and overlapping imaging features often lead to misclassification. Functional paragangliomas require preoperative biochemical assessment to prevent intraoperative hypertensive crises.

A 71-year-old woman presented with an incidentally detected 4-cm paraduodenal mass. Imaging and endoscopic ultrasound suggested a subepithelial lesion apparently arising from the muscularis propria. EUS-guided biopsy yielded scant material, showing an epithelioid neuroendocrine neoplasm insufficient for a definitive diagnosis and initially interpreted as compatible with a NET or GIST. In the absence of catecholamine-related symptoms, no biochemical testing was performed preoperatively.

During laparoscopic exploration, the mass was found to be separate from the duodenum, merely abutting it without true duodenal origin. Complete resection was achieved. Final histopathology unexpectedly revealed a non-functional paraganglioma with preserved SDHB and SDHA expression. Postoperative recovery was uneventful.

This case illustrates how paraduodenal paragangliomas can mimic duodenal subepithelial lesions both radiologically and on limited biopsies, leading to misdiagnosis and omission of essential preoperative biochemical evaluation in asymptomatic patients.

Paraduodenal paragangliomas represent an important diagnostic pitfall. They should be included in the differential diagnosis of juxta-duodenal masses to ensure safe and appropriate preoperative workup, even when biopsy results and imaging initially suggest a NET or GIST.

P114

CIRCULATING TUMOR DNA EVALUATION IN THE SURGICAL MANAGEMENT OF ADRENOCORTICAL CARCINOMA: A RETROSPECTIVE COHORT STUDY

Vania Balderrama-Brondani², Mouhammed Amir Habra², Jeena Varghese², Steven G. Waguespack², Camilo Jimenez², Sarah B. Fisher¹, Nancy D. Perrier¹, Matthew T. Campbell³, Paul H. Graham¹

¹*University Of Texas MD Anderson Cancer Center; Department of Surgical Oncology, Houston, United States,*

²*University of Texas MD Anderson Cancer Center; Department of Endocrine Neoplasia and Hormonal Disorders, Houston, United States,* ³*University of Texas MD Anderson Cancer Center; Department of Genitourinary Medical Oncology, Houston, United States*

Adrenocortical carcinoma (ACC) is a rare malignancy for which surgical resection remains the only curative treatment. Circulating tumor DNA (ctDNA) is a minimally invasive, blood-based biomarker with multiple oncologic applications. However, its role in the surgical management of ACC is unknown.

We conducted a retrospective, single-institution study of patients with ACC (≥18 years) who underwent ctDNA testing using a clinically validated, tumor-informed assay (Signatera™, Natera) before and after surgery (adrenalectomy or metastasectomy). Patient and tumor characteristics were obtained from medical records.

Six patients (50% male) were included; the median age at surgery was 54 years (range, 31--76). One patient had stage II ACC, and five had stage IV disease. Two adrenalectomies were performed: one following neoadjuvant cytotoxic chemotherapy (tumor size 18.8 cm) and one treatment-naïve (tumor size 9 cm). Five metastasectomies were performed in four patients for metastases involving the lung,

liver, soft tissue, or lymph nodes, with a median resected tumor burden of 6.5 cm (interquartile range [IQR], 6.1--8.2). All surgical margins were negative, and no tumor spillage or capsule rupture occurred. Two patients were receiving systemic therapy. The median preoperative ctDNA level was 12.25 mean tumor molecules/mL (IQR, 1.68--23.02), which decreased to 0.00 postoperatively (IQR, 0.00--0.03).

This study highlights the potential role of ctDNA assessment in monitoring molecular residual disease in ACC patients. Incorporating ctDNA testing may improve clinical decision-making in challenging cases by providing a more accurate evaluation of surgical efficacy and guiding subsequent therapeutic strategies.

P115

SURGICAL TREATMENT OF CHILDHOOD THYROID CARCINOMA

Ferenc Gyory¹, Mónika Andrasi¹, David Agoston Kovacs¹, Roland Fedor¹, Attila Virga¹, Laszlo Toth², Tamas Csonka², Endre V Nagy³, Sandor Barna⁴, Erzsebet Nemeth⁵, Laszlo Sasi Szabo⁶, Bence Dioszegi-Szabo⁶, Dezso Toth¹

¹Institute of Surgery, Faculty of Medicine University of Debrecen, Hungary, ²Department of Pathology, University of Debrecen, Hungary, ³Department of Endocrine, Department of Internal Medicine, University of Debrecen, Hungary, ⁴Department of Scanomed Ltd, University of Debrecen, Hungary, ⁵Department of Anesthesiology and Intensive Care, University of Debrecen, Hungary, ⁶Department of Pediatric Surgery, University of Debrecen, Hungary

Childhood differentiated thyroid cancer is a rare, solid tumor with an incidence of 1-3/1 million. The prognosis is generally good, but adequate surgical treatment is crucial for recovery.

Data of 65 pediatric patients, who underwent thyroid surgery at the Department of Pediatric Surgery of the University of Debrecen between 2016-2025 were evaluated retrospectively.

During the study period, 65 children (up to 18 year old) underwent thyroid surgery; 19 cases (29%) were due to malignant disease, of which 17 were differentiated thyroid carcinoma (DTC) (13 PTC-papillary thyroid carcinoma, 4 FTC-follicular thyroid carcinoma), 2 cases were medullary carcinoma (MTC). Mean age: 15 years, 81.5% girls, 18.5% boys.

13 patients (69%) had stage T1a+b. 3 patients had stage T2 tumors (15%). Unfortunately, one patient had stage T3 and 2 patients had stage T4 tumors. Lymph node metastasis was present in 9 patients (48%) at the time of surgery, and 1 patient had distant metastasis (MTC).

All operations were performed by a surgeon experienced in thyroid surgery (more than 50 operations/year). In DTC patients, primary thyroidectomy was performed in 8, completion thyroidectomy in 4, lobectomy in 7 cases. In 2 patients, the recurrent nerve had to be sacrificed for the radicality due to the extent of tumor.

Thyroid carcinomas in children have a good prognosis, in spite of higher occurrence of lymph node metastasis. In order to achieve excellent long-term survival it is recommended to operate by high-volume endocrine surgeons. If indicated 131I treatment is necessary.

P116

DOES PREOPERATIVE ACTIVE VITAMIN-D TREATMENT REDUCE EARLY HYPOCALCEMIA AFTER THYROIDECTOMY?

Elvira Bengtsson Byström¹, Haytham Bayadsi¹, Emily Jonsson¹, Frans Perris¹, Martin Claesson¹, Malin Jansson¹, Joakim Hennings¹

¹Umeå University; Department Of Diagnostics And Intervention/Surgery, Östersund and Umeå, Sweden

Early hypocalcemia (HC) after thyroidectomy is common but varies between studies and definitions (5-60%). Even though mostly transient, HC might be troublesome for the patient, can prolong hospital stay and requires follow-up. Preoperative administration of active vitamin D has in some studies indicated reduction of HC.

Twenty seven patients undergoing thyroidectomy (Jan/24 -Sept/25) given Alfacalcidol 1ug twice daily for three days prior to surgery were retrospectively compared to 31 patients undergoing thyroidectomy prior to this regime (Jan/22-Sept/23) in the same hospital. Early HC was defined as morning S-Ca <2.00 mmol/L (ref: 2.15-2.50mmol/L) on postop day1 and/or S-PTH< 1.00 pmol/L (ref: 1.6-6.0pmol/L) 2 hrs after surgery. Clinical HC symptoms needing calcium treatment was also taken into account.

No difference in age, sex, S-Ca or gland weight was noted between the groups preoperatively. Nor were there any differences in benign/malignant/central lymph node surgery or number of Graves' patients

between the groups.

Postoperative S-Ca in VitD-group was 2.22 mmol/L(1.94-2.45) and S-PTH 1.45 pmol/L(0.25-4.7) vs 2.19 mmol/L(1.70-2.39) and 1.80(0.2-6.4) in controls (p= 1.0 and 0.65).

Postoperatively, in VitD-group 1/26 (4%) had S-Ca<2.0 mmol/L and 10/26 (38%) had S-PTH<1.0pmol/L. In controls 3/24 (13%) had S-Ca<2.0 (p=0.26) and 9/29(30%) had S-PTH<1.0 (p=0.56). Postop 1 patient (4%) in VitD-group and 4 patients(13%) among controls recieved calcium treatment for symptoms (p=0.20).

This study could not support that preoperative active vitamin D neither significantly reduced early postoperative hypocalcemia nor reduced the need of calcium treatment for postoperative HC symptoms.

P117

SURGICAL OUTCOMES FOR PHEOCHROMOCYTOMA IN THE NETHERLANDS: RESULTS FROM A MULTICENTER STUDY

Isabelle Holscher^{1,2,11}, T.J. van den Berg³, D.W.A. Lamers⁴, J.F. Langenhuijsen⁴, L. Lodewijk⁵, M.R. Vriens⁵, J.H. Koetje⁶, S. Kruijff⁶, C.L. Viëtor^{7,8}, T.M. van Ginhoven^{7,8}, T. Lubbers⁹, J. van der Horst⁹, K.M.A. Dreijerink^{2,10,11}, W.D. Lubbers³, M.W. Hollmann³, A.F. Engelsman^{1,2,11}, Prof.Dr. E.J.M. Nieveen van Dijkum^{1,2,11}

¹Amsterdam UMC, location Vrije Universiteit, Department of Surgery, Amsterdam, Netherlands, ²Amsterdam Gastroenterology Endocrinology Metabolism, Amsterdam, Netherlands, ³Amsterdam UMC, location University of Amsterdam, Department of Anesthesiology, Amsterdam, Netherlands, ⁴Radboud UMC, Department of Urology, Nijmegen, Netherlands, ⁵UMC Utrecht, Department of Surgical Oncology, Utrecht, Netherlands, ⁶UMC Groningen, Department of Surgery, Groningen, Netherlands, ⁷Erasmus MC, Erasmus MC Cancer Institute, Department of Surgical Oncology and Gastrointestinal Surgery, Rotterdam, Netherlands, ⁸Erasmus MC, Department of Internal Medicine, division of Endocrinology, Rotterdam, Netherlands, ⁹Maastricht UMC, Department of Surgery, Maastricht, Netherlands, ¹⁰Amsterdam UMC, location University of Amsterdam, Department of Endocrinology and Metabolism, Amsterdam, Netherlands, ¹¹Cancer Center Amsterdam, Amsterdam, Netherlands

Data on surgical management in pheochromocytoma is essential for improving treatment strategies and patient outcomes. However, no studies have assessed current practice in the Netherlands. This study aimed to evaluate the perioperative management and outcomes in patients undergoing adrenalectomy for pheochromocytoma.

Patients who underwent adrenalectomy for benign or non-metastatic pheochromocytoma at six Dutch tertiary centers between 2015 and 2023 were included. Patient characteristics, tumor demographics, perioperative management, and associated outcomes were evaluated. Univariate and multivariate logistic regression analyses were conducted to identify potential predictors for perioperative complications (Clavien-Dindo ≥ 2).

Among the 514 patients included, 65 (12.6%) experienced 99 perioperative complications (Clavien-Dindo ≥ 2), with 1 (0.2%) perioperative death. The most common complications were non-surgical site infection (4.3%) and perioperative hemorrhage (3.7%). Median hospital stay was ten days (IQR 6-14), with most time spent preoperatively (median 6 days \[IQR 3-7\]). Factors associated with complications were elevated preoperative plasma normetanephrine concentrations (OR 1.13 \[95%CI 1.02-1.25\], P=0.012), open surgery (OR 4.12 \[95%CI 1.83-9.30\], p<0.001), endoscopic surgery with conversion (OR 9.18 \[95%CI 3.06-27.61\], p<0.001), and resection of left-sided tumors (OR 2.29 \[95%CI 1.24-4.24\], p=0.008) compared to right-sided surgery. Tumor size was not predictive for perioperative complications.

Although considered a high-risk procedure, pheochromocytoma surgery has low mortality rates and generally favorable outcomes. However, current practice is associated with a median hospital stay of 10 days, with the preoperative phase as largest contributor. This underscores the need to assess strategies to reduce hospital stay and improve outcomes without undermining safety.

P118

FAMILIAL NON-MEDULLAR PAPILLARY THYROID CANCER

Bohdan Huda¹, Marian Ostafiichuk¹, Andriy Tymkiv¹, Ihor Komisarenko¹, Natalia Kobrynska¹

¹Si V.P. Komisarenko Institute Of Endocrinology And Metabolism Of The Nams Of Ukraine, Kyiv, Ukraine

Familial non-medullary thyroid carcinoma (FNMTC) is defined as cancer developing in two or more first-degree relatives if predisposing factors, for example, radiation, are absent.

We examined 29 patients suffering from the FNMTCT -- 11 pairs are parents (group "parents") and their children and two pairs are siblings (group "children"). The average age of patients from the "parents" group was 55.4 ± 1.6 years, from the "children" group -- 31.6 ± 1.4 years. The comparison groups were formed according to 3 principles: tumors by diagnosis -- papillary carcinomas (PTC); the same age range; patients at the time of the accident and later did not live in the regions affected by the Chernobyl accident.

In the group of patients with FNMTCT, inheritance was more often through the maternal line (9 cases out of 11, 81.8%). Whether sporadic or familial, the tumor's size, metastatic, and invasive potential are higher in young people. There was no significant difference between the "parents" and "adult" groups of patients in terms of tumors' parameters. One exception was the higher frequency of multifocal tumors in the FNMTCT patients. Compared to the "young" PTC patients, the FNMTCT "children" had a higher frequency of T2 tumors, metastasizing, and multifocal tumors, but a lower frequency of carcinomas with intrathyroidal invasion. In the FNMTCT "children" compared to FNMTCT "parents" was a higher frequency of T2 tumors, metastasizing carcinomas with capsular invasion.

FNMTCT are more aggressive than sporadic ones, especially in patients who are first-degree relatives in a family with parents already diagnosed with the disease.

P119

CLINICAL AND PROGNOSTIC CHARACTERISTICS OF MEDULLAR THYROID CARCINOMA

Bohdan Huda¹, Ihor Komisarenko¹, Marian Ostafiichuk¹, Andriy Tymkiv¹

¹*Si V.P. Komisarenko Institute Of Endocrinology And Metabolism Of The Nams Of Ukraine, Kyiv, Украина*

Medullary thyroid carcinoma (MTC), a rare form of thyroid cancer, represents a significant medical problem due to its aggressive nature and (despite its low prevalence) disproportionately high mortality (up to 13% of cases) associated with thyroid cancer.

The cohort of patients with MTC included 94 patients (70 women and 24 men aged 12 to 83 years). 78 patients were diagnosed with sporadic MTC (SMTC, M:F 2.9:1), and 16 patients were diagnosed with hereditary MTC (HMTC, M:F 3:1).

In patients with SMTC, tumors up to 2 cm in size were most often recorded, the average size of HMTC was one third larger than that of SMTC. In patients with HMTC, metastases were recorded mainly in the lateral lymph nodes of the neck, distant metastases were recorded exclusively in patients with SMTC. HMTC is characterized by significant multifocality and invasiveness compared to SMTC, and the level of calcitonin in the blood of patients is also higher in HMTC. The 5-, 10-, and 20-year predicted survival rates for patients with SMTC were 89.6%, 86.6%, and 82.3%, and for HMTC were 76.2%, 70.0%, and 61.8%. The most important prognostic factors for HMTC (in decreasing order) are extrathyroidal invasion, neck lymph node metastases, intrathyroidal invasion, tumor size ≥ 2 cm, capsular invasion, multifocality, female gender; for SMTC -- distant metastases, extrathyroidal invasion, tumor size ≥ 2 cm, neck lymph node metastases, multifocality, male gender.

Conclusion. The significance of prognostic factors for the survival of patients with MTC varies depending on the nature of the tumor.

P120

PTH LEVELS AT 1 MONTHS AFTER TOTAL THYROIDECTOMY ARE THE MAIN PREDICTOR OF DEFINITIVE HYPOPARATHYROIDISM

Silvia Dughiero¹, Francesca Torresan¹, Maurizio Iacobone¹

¹*University of Padova, Italy*

Postoperative hypoparathyroidism (HypoPTH) is the most common morbidity after total thyroidectomy, requiring calcium/vitamin D supplementation. Most patients recover early during the first postoperative weeks and may discontinue the supplementation, while life-long treatment is needed in case of definitive HypoPTH. This study was aimed to analyse the risk factors for definitive HypoPTH in patients under calcium/vitamin D supplementation at 1 month after surgery.

Demographic, surgical, biochemical, pathology, and follow-up data were collected from 2274 patients undergoing total thyroidectomy (2016--2024) in a single high-volume referral centre. PTH values were standardised on a logarithmic scale based on the reference ranges of the different laboratories as

multiple of the lower normal reference value.

At 1-month postoperative follow-up, 357 patients (15.7%) were still under calcium/vitamin D supplementation, that was progressively discontinued in 296 patients; finally, at long-term follow-up (median 5 yrs), 61 patients (2.7%) had definitive HypoPTH. Higher PTH values at 1-month post-operative follow-up was the only statistically significant protective factor against definitive HypoPTH (HR 0.014, $p=0.033$). The 1-month postoperative PTH levels ROC curve analysis (AUC 0.634, $p=0.002$) identified a standardised cut-off at 1.18 (14.44 pg/mL in a 3rd generation PTH measurement with a laboratory normal range 10--36.8), with a sensitivity of 95% and negative predictive value of 92%.

Persistently decreased PTH levels at 1 month follow up after total thyroidectomy is a significant predictive factor for definitive HypoPTH. Patients with 1-month postoperative PTH levels higher than the established cut-off may progressively and safely disrupt the calcium/vitamin D supplementation.

P121

RISK FACTORS FOR POSTOPERATIVE HYPOTENSION AFTER ADRENALECTOMY FOR PHEOCHROMOCYTOMAS AND PARAGANGLIOMAS

Francesca Torresan¹, Cecilia Bortolato¹, Silvia Dughiero¹, Maurizio Iacobone¹

¹University of Padova, Padova, Italy

Postoperative hypotension (PH) is the most common complication after surgical resection of pheochromocytoma/paragangliomas (PPGLs), especially in patients preoperatively treated with alfa-blockers, often requiring Intensive Care Unit (ICU) monitoring. However, PH is not easily predictable and the postoperative management of these patients still a matter of concern. This retrospective study aims to identify predictive factors for PH in patients undergoing surgery for PPGLs, to identify whose patients effectively require ICU monitoring.

The study included 103 adult patients undergoing surgery for PPGLs between 2012 and 2025 after preoperative alfa-blockers treatment. Demographic, clinical, biochemical, radiological, and histopathological data were collected. PH was defined as systolic arterial blood pressure < 90 mmHg, needing for vasopressor support within 24h after surgery and postoperative monitoring in intensive care unit.

PH occurred in 31 patients (30%). At univariable analysis, greater tumour size (median 4.9 vs 3.6 cm; $p=0.001$), history of acute cardiovascular events at diagnosis ($p=0.009$), increased operative time ($p=0.004$), and high 24h-urinary norepinephrine ($p=0.003$) were associated with PH. The ROC curve analysis revealed a cut-off value of 5 times the upper normal range for 24-h urinary norepinephrine in predicting PH (sensitivity 80%; specificity 84%; accuracy 84%). At multivariate analysis, preoperative 24h-urinary norepinephrine remained the only independent predictive factor for PH (OR 10; 95% CI 2.6-39; $p=0.0008$).

The increased preoperative 24h-urinary norepinephrine levels is an independent predictor of PH and may be used to stratify patients that should undergo postoperative ICU monitoring because at higher risk to develop PH.

P122

AUTOTRANSPLANTATION IN TWO LEVELS: STRATEGIC TREATMENT OF THE FOURTH, INTRATHYROID-POSITIONED PARATHYROID IN A PATIENT WITH MEN1 SYNDROME AFTER TRIPLE PARATHYROIDECTOMY

Jovan Ilic¹, Prim. Dr. Goran Zoric¹, Bozidar Odalovic^{1,2}, Katarina Tausanovic^{1,3}, Nikola Slijepcevic^{1,3}, Asst. Dr. Branislav Rovcanin^{1,3}, Asst. Dr. Milan Jovanovic^{1,3}, Matija Buzjic¹, Boban Stepanovic¹, Duska Vucen¹, Sara Ivanis¹, Milan Parezanovic¹, Milan Marinkovic¹, Vladan Zivaljevic^{1,3}

¹Clinic For Endocrine Surgery, University Clinical Center Of Serbia, Belgrade, Serbia, ²Faculty of Medicine, University of Pristina, with temporary seat in Kosovska Mitrovica, Belgrade, Serbia, ³Faculty of Medicine, University of Belgrade, Belgrade, Serbia

Multiple endocrine neoplasia type 1 syndrome (MEN1) typically involves parathyroid (PT) hyperplasia. Subtotal parathyroidectomy is a treatment of choice, but recurrences are frequent. The intrathyroid presence of PT is the second most common cervical ectopy (0.7-6%).

A 39-year-old female patient was treated for primary hyperparathyroidism as part of verified MEN1 (Ca 3,3 mmol/L, PTH 205 ng/L). Of the other MEN1 components, she had a non-functional pituitary

microadenoma and neuroendocrine tumors of pancreas. Secondary osteoporosis and left nephrolithiasis were clinically present. Preoperatively, SPECT/CT showed increased accumulation of radiopharmaceutical in the left inferior PT. Ultrasound had observed hypoechoic node in the right lobe of the thyroid gland, along with colloid node in left lobe, and bilateral superior PT. Subtotal parathyroidectomy and left lobectomy were performed. Postoperatively, there was an adequate decrease in calcemia and PTH. Pathohistological findings confirmed PT hyperplasia. Patient had disease recurrence a year later. Additional nuclear imaging had shown radiopharmaceutical accumulation in the right inferior PT. Aspiration biopsy of hypoechoic lesion in the right thyroid lobe and PTH from aspirate (540 ng/L) confirmed the intrathyroid position of PT. Right lobectomy was performed. The visualized intrathyroid PT was autotransplanted into two levels of infrahyoid muscles ipsilaterally, sternothyroid and sternohyoid muscles. Postoperatively, PTH was lower (2.4--3 ng/L), with mild hypocalcemia controlled with oral supplementation. Pathohistology confirmed atypical parathyroid tumor.

Through this case, we emphasize the importance of aspiration biopsy with PTH analysis for intrathyroid lesions in MEN1 and two-level autotransplantation for the prevention of severe hypocalcemia.

P123

MODERN-DAY CLINICAL BEHAVIOR OF AGGRESSIVE FORMS OF PAPILLARY THYROID CARCINOMA -- A RETROSPECTIVE CASE-CONTROL STUDY

Jovan Ilic¹, Nikola Slijepcevic^{1,2}, Katarina Tausanovic^{1,2}, Bozidar Odalovic^{1,3}, Prim. Dr. Goran Zoric¹, Marija Milinkovic⁴, Asst. Dr. Branislav Rovcanin^{1,2}, Asst. Dr. Milan Jovanovic^{1,2}, Matija Buzejic¹, Boban Stepanovic¹, Duska Vucen¹, Sara Ivanis¹, Milan Parezanovic¹, Milan Marinkovic¹, Vladan Zivaljevic^{1,2}

¹Clinic For Endocrine Surgery, University Clinical Center Of Serbia, Belgrade, Serbia, ²Faculty of Medicine, University of Belgrade, Belgrade, Serbia, ³Faculty of Medicine, University of Prishtina, with temporary seat in Kosovska Mitrovica, Kosovska Mitrovica, Serbia, ⁴Institute of Pathology, Univesity Clinical Center of Serbia, Belgrade, Serbia

Papillary thyroid carcinoma (PTC) is the most common endocrine malignancy. The classic variant (cPTC) is characterized by indolent behavior and excellent prognosis. However, rare subtypes of PTC most often exhibit adverse clinical behavior. The aim of the study was to assess the aggressiveness of rare variants of PTC by analyzing clinicopathological characteristics (CPC) and survival outcomes.

We analyzed 80 patients with rare PTC variants treated between 2009 and 2019 who were compared with cPTC and matched with control group for age and tumor size. The variants were categorized into high-risk (HRV: tall-cell, diffuse-sclerosing, columnar-cell, and hobnail variants), intermediate-risk (IRV: solid variant (SV)) and low-risk (LRV: oncocytic (OV) and Warthin-like (WLV) variants). Different CPC (capsule and blood vessel invasion, lymphonodal metastases, microscopic and macroscopic extrathyroid extension, multifocal and bilateral presentation) and survival outcomes -- total (OS), disease-specific (DSS) and disease-free survival (DFS) were compared.

HRV exhibited significantly more aggressive CPC and worse OS, DSS, and DFS compared to cPTC ($p < 0.001$). IRV showed no significant difference in CPC or survival outcomes compared to cPTC. LRV showed excellent survival but was associated with several unfavorable CPC. Multivariate analysis identified classification in HRV as the only independent predictor of recurrence ($p = 0.014$).

Tumors in the HRV group should retain their status as aggressive PTC variants due to unfavorable behavior and poorer prognosis. SV, despite earlier assumptions, does not exhibit aggressive characteristics. Although OV and WLV have similar survival to cPTC, their potential for adverse CPC requires caution.

P124

COMPARING THE DIAGNOSTIC EFFICACY OF DIFFERENT CALCITONIN STIMULATION TESTS FOR SPORADIC MEDULLARY THYROID CARCINOMA: CALCIUM GLUCONATE VS. CALCIUM CHLORIDE

Jovan Ilic¹, Katarina Tausanovic^{1,2}, Prim. Dr. Goran Zoric¹, Asst. Dr. Milan Jovanovic^{1,2}, Matija Buzejic¹, Sara Ivanis¹, Milan Parezanovic¹, Milan Marinkovic¹, Asst. Dr. Nemanja Karamarkovic^{2,3}, Ana Petakov⁴, Vladan Zivaljevic^{1,2}

¹Clinic For Endocrine Surgery, University Clinical Center Of Serbia, Belgrade, Serbia, ²Faculty of Medicine, University of Belgrade, Belgrade, Serbia, ³Clinic for Cardiac Surgery, University Clinical Center of Serbia, Belgrade, Serbia, ⁴Clinic of Endocrinology, Diabetes and Metabolic Diseases, University Clinical Center of Serbia, Belgrade, Serbia

Medullary thyroid carcinoma (MTC) is a rare malignancy derived from C-cells, with calcitonin (Ct) as the key biomarker. While basal Ct (bCt) values above 100 pg/mL strongly suggest MTC, moderately

elevated values (10--100 pg/mL) may indicate C-cell hyperplasia (CCH) or other benign conditions, making diagnosis difficult. Although calcium stimulation testing enhances sensitivity, the optimal cut-off values and comparative efficacy of calcium gluconate (CG) versus calcium chloride (CC) remain unresearched.

Data on 176 patients who underwent total thyroidectomy between 2009 and 2025 were retrospectively analyzed. Values of bCt ranged from 10 to 100 pg/mL, and stimulated Ct (sCt) values were above 100 pg/mL. CG was used from 2009 to 2019, and CC from 2020 to 2025. Definitive histopathology divided patients into those with MTC, CCH, or without C-cell pathology. ROC analysis was used to identify optimal Ct thresholds for predicting MTC for each stimulatory agent.

Among the subjects, 36 (20.5%) had confirmed MTC. A bCt threshold of 31.1 pg/mL yielded 69.4% sensitivity and 87.1% specificity. For sCt, the optimal cut-off values were 810.8 pg/mL for CG and 1076 pg/mL for CC. Lower thresholds (388.4 pg/mL for CG and 431.5 pg/mL for CC) improved sensitivity ($\geq 76.9\%$) and negative predictive value ($> 91\%$).

The calcium stimulation test improves the detection of MTC in patients with moderately elevated bCt. CG has shown marginally better diagnostic performance, but CC remains a practical and reliable alternative, when higher cut-off values are considered. Early surgical intervention should be performed when sensitivity-driven thresholds are met.

P125

PD-L1 EXPRESSION IN ANAPLASTIC THYROID CARCINOMA: FINDINGS FROM 23 YEARS OF CLINICAL PRACTICE

Sara Ivanis¹, Marija Milinkovic², Milan Jovanovic¹, Filip Markovic³, Vladan Zivaljevic¹, Boban Stepanovic¹, Matija Buzejic¹, Jovan Ilic¹, Dusko Dundjerovic²

¹Clinic For Endocrine Surgery, University Clinical Centre of Serbia, Serbia, ²Institute of Pathology, Medical Faculty, University of Belgrade, Belgrade, Serbia, ³Clinic for Pulmonology, University Clinical Centre of Serbia, Serbia

Programmed death-ligand 1 (PD-L1) expression is an important predictive biomarker for the use of immune checkpoint inhibitors in anaplastic thyroid carcinoma (ATC). Real-world evidence on PD-L1 distribution in ATC remains limited.

We retrospectively analyzed 74 patients with ATC or ATC with co-existing

differentiated thyroid carcinoma components who underwent surgery at the Clinic for Endocrine Surgery from 1999 to 2022. Prior to immunohistochemical assessment, representative tumor paraffin blocks were selected, and a tissue microarray (TMA) was constructed to ensure standardized and uniform analysis across samples. PD-L1 expression was reported as combined positive score (CPS), with PD-L1 positivity defined as CPS ≥ 1 . Descriptive statistics were used to summarize biomarker distribution. Associations with sex and histology were tested using the χ^2 test.

PD-L1 positivity was detected in 23% of patients (17/74). Distribution by sex was comparable, with positivity observed in 22.7% of males (5/22) and 23.1% of females (12/52), demonstrating no statistically significant association ($p=1.00$). Histopathologic evaluation showed the highest positivity in pure anaplastic carcinoma (30.8%, 12/39), whereas anaplastic carcinoma with co-existing differentiated thyroid carcinoma components exhibited 14.3% positivity (5/35). Overall, no statistically significant association between histology and PD-L1 status was found ($p=0.16$).

Approximately one-quarter of ATC patients in this cohort expressed

PD-L1 at a potentially actionable level. These data add clinically relevant real-world insight into biomarker prevalence in ATC and may contribute to optimizing treatment selection.

P126

PREOPERATIVE BISPHOSPHONATES AND THEIR SURGICAL IMPACT ON PARATHYROID ADENOMAS IN PRIMARY HYPERPARATHYROIDISM

Spandana Jagannath¹, Sabaretnam Mayilvaganan, Vinita Agrawal, Ambica Tandon, Sushil Gupta

¹Sanjay Gandhi Postgraduate Institute Of Medical Sciences, Lucknow, Lucknow, India

Patients with primary hyperparathyroidism (PHPT) presenting in hypercalcemic crisis often require rapid biochemical stabilization before surgery. Zoledronic acid (ZA) effectively lowers serum calcium, but its potential impact on parathyroid adenoma characteristics and operative findings is not well understood. This study compared surgical and histopathological characteristics of parathyroid glands in PHPT patients who received preoperative ZA with those who did not.

A prospectively maintained surgical database of a single high-volume endocrine surgeon from 2022 to 2025 was reviewed. Patients undergoing focused parathyroidectomy were divided into two groups: Cases- PHPT patients who received preoperative ZA; Controls- PHPT patients who did not receive ZA. Demographic details, biochemical parameters, intraoperative findings, and ex-vivo gland weight and size were recorded. Histopathological review, including semi-quantitative intraglandular fibrosis scoring, was performed by a dedicated endocrine pathologist. Statistical analysis was conducted using SPSS v15.

The Cases (n=18, M:F 1:2; median age 46 years) with mean calcium 13.95 ± 2.93 mg/dL had higher median PTH 87.7 pmol/L, and gland weight 9 g as compared to Controls (n=34; median age 50 years, PTH 52 pmol/L, mean calcium 11.50 ± 1.39 mg/dL, and gland weight 2.5 ± 2.2 g. Intraoperatively, ZA-treated patients demonstrated reduced vascularity, increased pericapsular adhesions, and higher fibrosis grades on histopathology.

Preoperative ZA effectively stabilizes hypercalcemia in PHPT with hypercalcemic crisis and is associated with altered gland characteristics, including reduced vascularity and increased fibrosis. These findings indicate a potential direct tissue effect of ZA, with implications for surgical dissection and operative planning.

P127

INTRAOPERATIVE PARATHYROID INCIDENTALOMA IN A YOUNG FEMALE: DIAGNOSTIC AND SURGICAL CHALLENGES

Spandana Jagannath¹, Sabaretnam Mayilvaganan

¹Sanjay Gandhi Postgraduate Institute Of Medical Sciences, Lucknow, Lucknow, India

Parathyroid incidentalomas (PI) are rarely encountered lesions discovered unexpectedly during thyroid or neck surgery. Reported prevalence ranges from 0.2--4.5% in thyroidectomy specimens and 0.4--1.2% on routine neck ultrasonography. Their management remains controversial due to difficulty in assessing function and uncertainty regarding the risk of progression to primary hyperparathyroidism (PHPT). We present a case of an intraoperatively detected PI in a young patient and discuss the diagnostic and operative decision-making.

A 15 year-old female undergoing surgery for a benign right solitary thyroid nodule was found to have an enlarged right superior parathyroid gland intraoperatively. Preoperative serum calcium was 8.52 mg/dL (8.5-10.8). Intraoperative assessment included visual inspection, evaluation of gland size, colour and consistency, and identification of adjacent structures. The decision regarding excision versus preservation was based on gland appearance, anatomical safety, and guideline-based considerations.

The incidental gland measured 2x1 cm and appeared enlarged and reddish-brown. The thyroidectomy field allowed safe dissection, and the gland was excised accordingly. Intraoperative frozen section showed parathyroid tissue, and postoperative calcium levels were normal. Final histopathology confirmed parathyroid adenoma. The patient recovered uneventfully with no hypocalcaemia or vocal cord dysfunction.

Intraoperative PI poses a diagnostic dilemma. Factors influencing management include gland enlargement, functional suspicion, and operative safety. This case supports the prevailing view that significantly enlarged and safely accessible incidental glands may be excised, while others can be preserved with postoperative biochemical surveillance. Structured evaluation and surgical judgment remain key in managing PIs discovered unexpectedly.

P130**EXPANDED SELECTION CRITERIA FOR DAY SURGERY ADRENALECTOMY: A SINGLE-CENTER EVALUATION OF SAFETY AND FEASIBILITY**

Assef Jawaada¹, Gabriele Galata¹, Joe Lehmann¹, Patrick Klang¹, Ammar Lawati², Meshal Al-Mishal¹, Nada Bin Saleem¹, Hasti Trazban¹, Johnathan Hubbard³, Klaus Martin Schulte^{1,4}

¹King's College Hospital NHS Foundation Trust, London, United Kingdom, ²Eastbourne District General Hospital, Eastbourne, United Kingdom, ³Guy's and St. Thomas NHS Foundation Trust, London, United Kingdom, ⁴Australian National University, Australia

Day surgery adrenalectomy, once uncommon, is increasingly proven to be safe in carefully selected patients. Rising demands on surgical capacity within the NHS and patient preference on fast recovery prompted a reassessment of our day surgery pathway and expansion of eligibility criteria for laparoscopic adrenalectomy at our center.

The established day-surgery criteria at King's College Hospital were broadened following an initial implementation phase. Early criteria restricted inclusion to patients with ASA class I-II, adrenal lesions <4 cm, non-functioning adenomas or primary hyperaldosteronism, and residence within 15 minutes of the hospital. An audit of 30 patients treated between 2021 and 2023 demonstrated the safety and feasibility of laparoscopic adrenalectomy under these parameters. From 2023 onward, criteria were expanded to include ASA III patients, removal of lesion-size limits, incorporation of Cushing's syndrome and non-functioning pheochromocytoma as indications, and residence within 30 minutes of any hospital or emergency facility.

Thirteen additional patients met the revised criteria and underwent successful same-day laparoscopic adrenalectomy, yielding a total cohort of 43 day-surgery cases. No increase in postoperative morbidity or mortality occurred following expansion of the selection parameters.

Day-surgery adrenalectomy remains safe and feasible in a high-volume endocrine centre, even with broader patient selection criteria. This supports ongoing refinement of pathways to optimise surgical capacity and patient recovery.

P131**SUPERIOR VENA CAVA SYNDROME SECONDARY TO INTRATHORACIC GOITER : A CASE REPORT**

Rosario María Jurado Jiménez¹, Jorge Diaz Roldán¹, Mercedes Diaz Oteros¹, Jesús Cañete Gómez¹

¹Hospital De Valme, Sevilla, Spain

Superior vena cava syndrome (SVCS) is an uncommon condition characterized by jugular venous distension, facial plethora, and upper limb edema. It is most often caused by malignant mediastinal tumors. Association with benign intrathoracic goiter is rare, with few cases reported in the literature. The first description of SVCS was by William Hunter in 1757, and the first benign intrathoracic goiter-related case was published by McArt in 1954.

We report the case of a 61-year-old woman with a history of ductal breast carcinoma and multinodular goiter with subclinical hyperthyroidism under treatment with thiamazole 5 mg daily. She presented with facial flushing, conjunctival injection, tearing, and collateral venous circulation in the neck, along with supine dyspnea. Cervical CT revealed an enlarged thyroid isthmus (2.3 cm), right lobe (6.7 × 4.9 × 14.2 cm), and left lobe (6.1 × 4.1 × 9.2 cm) extending to the carina, causing significant tracheal stenosis (6.6 mm transverse diameter) and esophageal compression.

Surgical excision through a cervical approach was performed in July 2025 without complications. The postoperative course was uneventful, with marked clinical improvement and resolution of collateral venous circulation and facial plethora by postoperative day four.

SVCS secondary to intrathoracic goiter is a rare but surgically treatable cause of airway and vascular compression. Diagnosis is mainly clinical, supported by CT (sensitivity 92%, specificity 96%). Early surgical management allows complete symptom resolution, while sternotomy may be required in large substernal goiters

P132

CLINICAL IMPACT AND OUTCOMES OF IMPLEMENTING A POSTOPERATIVE CALCIUM MANAGEMENT PROTOCOL BASED ON INTACT PTH

Rosario María Jurado Jiménez¹, Jorge Diaz Roldán¹, Mercedes Diaz Oteros¹, Jesús Cañete Gomez¹

¹Hospital De Valme, Sevilla, Spain

Hypocalcemia is the most common complication after total or completion thyroidectomy, mainly due to transient or permanent hypoparathyroidism. Early identification and timely management are essential to prevent symptoms and reduce unplanned readmissions. Measurement of intact parathyroid hormone (iPTH) in the immediate postoperative period has become a reliable predictor of hypocalcemia, allowing selective prophylactic treatment for high-risk patients. This study compared an iPTH-based postoperative protocol with a traditional calcium-only protocol and explored factors associated with hypocalcemia.

A retrospective observational study was performed in a tertiary center including 132 patients who underwent total or completion thyroidectomy. Patients were divided into two groups: a standard protocol using corrected calcium and a protocol combining iPTH with corrected calcium. The predictive value of iPTH for hypocalcemia was assessed using ROC curves. Secondary outcomes included the need for calcium supplementation at discharge, emergency visits due to hypocalcemic symptoms, and the influence of preoperative and surgical variables such as age, sex, ASA classification, TIRADS category, and type of thyroidectomy.

The overall incidence of postoperative hypocalcemia and emergency visits did not differ significantly between groups. However, the iPTH-based protocol improved risk stratification and enabled earlier prophylactic treatment. A significant association was identified between surgical technique and hypocalcemia, with higher rates after total thyroidectomy compared with completion thyroidectomy.

Incorporating iPTH into postoperative evaluation enhances clinical decision-making and optimizes calcium management following thyroidectomy. Although differences in clinical outcomes were not statistically significant, iPTH facilitates safer early discharge and may help prevent postoperative complications.

P133

CONTINUOUS INTRAOPERATIVE NEUROMONITORING OF THE SPINAL ACCESSORY NERVE. IS IT ONE STEP FORWARD IN THE SAFETY DURING THE LATERAL LYMPHADENECTOMY IN THYROID CANCER SURGERY? HOW WE DO IT.

Carlota Juste¹, Patricia Luengo¹, Belén Porrero¹, Carmen Cuesta¹, Carmen Garza¹, Inés Perea¹, Luis Jacobo Cabañas¹

¹Hospital Universitario Ramón y Cajal, Madrid, Spain

It has been established the use of intraoperative neuromonitoring (IONM) of the recurrent laryngeal nerve and of the external branch of the laryngeal superior nerve during thyroid surgery to minimize intraoperative lesions and the possible benefits of continuous intraoperative monitoring (C-IONM) of those nerves. IONM has been used during laterocervical neck lymphadenectomies to prevent injuries of the spinal accessory nerve (SAN). Injuries of SAN results in weakness or complete loss of strength in trapezius muscle. However, there are no articles published describing the use of C-IONM of SAN.

Our objective is to describe the feasibility and safety of C-IONM of SAN during laterocervical neck lymphadenectomies for thyroid cancer.

We perform the neuromonitoring as it is usually done in our center. In particular, for the C-IONM of SAN it is needed two needle electrodes inserted on the trapezius and an automatic periodic stimulation electrode placed on the SAN. The neuromonitor facilitates a constant evaluation of the nerve's function with the analysis of the amplitude and latency of the trapezius contraction.

The majority of SAN temporary injuries are due to excessive elongation during tractions. CIONM allowed us to be aware of temporary non-pathological decreases of the amplitude and therefore cease those tractions that could have produced an injury. There were no injuries of the SAN and no complications related to the use of the CIONM

CIONM of SAN is an easy and safe technique that can help in the prevention of SAN injury during lateral neck dissection.

P135

QUALITY-OF-LIFE AND COGNITIVE OUTCOMES AFTER PARATHYROIDECTOMY FOR PRIMARY HYPERPARATHYROIDISM: A PROSPECTIVE OBSERVATIONAL STUDY

Mehmet Iskender Yildirim¹, Irem Karatas², Yalin Iscan¹, Ummu Mutlu³, Arthur Salmaslioglu⁴, Gozde Ozkan⁵, Ismail Cem Sormaz¹, Nihat Aksakal¹, Fatih Tunca¹, Yasemin Giles Senyurek¹

¹Istanbul University, Istanbul Faculty of Medicine, Division of Endocrine Surgery, Istanbul, Turkey, ²Prof. Dr. Cemil Tascioglu City Hospital, Department of General Surgery, Istanbul, Turkey, ³Istanbul University, Istanbul Faculty of Medicine, Department of Endocrinology, Istanbul, Turkey, ⁴Istanbul University, Istanbul Faculty of Medicine, Department of Radiology, Istanbul, Turkey, ⁵Istanbul University, Istanbul Faculty of Medicine, Department of Nuclear Medicine, Istanbul, Turkey

This study examined relationships between demographic, biochemical, and clinical factors and postoperative changes in patient-reported quality of life outcomes following parathyroidectomy.

This prospective study included 50 adults with confirmed PHPT who underwent parathyroidectomy between May 2023 and May 2025. Patients with severe systemic or psychiatric comorbidities were excluded. Clinical, laboratory, and surgical variables were documented. Quality of life and cognitive functions were assessed preoperatively and six months postoperatively using validated patient-reported outcome measures (PROMs): SF-36, PHPQoL, Pasieka Symptom Score (PAS), and Mini-Mental State Examination (MMSE). The study analyzed associations between PROMs and demographic and biochemical parameters.

PAS score decreased from 46.22 ± 24.54 to 25.68 ± 14.68 ($p < 0.001$), SF-36 score increased from 60.50 ± 24.75 to 74.15 ± 14.70 ($p < 0.001$), PHPQoL score rose from 54.50 ± 22.57 to 69.19 ± 17.54 ($p < 0.001$), and MMSE score improved from 25.06 ± 2.48 to 27.56 ± 2.27 ($p < 0.001$). Key improvements were in fatigue, bone/joint pain, weakness, and irritability. Though labeled "asymptomatic," patients showed impaired baseline quality of life (QoL) and experienced substantial postoperative benefits. Lower vitamin D levels ($R^2 = 0.362$, $p = 0.026$), reduced glomerular filtration rate (GFR) ($R^2 = 0.362$, $p = 0.008$), and female sex ($R^2 = 0.362$, $p = 0.013$) correlated with poorer baseline QoL. Younger age ($p = 0.007$), higher GFR ($p = 0.022$), higher T-scores ($p = 0.031$), and elevated preoperative PTH levels ($p = 0.028$) were linked to greater postoperative improvement. In PAS, greater symptom improvement was observed in older patients ($p = 0.347$, $p = 0.014$); however, PHPQoL analysis showed a negative correlation with age.

Parathyroidectomy improves the quality of life and cognitive function of patients with PHPT, including those deemed asymptomatic. Routine PROM implementation may enhance surgical decision-making. Demographic and biochemical parameters should guide personalized risk-benefit assessments.

P136

CLINICAL AND PATHOLOGICAL DETERMINANTS OF SURVIVAL IN MEDULLARY THYROID CARCINOMA

Khayyam Rzabeyli¹, Irem Karatas², Yasemin Sanli³, Nurdan Gul⁴, Ayse Kubat Uzun⁴, Gulcin Yegen⁵, Semen Onder⁵, Yalin Iscan¹, Ismail Cem Sormaz¹, Nihat Aksakal¹, Fatih Tunca¹, Yasemin Giles Senyurek¹

¹Istanbul University, Istanbul Faculty of Medicine, Division of Endocrine Surgery, Istanbul, Turkey, ²Prof. Dr. Cemil Tascioglu City Hospital, Department of General Surgery, Istanbul, Turkey, ³Istanbul University, Istanbul Faculty of Medicine, Department of Nuclear Medicine, Istanbul, Turkey, ⁴Istanbul University, Istanbul Faculty of Medicine, Department of Endocrinology, Istanbul, Turkey, ⁵Istanbul University, Istanbul Faculty of Medicine, Department of Pathology, Istanbul, Turkey

This study aimed to identify the clinical, biochemical, radiological, and pathological factors associated with survival outcomes in medullary thyroid carcinoma (MTC).

A retrospective study was conducted on 72 patients who underwent surgery for MTC between January 2010 and December 2024. Demographic data, pre-postoperative calcitonin and CEA, radiological characteristics, extent of surgery and histopathological findings were evaluated. The analyses focused on recurrence-free survival (RFS), locoregional recurrence-free survival (LR-RFS), and overall survival (OS).

Total thyroidectomy and lymph node dissection were performed in 81.6% ($n=58$). Total thyroidectomy alone was conducted in 19.4% ($n=14$), with 6 prophylactic (MEN) and 8 incidental. Median tumor

diameter was 1.76 ± 1.46 cm. Histopathological analysis showed necrosis in 5 (6.9%), calcification in 11 (15.3%), lymphovascular invasion in 19 (26.4%), and desmoplastic stromal reaction in 34 (47.2%). Median follow-up was 84 (39-129) months. Loco-regional recurrence occurred in 40.3% (n=29). Systemic disease occurred in 6.9% (n=5). The five-year recurrence-free survival (RFS) rate was 66.1%, and overall survival (OS) rate was 95%. Factors associated with poor prognosis included tumor size ≥ 1.7 cm (n=31; 43.1%), necrosis (n=5; 6.9%), calcification (n=11; 15.3%), lymphovascular invasion (n=19; 26.4%), lateral nodal metastasis (n=20; 58.8%), postoperative calcitonin levels ≥ 11 pg/mL (n=36; %50), and preoperative CEA levels ≥ 7 ng/mL (n=27; %37.5). Overall survival was lower in patients over 45 years (p=0.021) and those with central nodal metastasis (p=0.046).

Lateral lymph node metastasis was the strongest radiological predictor of poor prognosis. Tumor necrosis, lymphovascular invasion, calcification, and size ≥ 1.7 cm impaired recurrence outcomes, while postoperative calcitonin ≥ 11 pg/mL and elevated preoperative CEA indicated adverse survival.

P137

HIGH ANTI-TG LEVELS ARE ASSOCIATED WITH INCREASED RECURRENCE RISK IN PTC: A PROPENSITY-MATCHED ANALYSIS

Melek Ezgi Kaya¹, Irem Karatas², Yalin Iscan¹, Ismail Cem Sormaz¹, Nihat Aksakal¹, Arzu Poyanli³, Ummu Mutlu⁴, Hulya Hacisahinogullari⁴, Emine Goknur Isik⁵, Gulcin Yegen⁶, Fatih Tunca¹, Yasemin Giles Senyurek¹

¹Istanbul University, Istanbul Faculty of Medicine, Division of Endocrine Surgery, Istanbul, Turkey, ²Prof. Dr. Cemil Tascioglu City Hospital, Department of General Surgery, Istanbul, Turkey, ³Istanbul University, Istanbul Faculty of Medicine, Department of Radiology, Istanbul, Turkey, ⁴Istanbul University, Istanbul Faculty of Medicine, Department of Endocrinology, Istanbul, Turkey, ⁵Istanbul University, Istanbul Faculty of Medicine, Department of Nuclear Medicine, Istanbul, Turkey, ⁶Istanbul University, Istanbul Faculty of Medicine, Department of Pathology, Istanbul, Turkey

Anti-thyroglobulin antibodies (Anti-Tg) may interfere with postoperative biochemical surveillance in papillary thyroid carcinoma (PTC), yet their prognostic significance remains uncertain. This study investigated whether elevated postoperative Anti-Tg levels are associated with aggressive pathological features, local recurrence, or distant metastasis.

A propensity score--matched analysis was conducted with 64 PTC patients who underwent total thyroidectomy followed by radioactive iodine (RAI) therapy. Using an Anti-Tg cutoff of 115 IU/mL based on institutional reference limits, patients were categorized into high Anti-Tg (≥ 115 IU/mL) and low Anti-Tg (< 115 IU/mL) groups. Matching was performed for age, sex, tumor stage, and American Thyroid Association (ATA) 2025 risk classification. Analyses evaluated demographic, pathological, treatment-related, and oncologic outcomes.

After matching, baseline characteristics were comparable. While most pathological variables were similar, vascular invasion was significantly higher in the high Anti-Tg group (25% vs. 0%, p=0.005). Local recurrence occurred in 5 patients in the high Anti-Tg group versus 1 patient in the low Anti-Tg group, suggesting a 5.7-fold increased risk, though not statistically significant (p=0.20). Distant metastasis occurred only in the high Anti-Tg group during the 4th and 6th years. Despite lacking statistical significance, a trend toward aggressive disease behavior was noted in the high Anti-Tg group.

Despite comparable baseline profiles, elevated postoperative Anti-Tg levels correlated with increased vascular invasion, local recurrence, and distant metastasis, indicating aggressive disease phenotype. While statistical significance was limited by sample size, the six-fold recurrence risk increase suggests postoperative Anti-Tg elevation may serve as a prognostic marker.

P138**DIAGNOSTIC PERFORMANCE OF CT, MRI, AND PET/CT IN ASSESSING MALIGNANCY OF NONFUNCTIONAL ADRENAL MASSES**

Aylin Doylu¹, Irem Karatas², Yalin Iscan¹, Emine Goknur Isik³, Mehmet Sukru Erturk⁴, Sidar Bagbudar⁵, Semen Onder⁵, Ozlem Soyuk Selcukbiricik⁶, Gulsah Yenidunya Yalin⁶, Ismail Cem Sormaz¹, Nihat Aksakal¹, Fatih Tunca¹, Yasemin Giles Senyurek¹

¹Istanbul University, Istanbul Faculty of Medicine, Division of Endocrine Surgery, Istanbul, Turkey, ²Prof. Dr. Cemil Tascioglu City Hospital, Department of General Surgery, Istanbul, Turkey, ³Istanbul University, Istanbul Faculty of Medicine, Department of Nuclear Medicine, Istanbul, Turkey, ⁴Istanbul University, Istanbul Faculty of Medicine, Department of Radiology, Istanbul, Turkey, ⁵Istanbul University, Istanbul Faculty of Medicine, Department of Pathology, Istanbul, Turkey, ⁶Istanbul University, Istanbul Faculty of Medicine, Department of Endocrinology, Istanbul, Turkey

This study aimed to evaluate the predictive factors of malignancy in nonfunctional adrenal masses using preoperative imaging studies.

A retrospective study was conducted on patients who underwent adrenalectomy for nonfunctional adrenal masses between January 2005 and December 2024. Demographic, clinical, surgical, and histopathological data were evaluated. Preoperative CT, MRI, and PET/CT images were independently re-evaluated by radiology and nuclear medicine specialists blinded to the pathology results. Radiological parameters, including tumor size, Hounsfield Unit (HU), enhancement pattern, MRI signal characteristics, and SUVmax values, were compared with the final pathology results to assess their diagnostic performance.

In a cohort of 129 patients with nonfunctional masses, the incidence of malignancy was 20% (n = 26). A tumor diameter of ≥ 44.5 mm was predictive of malignancy, with an AUC of 0.72, and was associated with a 3.5-fold increased risk of malignancy (p:0.001). CT attenuation values exceeding 20 HU demonstrated an AUC of 0.73 and were associated with a fivefold increase in malignancy risk (p:0.001). MRI findings of heterogeneity (100%), irregular borders (48%), and diffusion restriction (92.3%) were significantly correlated with malignancy (p = 0.041, p = 0.030, and p = 0.001, respectively). Furthermore, malignant lesions exhibited substantially higher SUVmax on PET/CT, with values of 13.7 compared to 6.1 (p = 0.003).

Tumor size and CT attenuation are the most significant predictors of malignancy in nonfunctional adrenal masses, while MRI and PET/CT provide valuable supplementary information. The integration of multimodal imaging with clinical assessment may enhance surgical decision-making.

P139**A RANDOMIZED CONTROLLED TRIAL TO COMPARE THE QUALITY OF LIFE BETWEEN AXILLO-BREAST APPROACH AND BILATERAL AXILLO-BREAST APPROACH FOR ENDOSCOPIC THYROIDECTOMY IN PATIENTS WITH BENIGN THYROID SWELLINGS**

Kamal Kataria¹, Anita Dhar¹, T Nelson¹, Uttam Thakur¹, Shahidul Haq Dar¹

¹All India Institute Of Medical Sciences, Delhi, New Delhi, India

The conventional open thyroidectomy, established by Kocher in the 19th century, remains effective but requires a conspicuous neck incision, raising cosmetic concerns especially among younger patients. This study compared the two approaches of endoscopic thyroidectomy i.e. Axillo Breast Approach (ABA) and Bilateral Axillo Breast Approach (BABA) in terms of health-related quality of life.

This study randomly assigned 64 patients aged older than 18 years, Bethesda III or less on cytology and gland volume of < 40 mL to undergo endoscopic hemithyroidectomy via either axillo-breast approach or bilateral axillo-breast approach. The primary outcome was quality of life (QOL) scores on the Short Form-36 (SF-36) and Thyroid-Specific Questionnaire at 2, 6, and 12 weeks post-surgery. Secondary outcomes were postoperative complications, hospital stay, pain scores, conversion to open procedure and ease of doing the procedure.

The SF-36 questionnaire evaluated eight health domains postoperatively. At 2, 6 and 12 weeks, there was no significant differences, though ABA had higher general health (89.01 vs. 75.81, p = 0.07) and vitality (86.63 vs. 78.32, p = 0.09). ABA had significantly less neck & chest numbness (p = 0.0028) and better neck movement (p = 0.004) than BABA in thyroid specific questionnaire at 2 weeks. Early differences were resolved by 6--12 weeks. Pain scores and surgical difficulty were comparable between

ABA and BABA.

Both ABA and BABA endoscopic hemithyroidectomy techniques demonstrated comparable safety, operative time, blood loss, hospital stay, complication rates (hoarseness, hypocalcemia, RLN palsy), pain scores, cosmetic satisfaction & SF-36 scores.

P140

EXPANDING THE LIMITS OF POSTERIOR RETROPERITONEOSCOPIC ADRENALECTOMY: RETROPERITONEAL SPACE AUGMENTATION TECHNIQUES FOR GIANT TUMORS AND EXTREME OBESITY

Aristotelis Kechagias¹, Neoklis Kritikos¹

¹Department Of Endocrine Surgery, Athens Metropolitan General Hospital, Greece

Posterior Retroperitoneoscopic Adrenalectomy (PRA) offers optimal access to the adrenal glands. Yet, limited operative space raises concerns about feasibility in challenging scenarios such as giant tumors, large specimens, primary carcinoma, or extreme obesity. To broaden PRA indications, we introduce "Retroperitoneal Space Augmentation" (RSAT) techniques.

We share technical tips, tricks, visual and video material from selected extreme cases managed with PRA. These include resections of: 1) a 10-cm pheochromocytoma, 2) an ≥ 8 cm adenoma in a superobese patient (BMI ≥ 57), 3) a ≥ 6 cm adrenal primary carcinoma with intact 15x8.5cm specimen, 4) an 8.7 cm rare adrenal malignancy (composite hemangioendothelioma), 5) a 12-cm ganglioneuroma, 6) a 12 cm dopaminoma, 7) ≥ 10 cm right or left adenomas, and 8) a ≥ 9 cm renal carcinoma with simultaneous resection of a 7.5 cm adrenal adenoma (single specimen ≥ 20 cm).

RSAT were categorized as:

- External: contralateral torso bending, skin tapes to reduce subcutaneous depth, liberal trocar positioning.
- Internal: kidney mobilization, medial-first dissection, ambidextrous surgery, steep patient tilting, use of camera shaft as a kidney-retractor.

No major complications occurred. Most patients were discharged within 24 hours (maximum stay 4 days). All resections achieved R0 margins. Post-discharge analgesic requirements were minimal to none.

This technical presentation outlines modifications to the posterior retroperitoneoscopic adrenalectomy (PRA) designed to address extreme scenarios in adrenal surgery, including severe obesity, giant tumors, very large specimens, and large primary cancers. The RSAT expands the operative space, thereby enhancing the feasibility of PRA in these challenging cases.

P141

RENAL FUNCTION DECLINE AND RISK FACTORS AFTER ADRENALECTOMY IN PRIMARY ALDOSTERONISM

Ho Jung Jeong¹, Jin Seok Lee¹, Soo Young Kim¹, Hyeung Kyoo Kim¹

¹Ajou University Hospital, Suwon, South Korea

Postoperative decline in estimated glomerular filtration rate (eGFR) is commonly observed after adrenalectomy in patients with primary aldosteronism (PA). This study aimed to evaluate the changes in kidney function following adrenalectomy and identify predictive risk factors associated with a significant decrease in eGFR.

A retrospective analysis was conducted on 51 patients diagnosed with PA who underwent unilateral adrenalectomy. Patients were categorized based on the postoperative eGFR decline rate (no drop, $<20\%$, $\geq 20\%$). Clinical and biochemical parameters, including age, sex, body mass index (BMI), blood pressure, serum sodium, potassium concentrations, plasma aldosterone concentration (PAC), and plasma renin activity (PRA), were analyzed preoperatively and postoperatively at immediate, 3-month, and 1-year intervals. Logistic regression analyses identified predictors associated with significant postoperative eGFR decline.

Postoperative eGFR significantly decreased after adrenalectomy, with the most notable decline occurring within the first three months post-surgery. A substantial decrease ($\geq 20\%$) was observed in approximately 25% of patients. Multivariate logistic regression analysis identified older age (OR=1.12,

95% CI: 1.02-1.22, $p=0.019$), and lower preoperative serum potassium concentration (OR=0.08, 95% CI: 0.01-0.73, $p=0.025$) as significant predictors of decline in eGFR post-adrenalectomy.

Older age, longer hypertension duration, preoperative hypokalemia, and hypernatremia were identified as independent risk factors for postoperative eGFR reduction after adrenalectomy. These findings highlight the need for careful renal function monitoring and electrolyte management in high-risk patients with primary aldosteronism.

P142

COMPLETION THYROIDECTOMY VIA TRANSORAL VESTIBULAR APPROACH FOLLOWING VARIOUS INITIAL SURGICAL TECHNIQUES: FEASIBILITY AND SAFETY

Junu Kim¹, Nam Kyung Kim¹, Jun sung Lee¹, Hyeok Jun Yun¹, Seok-Mo Kim¹, Yong Sang Lee¹, Hang-Seok Chang¹

¹Gangnam Severance Hospital, SEOUL, South Korea

Completion thyroidectomy after an initial hemithyroidectomy is technically demanding due to adhesions and altered anatomy. Transoral robotic thyroidectomy (TORT) and transoral endoscopic thyroidectomy vestibular approach (TOETVA) have proven to be a safe and effective procedures with favorable surgical and cosmetic outcomes, but their role in completion procedures remains under-reported. In this study, we describe our experience with completion TORT and TOETVA and evaluate their surgical feasibility and efficacy.

A retrospective analysis was conducted on 7 patients who underwent completion thyroidectomy via the transoral approach at Gangnam Severance Hospital between July 2022 and April 2025, including 5 TORT and 2 TOETVA cases.

All 7 patients were female (mean age, 42.2 ± 9.1 years). Initial surgical methods were heterogeneous and included open thyroidectomy ($n=2$), robotic transaxillary thyroidectomy ($n=2$), TOETVA ($n=2$) and TORT ($n=1$). The indications for completion thyroidectomy were metachronous papillary thyroid carcinoma (PTC) in the remnant lobe in 6 patients and newly developed PTC in 1 patient. The mean total operative time was 86.8 ± 62.2 min for TORT and 48.0 ± 2.8 min for TOETVA. There were no conversions. No complications were observed. The median follow-up period was 3.0 months, and no recurrences were detected.

Completion thyroidectomy via transoral approach may be considered a viable option in selected patients who require completion thyroidectomy following various initial approaches.

P143

TRANSORAL THYROIDECTOMY IN A CANCER-ENRICHED COHORT OF 1,000 CONSECUTIVE CASES BY A SINGLE SURGEON: COMPLEMENTARY ROLES OF ENDOSCOPIC AND ROBOTIC TECHNIQUES FOR A TAILORED SURGICAL APPROACH

Namkyung Kim¹, Jun Sung Lee¹, Hyeok Jun Yun¹, Seok-Mo Kim¹, Yong Sang Lee¹, Hang-Seok Chang¹, Jongwon Song¹

¹Gangnam Severance Hospital, SEOUL, South Korea

Transoral vestibular thyroidectomy---endoscopic (TOETVA) and robot-assisted (TORT)---has emerged as a scar-concealing alternative to conventional open surgery. However, direct comparisons in large, cancer-enriched cohorts from high-volume, single-surgeon experiences remain limited.

A total of 1,000 consecutive patients who underwent TOETVA ($n=450$) or TORT ($n=550$) performed by a single endocrine surgeon between September 2016 and March 2024 were retrospectively reviewed. Baseline characteristics, operative metrics, complication rates, length of hospital stay, and oncologic surrogates were compared.

Of 1,000 cases, 98.6% were malignant, predominantly papillary thyroid carcinoma. The TORT group presented with more advanced clinicopathologic features, including larger tumor size, higher prevalence of T1b stage (23.0% vs. 13.7%, $P<0.001$), and N1a lymph node metastasis (35.6% vs. 25.6%, $P<0.001$). Despite the increased surgical complexity, TORT demonstrated significantly shorter total operative time (67.7 ± 23.0 vs. 75.5 ± 28.0 min, $P<0.001$) and a shorter hospital stay (2.2 vs. 2.4 days, $P<0.001$). Overall complication rates were low, with few transient nerve injuries exclusively in

the TOETVA group. Surgical drains were used in only 0.5% of cases.

In this large-scale cancer-enriched cohort, both techniques proved feasible and safe, supporting transoral thyroidectomy as a reproducible, scar-concealing option for both benign thyroid disease and appropriately staged thyroid cancer. Notably, TORT successfully overcame surgical complexity in advanced cases with superior operative efficiency and enhanced nerve preservation. TOETVA remains a safe, cost-effective option for early-stage lesions. These findings suggest that the two platforms are complementary, supporting a tailored surgical approach based on disease extent and resource availability.

P144

LATE TRACHEAL NECROSIS AFTER THYROID SURGERY: MULTICENTER EXPERIENCE AND LITERATURE REVIEW

Polina Knyazeva, Peter Goretzki¹, Kai Dette², PD Dr. Pier Francesco Alesina^{3,4}, Natalie Meurer¹, Anke Meyer¹

¹Helios University Hospital Wuppertal, Wuppertal, Germany, ²Vivantes Klinikum Am Urban, Berlin, Germany, ³Evang. Kliniken Essen-Mitte gGmbH, Berlin, Germany, ⁴Department for Medicine, Witten/Herdecke University, Witten, Germany

Tracheal necrosis is a but potentially life-threatening complication after thyroid surgery, reported in < 50 cases in literature. The mechanisms remain incompletely understood, with risk factors such as excessive cauterization, diabetes mellitus, infection, increased tracheal compression. Most data are limited to case reports, making it difficult to assess their true incidence. This study aims to evaluate incidence, risk factors, and outcome of treatment within multicenter cohort.

Three patients (one male and two females, 33, 42, 46y.o.) from different endocrine surgery clinics were included and analyzed.

Lobectomy was performed in all three cases, with use of bipolar electrocautery. No concerns regarding tracheal lesions were described initially, and no tracheomalacia was observed. Possible risk factors were drug addiction and external neck trauma in one patient each. The interval between the initial surgery and the onset of tracheal perforation symptoms was 4, 9, and 15 days. All patients required surgical intervention and antibiotic therapy. In 2 cases, tracheal suture with covering of the defect was sufficient, whereas in 1 case tracheostomy was performed as initial treatment. The hospital stay was 16, 19, 46 days. There was no mortality, no secondary complications. In patients with tracheostomy, the cannula was removed 14 days after surgery.

Late tracheal necrosis is rare complication, but maybe more common than previously assumed. The underlying mechanism is likely multifactorial. Surgical treatment is required and was successful in this small series of patients. Patients with tracheostomy required longer treatment and had an extended hospital stay.

P145

ENHANCING LEVOTHYROXINE DOSE PRECISION POST-THYROIDECTOMY: EVALUATION OF A REFINED PK/PD MODEL

Lars Hellemo, Michal Kaut, Solveig Konst¹, Vegard Brun

¹UiT Arctic University Of North Norway, Tromsø, Norway

Achieving the appropriate levothyroxine substitution dose after total thyroidectomy remains a challenge despite decades of clinical experience with the drug. The therapeutic targets vary by indication ---ranging from euthyroidism to intentional TSH suppression---while individual variability in pharmacokinetics and -dynamics, long half-life, and a narrow therapeutic window complicate dose prediction. To improve dosage precision, several algorithms have been suggested. A PK/PD-model tested in a RCT and published in 2021 showed promising results [Brun et al. 2021]. The authors have now further developed and evaluated the model to increase precision and reduce the burden on the patients.

Data from 195 patients from the 2021 RCT were reanalyzed and used in model improvement including (i) a patient-specific lag in TSH response, (ii) subgroup hyperparameters (diagnosis, sex, age), and (iii) assessment of performance with reduced number of blood tests in the postoperative period. Prediction accuracy was evaluated retrospectively by comparing model-predicted dosages with the doses associated with each patient's final observed TSH.

Incorporating a lagged TSH response improved mean and median prediction error and reduced variance compared with the original model. Subgroup-specific hyperparameters yielded only marginal improvements. High inter-patient variability limited the usefulness of subgrouping overall. Performance decreased with fewer blood samples, but the lagged model remained consistently superior, even with fewer samples.

Accounting for delayed TSH dynamics improves individual levothyroxine dose prediction. Although reduced sampling decreases precision, acceptable performance is retained. These promising results are currently being evaluated in an ongoing randomized controlled trial.

Brun et al: DOI:10.1089/thy.2021.0125

P146

INITIAL EXPERIENCE OF 64 CASES USING SINGLE-PORT ROBOTIC AREOLAR APPROACH THYROIDECTOMY IN A SINGLE INSTITUTION

Myunghan You¹, Jaewan Jeon², Kichun Lee¹, Suhyun Lee¹, Dohoon Koo¹

¹Department of Surgery/Haundae-Paik Hospital, Haeundae-gu, Haeundae-ro 875, South Korea, ²Department of radiation oncology/Haundae-Paik Hospital, Haeundae-gu, Haeundae-ro 875, South Korea

Single-port robotic areolar thyroidectomy (SPRA), which evolved from previous bilateral axillary breast approach, has recently emerged as a remote-access approach that may enhance the endo-wrist technology and cosmetic outcomes. However, clinical data remain limited. This study evaluated technical safety and postoperative outcomes of SPRA.

We retrospectively reviewed 64 consecutive female patients who underwent SPRA between March and September 2025 at a single institution. Clinicopathologic characteristics, operative parameters, and postoperative complications were analyzed.

Patient age was 43.4 ± 12.9 years, and body mass index was 24.4 ± 4.7 kg/m². Less-than-total thyroidectomy (right 28, left 26, isthmus 3, other 2) was performed in 59 patients (92.2%), and total thyroidectomy in 5 (7.8%). The mean flap time and console time were 32.3 ± 7.7 and 38.9 ± 20.9 minutes, respectively, and the mean postoperative hospital stay was 4.5 ± 1.4 days. No patient required open conversion or reoperation due to bleeding. Final pathology demonstrated thyroid carcinoma in 56 patients (55 papillary, 1 follicular), with a mean tumor size of 0.9 ± 0.8 cm. The mean numbers of retrieved and metastatic lymph nodes were 5.6 ± 4.9 and 0.9 ± 1.8 , respectively. Postoperative complications included vocal cord palsy (n = 6), transient hypoparathyroidism (n = 1), and right breast hematoma (n = 1).

Based on the author's initial experience, SPRA has demonstrated technical safety and clinical feasibility, and is expected to provide a highly integrated and stable platform for future remote access thyroidectomy.

P147

CENTRAL LYMPH NODE INVOLVEMENT IN BETHESDA V, CNO PATIENTS

Tarek Koraitim¹, Mohammed A. Ellboudy, Moustafa Farag, Ahmed Saleh, Ahmed Ahmed Elsherif, Ahmed Medhat, Ayman nabawi, Ahmad Eweida

¹Faculty Of Medicine, Alexandria University, Egypt

Central lymph node metastasis (CLNM) in papillary thyroid cancer (PTC) is an important prognostic factor for locoregional recurrence. There is a limited number of prospective studies regarding CLNM in Bethesda V patients. We prospectively investigated the incidence and possible predictive indicators of CLNM in Bethesda V patients with clinically and radiologically node-negative neck (cN0).

This prospective study included 50 patients with Bethesda V nodules and cN0. Following approval of the ethical committee, Faculty of Medicine, University of Alexandria (No. 0108934/2025) and signing all necessary informed consents, 43 Patients met the inclusion criteria and received total thyroidectomy and ipsilateral central neck dissection (CND). Histopathological examination of the thyroid gland and retrieved central lymph nodes was performed and analyzed in relation to the patients' various demographic, clinical, laboratory, imaging and intraoperative data.

Positive CLNM was detected in 19 patients (44.2%). All male patients in the study (n=5) had positive CLNM. Univariate analysis showed that CLNM was significantly related to the presence of preoperative compression manifestations (p=0.003), presence of a neck swelling (p=0.032), TIRADS grade 5

($p=0.013$), intraoperative lymph node enlargement ($p=0.003$), and the number of retrieved lymph nodes ($p=0.035$). Multivariate analysis showed that compression manifestations ($OR=6.2$) and intraoperative LN enlargement ($OR=11.2$) independently predicted CLNM.

The incidence of occult ipsilateral CLNM in Bethesda V, cN0 patients is independently related to the presence of preoperative compression manifestations and to the intraoperative gross LN enlargement. Ipsilateral CLNM should be considered in such cases after assessment of the patient's individual risk-benefit profile.

P148

SURGICAL MANAGEMENT OF CT1 NODE-NEGATIVE DIFFERENTIATED THYROID CANCER: EVALUATING THE ADEQUACY OF HEMITHYROIDECTOMY

Ebubekir Korucuk¹, Yigit Turk¹, Murat Ozdemir¹, Recep Gokhan Icoz¹

¹Ege University Hospital; Department of General Surgery, Izmir, Turkey

Current ATA guidelines recommend hemithyroidectomy (HT) for low-risk differentiated thyroid cancer (DTC); however, total thyroidectomy (TT) is still commonly performed. This study aimed to assess the adequacy of HT in patients with cT1N0 TC.

Patients who underwent thyroidectomy with TC between 2015 and 2025 were retrospectively analyzed. Inclusion criteria for HT eligibility included: a single-lobe nodule ≤ 20 mm, Bethesda V/VI cytology, absence of malignant or suspicious nodules in the contralateral lobe, and final pathology confirming DTC. Patients who underwent TT were divided into two groups: eligible for HT and not. Comparative analyses were performed between eligible and non-eligible, and between eligible and those who actually underwent HT.

Of 156 patients, 115(73.7%) were female, and the mean age was 44.6 ± 13.1 years. TT was performed in 134(85.9%), and 22(14.1%) underwent HT. Among the TT group, 67 patients(50%) were eligible for HT, suggesting potential overtreatment. In patients who had TT due to contralateral nodules, 63.9% had benign pathology in the contralateral lobe. Transient hypocalcemia occurred in 22 patients (14.1%), with no cases of permanent hypocalcemia. Transient hypocalcemia was seen in 36.4% of cases with contralateral intrathyroidal parathyroid tissue in the TT group. Recurrent laryngeal nerve injury was observed in 8 patients (5.1%). Operation time was longer for TT than for HT. ($p < 0.001$).

In selected cT1N0 DTC patients, hemithyroidectomy is sufficient and linked to shorter surgical times and fewer complications. Accurate preoperative assessment can help avoid unnecessary total thyroidectomies.

Keywords: Differentiated thyroid cancer; Total Thyroidectomy; Hemithyroidectomy; ATA Guidelines

P149

THE INCIDENCE OF PARATHYROID CANCER IN PATIENTS WITH SECONDARY HYPERPARATHYROIDISM: A SYSTEMATIC REVIEW OF CASE REPORTS.

Ismini Kountouri¹, Christina Sevva², Panagiota Roulia², Konstantinos Papadopoulos², Vasilis Stergios², Stylianos Mantalovas², Amyntas Giotas¹, Christos Gkogkos¹, Miltiadis Chandolias¹, Periklis Dimasis¹, Nikolaos Gkiatas¹, Dimitra Manolaki¹

¹Surgical Department, General Hospital of Katerini, Greece, ²3rd Surgical Department, AHEPA, Thessaloniki, Greece

The aim of this systematic review is to examine all reported cases of patients with secondary hyperparathyroidism who underwent parathyroidectomy and to determine the incidence of parathyroid carcinoma within this population.

A systematic review was conducted to identify all published clinical cases of secondary hyperparathyroidism with documented histopathological outcomes following parathyroidectomy. Searches were performed in PubMed, Scopus, Web of Science, and Google Scholar using combinations of the terms "secondary hyperparathyroidism", "parathyroidectomy", "case report", and "case series." Studies were included if they reported individual patient data, confirmed postoperative histopathology, and involved secondary---rather than primary or tertiary---hyperparathyroidism. Data extracted from each case included demographic features, biochemical parameters, operative findings, and histopathological diagnoses. Analysis was conducted using JASP and Microsoft Excel. Categorical variables were summarized as frequencies and percentages, while continuous variables were presented as means with standard deviations or medians with ranges, depending on the data provided.

A total of 150 published cases met inclusion criteria. Of these, 51 cases (34%) were histopathologically confirmed as parathyroid carcinoma, while 99 cases (66%) demonstrated benign hyperplasia or atypical adenomas. Malignant glands tended to be larger, and in several reports demonstrated local adherence or invasion. Extended surgical excision was more frequently required in carcinoma cases, whereas subtotal or total parathyroidectomy predominated in benign disease. These findings suggest that parathyroid carcinoma, although traditionally considered rare, may occur more frequently in secondary hyperparathyroidism than previously recognized.

Heightened clinical awareness and careful histopathological evaluation are essential for accurate diagnosis and optimal management.

P150

COMPLIANCE FOR THYROXINE REPLACEMENT AFTER TOTAL THYROIDECTOMY

Prachi Krishnatrey¹, Anjali Mishra¹, Abhishek Krishna¹, Sabaretnam Mayilvaganan¹, Gyan Chand¹, Gaurav Agarwal¹

¹Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Life-long thyroxine replacement therapy is needed after total thyroidectomy (TT). Compliance remains a major issue for any long-term therapy. Aim of this study was to know the incidence of non-compliance for thyroxine therapy in patients who had undergone TT for benign thyroid disorders (BTD), and to investigate the reasons for non-compliance.

This is a prospective cohort study (2021- 2024) included adult patients (> 18 years) who were attending Endocrine surgery OPD after undergoing TT for BTD. Patients who had completed at least 6 months of follow up were included. All consenting patients, were asked to fill pre-designed questionnaire and their clinical and follow-up findings were recorded.

One-hundred seventy-five patients were included. The mean age of cohort was 42.6 + 13.4 years and 78.9% were females. Incidence of non-compliance was 10.9%. 89.1% were compliant as confirmed by their serum thyrotropin (TSH) reports. Among non-compliant, the reason was skipping due to religious fasting, lack of understanding in 10.5 and 21% patients respectively. Education status of the patient was found to be significantly associated with non-compliance (p=0.037), however other demographic factors such as age (p=0.093), gender (p=0.245), place of residence (p=0.41) were not significant. Overall, 17% patients considered thyroxine therapy a burden majority due to timing of intake (early morning) followed by need of regular follow-up. Re-enforced counselling could improve compliance was indicated by 59%, while 9% hinted at financial assistance.

Re-enforced counselling can could improve compliance for thyroxine replacement in patients undergoing TT.

P151

ADRENAL METASTASIS OF PLEOMORPHIC SARCOMA: A RARE CASE REPORT

Büsra Küçükates¹, Yiğit Türk¹, Murat Özdemir¹, Özer Makay^{2,3}

¹Division of Endocrine Surgery, Department of General Surgery, Ege University Hospital, Izmir, Turkey, ²Özel Sağlık Hospital, Centre for Endocrine Surgery, Izmir, Turkey, ³Aristotle University, School of Medicine, Thessaloniki, Greece

Pleomorphic sarcoma is one of the most common soft-tissue sarcoma subtypes, accounting for 10--15% of malignant soft-tissue tumors. The lungs, liver, and bones are the most frequent metastatic sites, while adrenal gland metastasis is extremely rare and reported only in a few case reports. Surgical resection of isolated adrenal metastases may offer a survival benefit in selected patients.

A 49-year-old male underwent surgery in 2018 for a posteriorly located left thigh mass, diagnosed as high-grade pleomorphic sarcoma. After adjuvant radiotherapy, a metastatic nodule in the left lower lung lobe was resected in 2020. During follow-up, metastases developed in the right paraspinal region and left deltoid muscle; the patient received 20 cycles of chemotherapy and achieved a complete response. Local recurrence occurred in 2022 and was surgically removed. In the second quarter of 2025, a progressive solid lesion measuring 8 × 6.5 cm was found in the right adrenal gland with high FDG uptake (SUVmax: 9.7) on PET-CT. The patient underwent right adrenalectomy. During surgery, the mass was adherent to the retrohepatic vena cava; an iatrogenic injury occurred and was repaired primarily. Pathology confirmed metastatic pleomorphic sarcoma. Postoperative follow-up for 6 months after adrenalectomy has been uneventful.

Adrenal metastasis of pleomorphic sarcoma is extremely rare. Surgical resection of isolated adrenal lesions can provide effective local control and disease-free survival. Even in cases with invasion of major vascular structures, adrenalectomy can be safely performed in experienced centers

P152

MALIGNANCY RISK PREDICTION IN THYROID FINE-NEEDLE ASPIRATION BIOPSY REPORTED AS ATYPIA OF UNDETERMINED SIGNIFICANCE: DIAGNOSTIC PERFORMANCE OF ULTRASONOGRAPHY AND DETERMINATION OF RISK FACTORS

Omer Faruk Kuyumcu¹, Orhan Asya¹

¹Marmara University, Istanbul, Turkey

Thyroid cancers often present as nodules, with fine-needle aspiration biopsy (FNAB) and ultrasonography being the primary diagnostic tools. Due to variability in clinical approaches and the lack of a clear guideline, the role of ultrasonography has gained prominence in cases where FNAB yields indeterminate cytology results. This prospective study aimed to assess the utility of the ACR TIRADS (American College of Radiology Thyroid Imaging Reporting and Data System) ultrasonographic classification system and cytopathological subtypes in predicting malignancy in atypia of undetermined significance (AUS) cases.

The study included 52 patients with 55 nodules diagnosed as AUS over a two-year period. All cases underwent preoperative ultrasonographic evaluation using the TIRADS system and had available postoperative histopathological results.

The TIRADS system did not significantly contribute to malignancy prediction in the overall AUS cohort or in subgroups with nuclear atypia and other atypia. However, the numerical value from echogenic foci, the presence of microcalcifications, and peripheral calcifications were found to be significantly associated with malignancy (p-values: 0.047, 0.049, and 0.025, respectively). The overall malignancy rate was 20%, with follicular and papillary thyroid carcinoma constituted 36% of the malignant cases. The malignancy rates for TR3, TR4, and TR5 nodules were 23%, 11%, and 44% respectively.

TIRADS system did not demonstrate a significant contribution to malignancy prediction in AUS cases. However, further studies with larger patient cohorts are needed to reach more definitive conclusions.

P153

RISK FACTORS FOR HYPERCALCEMIA INDUCED BY ACTIVE VITAMIN D DERIVATIVES DURING SUPPLEMENTATION FOR POST-TOTAL THYROIDECTOMY HYPOPARATHYROIDISM

Miroslava Kuzmova¹, Camille Marciniak¹, Mathilde Gobert¹, Michael Chetboun¹, Gregory Baud¹, Robert Caiazzo¹, Francois Pattou¹

¹CHU Lille, France

Hypoparathyroidism with hypocalcemia is a frequent complication of total thyroidectomy, occurring in 20--30% of cases, managed by supplementation, sometimes requiring active vitamin D, which can induce iatrogenic hypercalcemia. Predictive factors for this complication remain poorly defined.

We retrospectively analyzed 198 patients who underwent total thyroidectomy at CHU Lille between 2018 and 2025 and developed postoperative hypoparathyroidism with hypocalcemia requiring supplementation (calcium, magnesium, active vitamin D). Patients were divided into those who developed iatrogenic hypercalcemia (28 patients) and those with an uncomplicated course under supplementation (170 patients). Clinical, biological, and therapeutic parameters were compared.

Iatrogenic hypercalcemia occurred in 14% (28/198), always within the first postoperative month; 25% of these required hospitalization. The two groups were comparable for age, sex, BMI, surgical indications, type of procedure, preoperative serum calcium, 25-OH vitamin D, and TSH. Patients with hypercalcemia had significantly lower early postoperative PTH (POD1 and POD2, $p < 0.05$) and receive active vitamin D earlier (1.14 ± 0.65 vs 1.60 ± 0.95 days, $p = 0.002$). Neither the overall trends in serum calcium, phosphate, other preoperative measures nor the predictive score for postoperative hypocalcemia were not predictive of iatrogenic hypercalcemia.

Iatrogenic hypercalcemia complicates approximately one in seven cases of postoperative hypoparathyroidism. It is favored by low early postoperative PTH and by early initiation of active

vitamin D. These results emphasize the importance of cautious dose adjustment of supplementation and close monitoring of the calcium--phosphate profile during the first postoperative weeks.

P154

EXPERIENCE WITH ORGAN-PRESERVING SURGICAL TREATMENT OF PAPILLARY THYROID CARCINOMA IN CHILDREN.

Oleksandr Tovkai¹, Volodymyr Palamarchuk¹, Dmytro Kvitka¹, Tetyana Yuzvenko¹, Oleksandr Nechay¹, Yulia Lostik¹, Andrii Tovkai²

¹State Non-Commercial Enterprise "Ukrainian Scientific and Practice Center of Endocrine Surgery, Transplantation of Endocrine Organs and Tissues under MoH of Ukraine", Kyiv, Ukraine, ²Bogomolets National Medical University, Kyiv, Ukraine

Papillary thyroid carcinoma (PTC) makes up 2--6% of pediatric cancers, with rising detection rates due to better diagnostics. Though combination therapy is generally effective, it causes complications and disability in 0.3--6% of cases. Guidelines recommend organ-preserving surgery for low-risk adults, but optimal surgical approaches for children are still under debate.

To evaluate the effectiveness of preventive neck dissection and the conditions for performing organ-preserving surgery in children with low-risk PTC.

A retrospective analysis was performed of 79 children aged 4--18 years who underwent surgery in 2020--2025. Sixty-six patients underwent total thyroidectomy (TT), and 13 underwent hemithyroidectomy (HT) according to clear criteria: T1-2N0Mx, no metastases. All patients underwent neck lymph node dissection (NLND) with intraoperative express histology. Recurrence-free survival, hypocalcemia, laryngeal paresis, and the need for hormone replacement therapy (HRT) were evaluated.

Recurrences in 2 patients (3%) after TT with category pT1-4N1a-bMx. No recurrences were recorded in the pT1-2N0Mx groups after TT and HT. Recurrence-free survival was 96.97% after TE and 100% after organ-preserving interventions. Hypocalcemia after TT --- 28.8%, after HT --- 7.7%. Laryngeal paresis was observed in 16.7% after TT, after HT --- not recorded. 70.7% of children after HT did not require HRT. As a result of NLND, metastasis detection was 26.5%.

Organ-preserving surgery in children with low-risk PTC is safe and effective, reducing the frequency of complications and the need for adjuvant chemotherapy. Such operations are possible under conditions of maximum pre- and intraoperative diagnosis of metastasis. NLND increases the diagnosis rate by 26.5%.

P155

CLINICAL AND BIOCHEMICAL PREDICTORS OF PARATHYROID MALIGNANT LESIONS: INSIGHTS FROM A RETROSPECTIVE COHORT STUDY

Magdalena Kwapisz¹, Piotr Góralski¹, Jacek Gałczyński¹, Elwira Bakuła - Zalewska², Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

Parathyroid carcinoma is a very rare malignancy, accounting for fewer than 1% of primary hyperparathyroidism cases. Its clinical picture is dominated by excessive parathyroid hormone (PTH) secretion and severe hypercalcemia, often preceding clear local invasiveness. Because intraoperative distinction between carcinoma and benign adenoma is difficult, reliable preoperative markers are needed. Radical surgical resection during the initial operation remains the key therapeutic strategy.

To identify clinical, biochemical, and morphological parameters that may support early recognition of patients at increased risk of parathyroid carcinoma.

A retrospective analysis was conducted on 344 patients treated surgically for primary hyperparathyroidism at the National Institute of Oncology between 2017 and 2024. Clinical features, serum calcium and PTH levels, and tumor volume were assessed to distinguish malignant from benign parathyroid disease.

Among 344 patients (288 women, 56 men; mean age 56.15 years), parathyroid carcinoma was confirmed in 2.3% (n=8). Affected patients were slightly younger (mean 50.75 years), though without statistical significance. Median calcium levels were higher in the carcinoma group (2.96 mmol/L vs. 2.85 mmol/L; p=0.23). Tumor volume and PTH concentrations were markedly elevated in carcinoma cases (10.8 mL vs. 1.06 mL, p<0.001; and 1290.6 pg/mL vs. 224.4 pg/mL, p<0.025). Malignant lesions also

showed a distinctly lower PTH-to-tumor-volume ratio.

Parathyroid carcinoma is characterized by significantly larger tumors, higher PTH levels, and more severe hypercalcemia. Tumor volume and PTH concentration appear to be strong indicators of malignancy, and the reduced PTH-to-volume ratio may further enhance diagnostic accuracy, supporting earlier identification and optimal surgical management.

P156

RISK OF PARATHYROID CARCINOMA IN PATIENTS WITH MARKED HYPERPARATHYROIDISM

Magdalena Kwapisz¹, Piotr Góralski¹, Jacek Gałczyński¹, Elwira Bakuła - Zalewska², Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

Parathyroid carcinoma is a rare endocrine malignancy with an indolent clinical course and is often diagnosed only postoperatively. Mortality results mainly from refractory hypercalcemia and complications of repeated surgical interventions rather than tumor burden itself. Complete en-bloc resection during initial surgery offers the best chance for cure. High PTH concentrations (>500 pg/mL), severe hypercalcemia (>3.5 mmol/L), and large tumor size may indicate malignancy. This study assessed the risk of parathyroid carcinoma in patients with preoperative PTH >500 pg/mL, with a focus on the relationship between tumor volume and malignancy.

A retrospective analysis included 344 patients operated on for primary hyperparathyroidism between 2017 and 2024. Twenty-nine patients had PTH >500 pg/mL at surgical qualification. They were divided into two groups: postoperative parathyroid carcinoma (group 1; n=4) and benign pathology (group 2; n=25; atypical adenoma n=6, adenoma n=19). Groups were compared for PTH, calcium, and tumor volume. Logistic regression was performed with tumor volume as the predictor.

Mean PTH was significantly higher in carcinoma cases (2382.75 pg/mL) than in benign lesions (972.24 pg/mL) (U=8, p=0.004). Tumors in group 1 were significantly larger, with mean volume 15.7 mL compared with 5.87 mL. Logistic regression demonstrated that each 1-mL increase in tumor volume increased the probability of carcinoma by 26% (OR=1.26; p=0.033). Serum calcium did not differ significantly between groups.

In primary hyperparathyroidism with markedly elevated PTH (>500 pg/mL), the risk of parathyroid carcinoma is increased. Tumor volume is a significant independent predictor of malignancy and may support preoperative risk stratification.

P157

BRAF STATUS AS A THERAPEUTIC DIVIDER IN ANAPLASTIC THYROID CANCER: IMPACT ON SURVIVAL AND TREATMENT PATHWAYS

Magdalena Kwapisz¹, Joanna Januszkiewicz - Caulier¹, Joanna Długosińska¹, Piotr Góralski¹, Jacek Gałczyński¹, Elwira Bakuła - Zalewska², Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Department of Endocrine Oncology and Nuclear Medicine, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

Therapeutic options for anaplastic thyroid cancer (ATC) heavily depend on molecular status. The presence of a BRAF-V600E-mutation (reported in 20--45% of cases in contemporary literature) has become a defining clinical determinant, influencing treatment selection and overall prognosis. Targeted therapy markedly improves outcomes in BRAF-mutated ATC; however, most patients remain BRAF-negative, substantially limiting systemic treatment options.

To assess survival outcomes and the clinical consequences associated with BRAF-status in a single-centre ATC cohort.

A retrospective single-centre analysis included 65 patients diagnosed with ATC between 2019 and 2025. Mutational profiling was performed using ctDNA real-timePCR.

Among evaluable cases, only 11% were BRAF-positive. In several patients, BRAF-status remained undetermined due to rapid clinical deterioration or insufficient diagnostic material. Patients with BRAF-positive tumors were eligible for targeted therapy with dabrafenib and trametinib, achieving the longest overall survival of over 8 months. Conversely, patients with BRAF-negative ATC lacked effective

systemic treatment options. In this group, surgery---performed in 17 patients, most often non-radical---was the only intervention associated with measurable survival extension, with overall survival reaching 5.4 months compared with 2.3 months in patients disqualified from surgery. Additional alterations, including HRAS, KRAS, NRAS and TP53 mutations, were identified in eight patients but lacked established therapeutic relevance.

The predominance of BRAF-negative ATC underscores the critical importance of early surgical assessment and accelerated treatment pathways. While targeted therapy benefits a minority of patients, most rely on timely surgical management. These findings highlight the urgent need for novel molecular targets and effective systemic therapies for this population.

P158

PROGNOSTIC SIGNIFICANCE OF KI 67 IN ANAPLASTIC THYROID CARCINOMA: INSIGHTS FROM A SINGLE-CENTER COHORT

Magdalena Kwapisz¹, Joanna Januszkiewicz - Caulier¹, Joanna Długosińska¹, Piotr Góralski¹, Jacek Gałczyński¹, Elwira Bakuła - Zalewska², Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

Ki-67, a marker of cellular proliferation, has been proposed as a potential prognostic factor in various cancers, including thyroid carcinoma, but its predictive value in anaplastic thyroid cancer (ATC) remains unclear due to uniformly high proliferation rates.

To determine whether Ki-67 predicts survival independently of established clinical and pathological factors in ATC.

We retrospectively analyzed 65 patients diagnosed with ATC between 2019-2025. Ki-67 expression was assessed by immunohistochemistry in 44 patients, and the percentage of positive tumor cells was recorded. Overall survival (OS) was calculated from diagnosis to death or last follow-up. The association between Ki-67 and OS was evaluated.

Median Ki-67 index was 75% (range: 35--95%). Patients were stratified into high vs low Ki-67 groups based on median cutoff (75%). Preliminary analysis suggested that higher Ki-67 values may be correlated with shorter OS in univariate analysis; however, significance was lost in multivariate modelling. Survival curves for low- versus high-proliferation groups showed substantial overlap. Ki-67 served reliably as a diagnostic marker of high-grade carcinoma but did not stratify patients prognostically.

Ki-67 does not demonstrate independent prognostic value in ATC and should not be used for survival prediction. Its primary role remains diagnostic confirmation of high-grade malignancy and it is correlated with the aggressive biological behavior of ATC. Future prognostic models may require integration of molecular markers beyond proliferation indices.

P159

NON-RADICAL SURGERY IN ANAPLASTIC THYROID CARCINOMA -- STILL WORTH DOING? CLINICAL VALUE IN SINGLE CENTER EXPERIENCE (2019-2025)

Magdalena Kwapisz¹, Joanna Januszkiewicz - Caulier¹, Joanna Długosińska¹, Piotr Góralski¹, Jacek Gałczyński¹, Elwira Bakuła - Zalewska², Marek Dedecjus¹

¹Maria Skłodowska-curie National Research Institute Of Oncology, Warsaw, Poland, ²Maria Skłodowska-curie National Research Institute Of Oncology, Department of Cancer Pathomorphology, Warsaw, Poland

In BRAF-negative anaplastic thyroid carcinoma (ATC), surgery is often the only intervention that may prolong survival. However, rapid local progression results in most patients presenting with unresectable disease. The role of non-radical(R1/R2) surgery is debated, yet it may provide survival or symptomatic benefit when radical resection is not feasible.

To analyse clinical course, treatment strategies, and outcomes of ATC patients, with focus on surgical management.

A retrospective single-centre study included 63 patients diagnosed with ATC between 2019 and 2025. Clinical characteristics, mutational status, treatment pathways, and survival outcomes were assessed.

Among 63 patients (36 women; mean age 70.7years), most presented with advanced disease: stage IVB(37.1%) or IVC(62.8%). The mean time from first evaluation to histopathological confirmation was 11 days. Surgical intervention was feasible in 17 patients, including total thyroidectomy (n=9) and cytoreductive procedures (n=8). BRAF mutation was detected in 11% of cases; thus, 89% were BRAF-negative. In BRAF-positive tumors treated with dabrafenib/trametinib, mean overall survival(OS) reached 8 months. In BRAF-negative subgroup, surgery---predominantly non-radical---was the only factor associated with improved survival. Median OS reached 5.4 months in surgically treated patients versus 2.3 months in those receiving only palliative care. Non-radical procedures provided clinically meaningful benefits, such as airway protection, relief of compressive symptoms, and enabling timely adjuvant therapy.

In BRAF-negative ATC, surgery remains the only modality that offers a measurable survival advantage when performed urgently. Because operability may be lost within days, immediate surgical qualification are essential. Timely non-radical surgery should be considered a valuable component of multidisciplinary ATC management.

P160

PRECISION TRADITIONAL THYROID SURGERY: POSSIBILITIES, REQUIREMENTS, AND PROSPECTS

David J. Dolidze^{1,2}, Suren G. Laboyan¹

¹Botkin Hospital, Moscow Health Department, Moscow, Russian Federation, ²Russian Medical Academy of Continuing Professional Education, Ministry of Health of the Russian Federation, Russian Federation

Achieving an optimal balance between surgical radicality, safety, and cosmetic outcome is crucial in modern thyroid surgery.

This study analyzed the outcomes of 513 patients (405 women [78.95%] and 108 men [21.05%]; female-to-male ratio 4:1) treated for various thyroid pathologies.

All procedures were carried out using extrafascial, low-traumatic, precision-modified techniques through minimized, displaceable cervical incisions under endotracheal anesthesia. Latex-gauze protection was applied to prevent skin edge injury. The mean incision length was 4.8 ± 0.4 cm.

Key intraoperative technologies included: Precision anatomical dissection for complex cervical structures, Virtual D-triangle technique for identifying recurrent and non-recurrent laryngeal nerves (Dolidze Triangle, patent No. 2840374, 25 Sept 2024), Intraoperative stress testing and fluorescence mapping for parathyroid gland identification, use of magnifying loupes and microsurgical instruments throughout all surgical stages.

Wound closure was performed in strict anatomical layers using double-row microsurgical skin suturing with meticulous edge alignment (USP 7/0).

The intended surgical scope was achieved in all cases. Postoperative complications were minimal and transient, including hematoma formation in one patient (0.19%) and temporary hypoparathyroidism in three patients (0.58%). No permanent complications were observed.

The enhanced precision-based traditional thyroidectomy technique enables surgeons to achieve the required operative volume while ensuring maximum safety, functional preservation, and superior cosmetic outcomes.

P161

COMPARISON OF ROBOTIC AND LAPAROSCOPIC POSTERIOR RETROPERITONEOSCOPIC ADRENALECTOMY: A PROPENSITY SCORE MATCHING ANALYSIS

Priscilla Francesca Procopio¹, Francesco Pennestrì^{1,2}, Antonio Laurino¹, Pierpaolo Gallucci¹, Francesca Prioli¹, Annamaria Martullo¹, Carmela De Crea^{2,3}, Marco Raffaelli^{1,2}

¹Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, ²Università Cattolica del Sacro Cuore, Rome, Italy, ³Ospedale Isola Tiberina - Gemelli Isola, Rome, Italy

Background. Although robotic (R) platforms are increasingly used for adrenal surgery, their application to posterior retroperitoneoscopic adrenalectomy (PRA) is rarely reported and comparative studies with the conventional laparoscopic (L) PRA are lacking. We compared the results of R-PRAs and L-PRAs using the propensity score matching (PSM) analysis.

Method. Among all adrenalectomies performed in adult patients between January 2012 and October 2025, all PRAs were retrospectively reviewed. Bilateral, partial and completion procedures were excluded. R-PRA was adopted since July 2025. Patients were divided into two groups (R-PRAs and L-PRAs) and matched (1:4) for preoperative features with PSM analysis. Three-ports-technique was used for both approaches.

Results. Out of 777 minimally-invasive adrenalectomies, 158 PRAs were included: 10 R-PRAs and 148 L-PRAs. PSM analysis identified 50 well-matched patients: 10 R-PRAs and 40 L-PRAs. Median total operative time (OT) was comparable ($p=0.083$), with differences furtherly reduced considering R-procedure time (total OT -- docking time for R-PRA) ($p=0.436$) and median console time (27 minutes). Required CO₂ insufflation pressure was 10-20 mmHg in R-PRAs Vs 20-25 mmHg in L-PRAs. Postoperative complications were comparable: 1 (grade-II) and 3 (grade-II) in R-PRA and L-PRA groups, respectively ($p=0.794$). Median hospital stay (HS) was shorter in R-PRA group: 2Vs3 days ($p=0.028$).

Conclusion. These results support the safety and feasibility of R-RPA. Median console time was 27 minutes since the beginning of the robotic experience in our Institution, indicating potential advantages of R-PRA in terms of dissection easiness and learning curve. Shorter HS in R-PRA may be related to reduced CO₂ pressure.

P162

USE OF NUTRITIONAL SUPPLEMENTS AND HERBAL MEDICINE AMONG PATIENTS WITH THYROID DISORDERS - INTERIM ANALYSIS OF A NATIONWIDE ANONYMOUS ONLINE SURVEY IN GERMANY

Ann-Kathrin Lederer^{1,2}, Michelle Michel², Oana Lozan², Roman Huber³, Hauke Lang², Thomas J. Musholt²

¹Department of General and Visceral Surgery, Ulm University Hospital, Ulm, Germany, ²Section of Endocrine Surgery, Department of General, Visceral and Transplantation Surgery, University Medical Center Mainz, Johannes Gutenberg-University Mainz, Mainz, Germany, ³Center for Complementary Medicine, Department of Internal Medicine II, Medical Center - University of Freiburg, Faculty of Medicine, University of Freiburg, Freiburg, Freiburg, Germany

Nutritional supplements and herbal medicine are widely used in Germany, despite the lack of scientific evidence supporting their efficacy. It is likely that patients with thyroid disorders also use these products. Therefore, the aim of this study was to assess the prevalence and types of nutritional supplements and herbal medicine used by individuals with thyroid disorders.

Data collection began in October 2024 using a standardized German online questionnaire. Participants are recruited via social media posts, flyers, and email invitations sent to endocrinologists, hospitals, general practitioners, and other professional groups.

Currently, 189 patients have participated in the survey, of whom 167 (88%) were female and 22 (12%) male. The mean age was 44.7 years (range: 18-71 years). Overall, 80% of participants reported using nutritional supplements or herbal medicines at the time of the survey, with 58% using them specifically for their thyroid disorder. Nearly half of the respondents (49%) expressed a general interest in nutritional supplements and herbal medicine, while 66% desired professional counseling on this topic, primarily from specialists (41%) or general practitioners (30%).

The preliminary findings indicate that patients with thyroid disorders regularly use both nutritional supplements and herbal medicine. There is a clearly expressed desire for professional counseling, particularly from medical specialists. The use of such products should be proactively addressed during clinical consultations, especially in case of surgery, in order to identify risks and potential interactions and to ensure safe application.

P163

IMPACT OF CO-EXISTING GRAVES' DISEASE ON THE EXTENT OF SURGERY FOR PAPILLARY THYROID CANCER

Jun Sung Lee¹, Yong Sang Lee¹

¹Gangnam Severance Hospital, Seoul, South Korea

Papillary thyroid cancer (PTC) is commonly diagnosed during regular checkups of patients with Graves' disease. In this study, we assessed whether the extent of surgery for PTC differs between patients with and without Graves' disease.

Patients who underwent thyroidectomy at Gangnam Severance Hospital for PTC discovered during follow-up for Graves' disease were enrolled. The extent of thyroidectomy was compared between patients with PTC and Graves's disease and those with PTC alone after 1:5 propensity score matching for extrathyroidal extension, tumor size, sex, age, and the number of harvested central lymph nodes, as this can affect the extent of surgery.

In total, 36,188 patients underwent thyroidectomy for thyroid cancer between January 1, 2003, and December 31, 2023. Ninety-two patients underwent thyroidectomy for PTC diagnosed during Graves' disease follow-up. Total thyroidectomy was conducted significantly more frequently in comparison to less than total thyroidectomy in patients with PTC and Graves's disease than it was in those with PTC alone ($P < 0.001$).

The surgical extent tends to be larger in patients with Graves' disease undergoing thyroidectomy for PTC than it is in patients without Graves' disease. Therefore, accurate preoperative thyroid function evaluation is considered important.

P164

CLINICAL OUTCOMES OF BILATERAL TOTAL THYROIDECTOMY WITH AND WITHOUT POSTOPERATIVE RADIOACTIVE IODINE THERAPY

Jun Sung Lee¹, Yong Sang Lee¹

¹*Gangnam Severance Hospital, Seoul, South Korea*

Radioactive iodine (RAI) therapy is often considered as an adjuvant treatment following bilateral total thyroidectomy (BTT) in patients with differentiated thyroid cancer. However, the benefit of RAI in low- to intermediate-risk patients remains controversial. This study aimed to evaluate the prognostic significance of postoperative RAI therapy in patients who underwent BTT at Gangnam Severance Hospit.

A retrospective analysis was conducted on 9,997 patients who underwent bilateral total thyroidectomy at Gangnam Severance Hospital. Among them, 8,723 patients received postoperative RAI therapy, while 1,274 did not. Clinical and pathological variables including sex, age, tumor size, lymph node dissection status, multifocality, margin involvement, capsule invasion, thyroiditis, and recurrence rates were compared between the two groups.

Patients in the RAI (+) group were generally younger (mean age 45.81 vs. 49.47 years, $p < 0.01$) and had larger tumors (1.10 cm vs. 0.83 cm, $p < 0.01$). The RAI (+) group also had a higher rate of multifocality, margin involvement, and capsule invasion ($p < 0.01$ for all). Despite these more aggressive features, recurrence rates were not significantly different between the groups (1.2% in RAI (-) vs. 2.6% in RAI (+), $p < 0.01$), suggesting no significant prognostic benefit of RAI therapy in this cohort.

In patients who underwent bilateral total thyroidectomy at Gangnam Severance Hospital, the use of postoperative RAI therapy did not confer a significant advantage in recurrence prevention when compared to those who did not receive RAI. These findings support the reconsideration of routine RAI therapy in selected low- to intermediate-risk patients.

P165

PATIENT PREFERENCE FOR TRANS-AXILLARY VS. TRANS-ORAL ROBOTIC THYROIDECTOMY: WHAT DRIVES THE CHOICE?

Jinseok Lee¹, Hojung Jeong¹, Soo Young Kim¹, Hyeung Kyoo Kim¹

¹*Ajou University School of Medicine, Suwon -si, Republic of Korea*

Robot-assisted thyroidectomy is increasingly used for early-stage differentiated thyroid cancer. Two main approaches are trans-axillary robotic thyroidectomy (TART) and trans-oral robotic thyroidectomy (TORT), the latter offering cosmetic advantages. This preliminary study explored factors influencing patient choice when both options were presented by the same surgeon.

During a four-week pilot, 23 patients scheduled for robotic thyroidectomy completed anonymous questionnaires. Data collected included demographics, prior awareness of robotic surgery, and ratings of six decision-making factors: wound location, daily inconvenience, discomfort from unfamiliar wound sites, recommendations, hospital advertising, and concerns about keloids or hypertrophic scars.

Participants averaged 42.1 years of age; two were male. Twenty chose TART, while only three selected TORT. Homemakers (n=8) and office workers (n=5) were the largest occupational groups. About half of patients in both groups had prior knowledge of robotic surgery. The most frequently rated "Extremely important" factors were wound location and discomfort from unfamiliar sites. Advertising and scar concerns were generally dismissed as "Not a concern at all." Compared with TORT patients, those choosing TART more often emphasized daily inconvenience due to wound location as "Extremely important."

In conclusion, despite simultaneous presentation of both options, patients overwhelmingly preferred TART, with a sixfold higher selection rate. Practical concerns---particularly discomfort and disruption to daily life from wound location---outweighed cosmetic benefits, recommendations, or hospital advertising. These findings highlight the importance of addressing functional considerations in counseling patients about robotic thyroidectomy approaches.

P166

ADRENAL INSUFFICIENCY RECOVERY AFTER ADRENALECTOMY WITH ROUTINE HYDROCORTISONE REPLACEMENT

Joseph Lehmann¹, Assef Jawaada¹, Patrick Klang¹, Nada Bin Saleem¹, Meshal Almeshal¹, Hasti Tarzban¹, Gabriele Galata¹, Klaus-Martin Schulte¹

¹Kings College Hospital; Endocrine Surgery, United Kingdom

Adrenal insufficiency (AI) is a recognised risk following adrenalectomy. While routine post-operative glucocorticoid replacement is standard care in Cushing's syndrome, optimal management for patients with mild autonomous cortisol secretion (MACS) or non-cortisol secreting tumours remains unclear. Following an adverse event, our centre introduced routine post-operative hydrocortisone for all adrenalectomy patients. We evaluated adrenal recovery under this protocol.

A retrospective review was performed of patients receiving routine hydrocortisone replacement after adrenalectomy. Adrenal function was assessed using the short Synacthen test at 3 months.

A total of 169 patients were included. At 3 months, 43 patients (25%) showed inadequate short Synacthen response. Of those, 10 (23%) had Cushing's syndrome and would have routinely received replacement under previous practice. The remaining 33 patients had MACS or non-cortisol secreting tumours and may not have received hydrocortisone under earlier selective replacement strategies. This group comprised 17 patients with primary hyperaldosteronism, 9 with pheochromocytoma, 4 with indeterminate adrenal nodules, 2 with adrenocortical carcinoma and 1 schwannoma. Pre-operative cortisol levels were poor predictors of an inadequate short Synacthen response in non-Cushing's patients.

A substantial proportion of MACS and non-cortisol secreting patients demonstrate delayed adrenal recovery. These findings support consideration of universal short-term hydrocortisone cover after adrenalectomy to reduce the risk of unrecognised post-operative AI, particularly in centres using cortisol-guided selective replacement.

P167

MEDIASTINAL TUMOR AND HYPERPARATHYROIDISM ASSOCIATED WITH MULTIPLE ENDOCRINE NEOPLASIA TYPE I -- TWO CASES

Petr Libansky¹, Jana Jezkova², Mikulas Kosak², Magdalena Matejkova Behanova³, Marketa Vaculova¹, Marie Zavaliani¹, Vit Zikan⁴, Svatopluk Adamek¹

¹Third Department of Surgery, First Faculty of Medicine, Charles University and Motol University Hospital, Prague, Czech Republic, ²Department of Internal Medicine, First Faculty of Medicine, Charles University and Military University Hospital, Prague, Czech Republic, ³Department of Nuclear Medicine and Endocrinology, Second Faculty of Medicine, Charles University and Motol University Hospital, Czech Republic, ⁴Third Department of Medicine-Department of Endocrinology and Metabolism, First Faculty of Medicine, General University Hospital, Charles University, Czech Republic

Multiple endocrine neoplasia type 1 -- MEN1 syndrome -- also Wermer syndrome -- is an autosomal dominantly inherited endocrine tumor syndrome. The main manifestations of this syndrome are primary hyperparathyroidism (pHPT), pituitary adenomas and neuroendocrine tumors (NETs) of the pancreas and duodenum. Rare manifestations are neuroendocrine tumors of the thymus (sometimes called thymic carcinoids). Thymic tumors often grow without symptoms, it is good to detect and remove them early.

Two cases describe the diagnosis and treatment of neuroendocrine tumors associated with patients diagnosed with MEN1. Both patients came from different families with MEN1 syndrome. In one patient, MEN1 syndrome had not detected before thymus surgery. In the other patient, a hyperplastic thymic tumor was described on CT. Both patients underwent thymectomy. Both patients are still alive.

Neuroendocrine tumors of the thymus associated with MEN1 syndrome are rare, predominantly in males, and can be more aggressive

P168

IMAGING EVALUATION AND INTRAOPERATIVE PTH IN PARATHYROIDECTOMY FOR PRIMARY HYPERPARATHYROIDISM

Tommaso Loderer¹, Elena Bonati¹, Paolo Del Rio¹

¹Parma University Hospital, Italy

Primary hyperparathyroidism (PHPT) is diagnosed with first-line imaging (ultrasound and ^{99m}Tc-sestamibi scintigraphy), and second-line tests like ¹⁸F-choline PET.

According to recent studies intraoperative PTH (ioPTH) is not necessary when imaging is concordant, reducing operative time and costs.

This single-center prospective study evaluated whether concordance between two radiological examinations is associated with surgical success.

Data were collected from patients undergoing surgery for PHPT at the University Hospital of Parma between June 2023 and September 2025.

Minors and patients with recurrent, secondary, or tertiary hyperparathyroidism were excluded.

45 patients with PHPT (15 males, 30 females; mean male age 65.8 ± 8.36 years) were treated and analyzed prospectively.

Cervical ultrasound detected a suspicious gland in 84.5% of cases (38/45), and scintigraphy in 91.2% (41/45), with no significant difference between the two methods. Concordant findings were observed in 35 cases; in the remaining 10, choline PET confirmed the gland in all cases.

Preoperative PTH averaged 235.42 ± 190.5 , decreasing to 34.63 ± 14.6 at 24 hours postoperatively ($p = 0.0001$). In two cases, ioPTH did not drop $>50\%$; one normalized at 24 hours, the other remained elevated. After six months, only one case of persistent disease was recorded, with no recurrence.

Our study confirms that preoperative imaging ensures high accuracy, and ¹⁸F-choline PET is very sensitive in complex cases.

According to 2024 SIUEC guidelines, ioPTH may be omitted when imaging is concordant and our case series supports this as an effective strategy for high cure rates.

P169

RISK OF MALIGNANCY FOR AUS/FLUS THYROID NODULES AND DIAGNOSTIC YIELD OF REPEAT FNA: A 4-YEAR RETROSPECTIVE INSTITUTIONAL EXPERIENCE

Miguel Lopes Das Neves¹, Mariana Rodrigues¹, Ana Alves Rafael¹, Martinha Chorão¹

¹Unidade Local De Saúde Lisboa Ocidental, Lisbon, Portugal

Atypia of Undetermined Significance/Follicular Lesion of Undetermined Significance (AUS/FLUS) presents a common diagnostic challenge with heterogeneous malignancy risk. This study defines the institutional risk of malignancy (ROM) and provides a granular analysis of repeat fine-needle aspiration (rFNA) as a diagnostic and triage tool in a large Portuguese cohort.

Retrospective single-centre analysis of all thyroid nodules with initial AUS/FLUS cytology (January 2022-May 2025). The ROM was calculated based on histopathological outcomes. Patients undergoing rFNA were stratified into pathways based on repeat cytology. Statistical comparisons were performed using Chi-squared and Fisher's exact tests.

Among 1429 patients undergoing thyroid FNA, 848 (59.3%) had an AUS/FLUS nodule. 219 were surgically resected, confirming the overall surgical ROM of 21.0% (46/219), and low-risk neoplasms 11.0% (24/219). The most common malignancy identified was papillary thyroid carcinoma, 87.0% (40/46). rFNA was performed on 544 patients, of which 146 were submitted to surgery. Stratification

revealed a graded surgical ROM: Benign, 0% (0/5); Persistent AUS/FLUS, 19.8% (24/121); FN/SFN, 28.6% (2/7); Malignant/Suspicious, 61.5% (8/13). The ROM for malignant/suspicious rFNA was statistically significantly higher than for persistent AUS/FLUS ($p < 0.01$), while the ROM for persistent AUS/FLUS did not differ from the overall institutional ROM ($p = 0.777$).

The institutional ROM for AUS/FLUS nodules is 21%. rFNA provides statistically validated risk stratification: a benign result supports surveillance, and a malignant/suspicious result mandates surgery. Crucially, nodules that remain AUS/FLUS retain a baseline, unmitigated risk, calling for diagnostic surgery or the use of refined risk-stratification models incorporating molecular testing and clinical risk calculators as the necessary next step.

P171

VALIDATION OF THE SAMPLE-TO-RESULT WORKFLOW FOR THYROIDPRINT® ANALYSIS IN FINE NEEDLE ASPIRATION (FNA) THYROID SAMPLES: A PILOT STUDY IN LEBANON

Joseph Gharious^{1,5}, Oliver Maidalani^{1,5}, Tarek Smayra^{2,5}, Alain Chebly³, Carole Kesrouani^{4,5}

¹Digestive and Endocrine Surgery Department, Hotel-Dieu De France, Beirut, Lebanon, ²Radiology Department, Hotel-Dieu de France, Beirut, Lebanon, ³Center Jacques Loiselet for Medical Genetics and Genomics, Beirut, Lebanon, ⁴Anatomy-Pathology Department, Hotel-Dieu de France, Beirut, Lebanon, ⁵Faculty of Medicine, Saint-Joseph University, Beirut, Lebanon

Thyroid nodules are common in the general population, and their evaluation typically relies on fine-needle aspiration (FNA) interpreted according to the Bethesda System. However, Bethesda categories III and IV remain challenging due to their intermediate malignancy risk, which limits diagnostic certainty. Molecular and cytogenetic analyses, including the ThyroidPrint® test, have emerged as valuable tools to refine risk stratification and reduce unnecessary diagnostic surgery. As this test has not yet been implemented in Lebanon, standardizing the pre-analytical and analytical workflow is required prior to its local validation.

This study aimed to assess the feasibility and reproducibility of the entire protocol, from FNA sampling to automated analysis on the Idylla platform. Samples were collected in the ThyroidPrint® Collection Buffer during FNA done at Hotel-Dieu de France hospital, a prominent tertiary medical center in Lebanon, transported within 15 minutes under controlled conditions in an ice pack to the Center for Medical Genetics and Genomics of Saint-Joseph University, where they were processed for a fully automated "sample-to-result" analysis (Nucleic acids extraction, reverse transcription, amplification, then measurement of a dozen of target-genes expression). The test sample yielded machine-validated results, confirming the adequacy of the proposed protocol. This standardization represents a critical preliminary step toward the future validation of ThyroidPrint® and its potential integration into the management of indeterminate thyroid nodules in the Lebanese population.

P172

INCIDENCE AND PREDICTORS OF POSTOPERATIVE COMPLICATIONS AFTER THYROIDECTOMY: ANALYSIS OF 197 PROCEDURES

Asier Mañaricua Arnaiz¹, Mikel Rojo Abecia, Maria Dolores Cancelas Felgueras, Ricardo Jesus Castro Lara, Sara Neira Melus, Alicia Moreno Robas, Rosa Maria Serrano Garcia, Judit Gonzalez Guerreiro, Maria Marqueta de Salas, Aurora Navarro Regi, Ana Alvarez Cuiñas, Leire Pino Velasco, Sofia Martinez Alonso, Maria Delgado Fernandez, Javier Martin Ramiro

¹Hospital Universitario Severo Ochoa, Madrid, Spain

Thyroid surgery is generally safe, yet postoperative complications such as hypocalcemia, recurrent laryngeal nerve (RLN) palsy, and bleeding continue to pose clinical challenges. This study aimed to evaluate the incidence of postoperative complications after thyroid surgery at Hospital Severo Ochoa and to identify associated risk factors.

A retrospective review was conducted of 188 patients who underwent 197 thyroid surgeries between 2019 and 2022. Data were collected from the institutional endocrine surgery database and electronic medical records. Preoperative, intraoperative, and postoperative variables were analyzed. Logistic regression was performed to identify independent predictors of overall complications and of immediate RLN palsy.

Of the 197 procedures, 48.2% were hemithyroidectomies, 47.2% total thyroidectomies, and 4.6% completion thyroidectomies. Postoperative hypocalcemia occurred in 24.36% of all surgeries and in 47% of total/completion thyroidectomies; 10 cases (9.8%) were permanent. Immediate RLN palsy was observed in 9.6% of patients, with 2.5% remaining permanent. Only one postoperative hemorrhage required reoperation (0.5%). Multivariate analysis showed that multinodular goiter, Graves' disease, malignancy, total thyroidectomy, and lymphadenectomy significantly increased the risk of any complication. Altered thyroid function and lymphadenectomy were independently associated with immediate RLN palsy.

The incidence of postoperative complications in this cohort is consistent with published literature, with hypocalcemia being the most frequent event. Disease etiology, extent of surgery, and lymphadenectomy were significant predictors of postoperative morbidity. These findings underscore the importance of preoperative risk stratification and surgical expertise in minimizing complications.

P173

IMPACT OF GENOMIC PROFILING ON THE MANAGEMENT OF PAPILLARY THYROID CARCINOMA

Felix Manes-Jimenez¹, Dra Patricia Urbon-Sanchez¹, Raul Diaz-Pedrero, dra Sofia Sanchez de Toca-Gomez, Ricardo Alvarado-Hurtado, Tomas Ratia-Gimenez, Alberto Gutierrez-Calvo

¹Hospital Principe De Asturias, Alcala de Henares, Spain

To summarize the clinical relevance of genetic biomarkers in thyroid cancer---particularly papillary thyroid carcinoma (PTC)---for diagnostic refinement, prognostic , and targeted therapy selection.

Review of DNA/RNA alterations detected through molecular panels (DNA/RNA and NGS-based) applied to indeterminate fine-needle aspiration (FNA) nodules and confirmed thyroid tumors.

FNA achieves diagnostic accuracy in ~80% of cases; in the remaining 20%, molecular profiling significantly reduces the need for diagnostic surgery. In PTC, alterations primarily involve the MAPK pathway, including activating mutations in BRAF (V600E) and RAS, as well as RET/NTRK rearrangements. Additional drivers include ALK fusions, EIF1AX, and TERT promoter mutations. Coexistence of TERT with BRAF or RAS confers a more aggressive phenotype. While RAS mutations are considered weak drivers---also found in benign lesions---mutations or fusions in BRAF, RET, NTRK, ALK, EIF1AX, and TERT represent strong oncogenic events that indicate malignancy. RET and NTRK fusions generate constitutively active tyrosine kinases, particularly frequent in pediatric and radiation-associated tumors, and are actionable targets for TRK and RET inhibitors. BRAF V600E correlates with larger tumor size, extrathyroidal invasion, lymph node metastasis, radioiodine resistance, and poorer outcomes. RAS mutations are more prevalent in follicular variants and poorly differentiated tumors, contributing to dedifferentiation and recurrence. NTRK fusions are mutually exclusive with BRAF/RAS mutations and associate with persistent or metastatic disease.

Genomic profiling has become integral to modern thyroid cancer management, refining diagnosis, and enabling precision therapies. The identification of strong molecular drivers and TERT co-mutations enhances individualized treatment, reduces unnecessary surgery, and expands targeted therapy.

P174

SEX-RELATED DIFFERENCES IN THE TUMOR MICROENVIRONMENT OF PAPILLARY THYROID CARCINOMA AND POTENTIAL THERAPEUTIC TARGETS

Felix Manes-Jimenez¹, Patricia Urbon-Sanchez¹, Raul Diaz-Pedrero¹, Sofia Sanchez de Toca-Gomez¹, Diego Cordova-Garcia¹, M^aRosario San Roman-Romanillos¹, Ricardo Alvarado-Hurtado¹, Miguel Angel Ortega-Nuñez¹, Tomas Ratia-Gimenez¹, Alberto Gutierrez-Calvo¹

¹Hospital Principe De Asturias

Papillary thyroid carcinoma (PTC) exhibits sex-related clinical and biological differences, yet the underlying molecular basis remains insufficiently understood. This study investigates sex-specific expression patterns of biomarkers involved in cellular proliferation, tumor suppression, ferroptosis, and NLRP3-inflammasome-mediated inflammation.

A retrospective observational study was conducted including 50 patients (25 women, 25 men) with histologically confirmed PTC who underwent thyroid resection. Thirteen biomarkers were analyzed using immunohistochemistry and scored using the immunoreactivity system (IRS). Two independent pathologists evaluated all samples. Non-parametric statistical tests (Shapiro-Wilk, Mann-Whitney U)

and Spearman correlation matrices with FDR adjustment were applied.

Women demonstrated significantly higher expression of the proliferation-related protein IRS-4 and reduced levels of the tumor-suppressor KLOTHO compared with men. Female samples also showed marked overexpression of ferroptosis-related markers (GPX4, TFRC, ACSL4, ALOX5) and NLRP3-inflammasome components (NLRP3, ASC, caspase-1, caspase-5, caspase-8, IL-1 β , IL-18). All differences reached statistical significance. Correlation analyses revealed sex-specific molecular networks: women showed positive correlations between ferroptosis and inflammasome pathways (e.g., NLRP3-ALOX5) and a negative correlation between IRS-4 and KLOTHO, suggesting an inverse relationship between proliferation and tumor suppression. In men, correlations clustered mainly within each functional pathway, although relevant interactions were also observed.

PTC exhibits a distinct sex-dependent molecular profile, with women showing enhanced ferroptotic, inflammatory, and proliferative signaling, and men demonstrating higher expression of the tumor suppressor KLOTHO. These findings support the hypothesis that hormonal environments modulate key oncogenic pathways and highlight the need for further mechanistic research to develop sex-informed diagnostic and therapeutic approaches.

P175

ARTIFICIAL INTELLIGENCE IN TIRADS BASED RISK STRATIFICATION OF THYROID NODULES. AN UPGRADE OR ANOTHER BRICK IN THE WALL?

Shreyamsa Manjunath¹, Praveen Devarbhavi¹

¹Subbaiah Research Institute, Shivamogga, India

Ultrasound based risk-stratification systems(RSS) for thyroid nodules(TN) are ever-evolving, with improvements aimed at reducing unnecessary interventions and/or diagnose malignancy. We aim to compare utility & diagnostic accuracy of American College of Radiology Thyroid Imaging Reporting and Data System(ACR-TIRADS) with an artificial intelligence(AI) optimized version of the same (AI-TIRADS).

Retrospective, 192 TN from 176 patients, January 2023- Septmeber 2025. Only nodules with complete ultrasonography in accordance with ACR-TIRADS, and final histopathology report(FHPR) included. Fresh scores assigned for each nodule, categorized according to AI-TIRADS. Risk stratification of both were compared against FHPR and statistical analyses performed. Diagnostic performance assessed by using area under receiver operating curve.

Mean age- 37.29+/-9.11 years. Male: female- 159:17. Mean nodule size- 2.95+/-1.08 cm. 147(76.6%) nodules were benign on final histopathology while 45(23.4%) malignant. After assigning risk categories, AI-TIRADS recommended 30 lesser fine-needle aspirations(FNA) than ACR-TIRADS. Only one of these 30 was malignant on HPE (false-negative). Reduction in FNA was clinically significant (p=0.001). AI-TIRADS upstaged risk & recommended FNA for 9 nodules (but ACR-TIRADS did not) & all 9 were malignant (p=0.001). There were no false positives. Sensitivity & specificity of ACR-TIRADS was 71.4% & 74.8% while that of AI-TIRADS was 88.9% & 89.8%. Positive and negative predictive value for ACR-TIRADS was 46.4% and 89.4%, and for AI-TIRADS was 72.7% and 96.4% respectively. Area under curve for ACR-TIRADS was 0.730 and for AI-TIRADS was 0.893.

Optimization with artificial intelligence improves overall performance of ACR-TIRADS by reducing unnecessary FNA & improving detection of malignant nodules.

P176

MONSTERS IN THE NECK! MASSIVE GOITRES AND SURGICAL OUTCOMES.

Shreyamsa Manjunath¹, Praveen Devarbhavi

¹Subbaiah Research Institute, Shivamogga, India

Massive goitres(MG) are common in developing-countries. They cause immense discomfort and challenge treating surgeons, especially when associated with complications. Thyroidectomy is elective, but MG with life threatening consequence may warrant emergent thyroidectomy(ET). We aim to study operative outcomes of MG(>1000 gram).

Retrospective, 27 patients (March 2021-September 2025), with MG & underwent thyroidectomy. Presentation, hospital course & operative-outcomes assessed.

F:M=24:3. Mean age:53.74(+/- 8.84) years. Mean duration:8.56(+/- 3.56) years. Mean weight:1240.4(+/-182.34) gram. Nineteen patients-euthyroid, while 5-hypothyroid and 3-hyperthyroid.

Most common complaint was breathing difficulty (n=8;51.9%), followed by swallowing difficulty (n=7;25.9%), voice change (n=3;11.1%), pain (n=1;3.7%), choking-sensation (n=1;3.7%) One patient was comatose with hemiparesis due to intracranial bleed (thyrotoxic-crisis). Four patients had severe stridor with breathing difficulty. Retrosternal extension in 13(48.1%) patients. Because of goitre, 4 patients had pulmonary arterial hypertension(PAH) with one also having superior vena-cava syndrome. Other morbidities seen were arrhythmias(n=2), vocal cord paralysis(n=2), cardiac failure(n=1), thyrotoxic crisis with BWPS- 80(n=1) and severe osteomalacia of tracheal-rings(n=1). Sixteen had no associated morbidity. Eight(29.6%) patients underwent ET for life-threatening symptoms after preparation, while 19 underwent planned surgery. Post-surgery, 3 developed temporary hypocalcemia, one had voice-hoarseness which resolved. All patients had complete resolution of symptoms following surgery. Patients with life threatening events (who underwent ET) recovered completely. No other complications related to surgery seen. No significant differences in operative outcomes between elective & emergent thyroidectomies.

MG cause various symptoms, which can result in life-threatening complications. Surgery after optimization yield best results and resolution of symptoms, even in an emergency setting.

P177

PREDICTORS OF TRANSIENT AND PERMANENT HYPOPARATHYROIDISM AFTER TOTAL THYROIDECTOMY: A SINGLE-CENTER COHORT USING ESES CRITERIA

Marco Marian^{1,2}, Amadeus Dobrescu^{1,2}, Dan Brebu^{1,2}, Ciprian Duta^{1,2}, Alexandru Isaic^{1,2}, Flaviu-Ionut Faur^{1,2}, Rami Hajjar^{1,2}, Dana Stoian^{1,3}

¹Victor Babes" University of Medicine and Pharmacy Timisoara, General Surgery, Department X, Timisoara, Romania, ²Pius Brinzeu County Emergency Clinical Hospital, Timisoara, Romania, ³Victor Babes" University of Medicine and Pharmacy Timisoara, Internal Medicine, Department II, Timisoara, Romania

Hypoparathyroidism is the most frequent complication after total thyroidectomy. Using the updated ESES criteria, we evaluated predictors of transient and permanent hypoparathyroidism in a high-volume endocrine surgery unit.

We retrospectively reviewed 380 total thyroidectomies performed between January 2022 and May 2025. Indications were multinodular goiter (45%), Graves disease (15%), differentiated thyroid cancer (38%), and recurrent disease (2%). Central neck dissection (CND) was performed as required. Postoperative day-1 (POD1) total calcium (8.3--10.6 mg/dL) and intact PTH (18.5--88 pg/mL) were recorded. Hypoparathyroidism was classified according to ESES definitions. Multivariable analysis assessed predictors including pathology, CND, operative time, POD1 PTH, and surgeon grade (senior vs supervised final-year resident).

Transient hypoparathyroidism occurred in 132 patients (34.7%) and permanent hypoparathyroidism in 11 (2.9%). Mean POD1 PTH was 31±9 pg/mL without hypoparathyroidism, 10±4 pg/mL in transient cases, and 4±2 pg/mL in permanent cases (p<0.001). PTH <15 pg/mL predicted transient hypoparathyroidism (OR 9.4, 95% CI 5.3--16.5), while PTH <5 pg/mL predicted permanent disease (OR 13.2, 95% CI 3.1--55.8). Graves disease (OR 2.0) and CND (OR 2.7) were additional risk factors. Final-year residents performed 33 procedures with longer operative times (82±20 vs 50±15 minutes) yet had lower transient hypoparathyroidism (15%) and no permanent cases, possibly reflecting meticulous capsular dissection and preservation of parathyroid vascularization under supervision.

POD1 PTH remains the most reliable predictor of both transient and permanent hypoparathyroidism. Graves disease and CND significantly increase risk while supervised resident involvement does not adversely affect outcomes and may benefit from a more meticulous operative technique.

P179

PREOPERATIVE IMAGING AND INTRAOPERATIVE FINDINGS IN PATIENTS WITH SECONDARY AND TERTIARY HYPERPARATHYROIDISM UNDERGOING PARATHYROIDECTOMY DURING THE DECADE 2010--2019

Panagiotis Garbounof¹, Maria Christina Kapoutsis¹, Konstantinos Saliaris¹, Andreas Theodorou¹, Margarita Kalamatianou¹, Areti Hatzicharalambous¹, Aspasia Sfakaki¹, Ioannis Manouras¹, Haridimos Markogiannakis¹, Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece

To analyze preoperative imaging and intraoperative findings in secondary and tertiary hyperparathyroidism patients undergoing parathyroidectomy over a ten-year period.

Prospective study of all secondary or tertiary hyperparathyroidism cases submitted to surgery during 1/1/2010-31/12/2019.

Among 18 patients (male: 55.5%, mean age: 57.7 ± 8.6 years), secondary hyperparathyroidism was present in 72.2% (n=13) and tertiary in 27.8% (n=5). Two cases (11.1%) had previous parathyroidectomy. Preoperative neck ultrasound identified all pathological glands in 38.9% while sestamibi scintigraphy in 44.4%. When these two imaging modalities were combined, they were both accurate in 33.3% while at least one of them was accurate in 50%. Mean operative time was 90.3 ± 10.4 minutes. Parathyroid glands diameter was 2.2 ± 0.5 cm and weight 1319 ± 73.8 mgr. Among 66 resected glands, 90.9% were orthotopic and 9.1% ectopic intrathymic. A fifth hyperplastic gland was identified in one patient (5.5%). Postoperatively, hematoma occurred in two (11.1%) one of whom required reoperation and transient recurrent laryngeal nerve palsy in two (11.1%). Hypoparathyroidism was noticed in 66.6% and hypocalcemia in 55.5% which was symptomatic in 38.9%. Mean hospital stay was 2.8 ± 0.3 days. During a follow-up period of 9.4 ± 0.7 years, disease persistence has occurred in 16.7% and recurrence in 11.1%.

Preoperative imaging in secondary and tertiary hyperparathyroidism must be interpreted with caution. Parathyroidectomy should be performed by an experienced endocrine surgery team with close perioperative management and long-term multidisciplinary follow-up.

P180

CLINICAL PRESENTATION OF PATIENTS WITH SECONDARY AND TERTIARY HYPERPARATHYROIDISM SUBMITTED TO PARATHYROIDECTOMY DURING A DECADE

Maria Christina Kapoutsis¹, Panagiotis Garbounof¹, Eleni Kitsou¹, Nikolaos Intzes¹, Anargiros Athanasiou¹, Areti Hatzicharalambous¹, Margarita Kalamatianou¹, Aspasia Sfakaki¹, Haridimos Markogiannakis¹, Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece

To analyze the clinical picture of secondary and tertiary hyperparathyroidism patients undergoing parathyroidectomy over a decade.

Prospective study of all secondary or tertiary hyperparathyroidism cases submitted to parathyroidectomy during 1/1/2010-31/12/2019.

Among 18 patients (male:55.5%, age: 57.7 ± 8.6 years), secondary hyperparathyroidism was diagnosed in 72.2% (n=13) and tertiary in 27.8% (n=5). All had severe arterial hypertension and 22.2% significant cardiac comorbidities. Major renal failure causes were arterial hypertension and glomerulonephritis while systemic lupus erythematosus, Alport syndrome and bilateral nephrectomy were less frequent. Most patients were on hemodialysis (83.3%), 11.1% on peritoneal dialysis and one tertiary case (5.5%) was not under dialysis. One tertiary patient (5.5%) had two kidney transplant rejections while two secondary cases (11.1%) had a single rejection episode. One of the latter (5.5%) was operated prior to a new transplantation. Another patient (5.5%) received parathyroidectomy following successful transplantation due to tertiary disease. Additionally, one case (5.5%) presented with persistent hyperparathyroidism two years after one parathyroid gland removal while another (5.5%) presented with disease recurrence 13 years after three hyperplastic glands excision. Severe symptoms and complications involved the musculoskeletal (100%), cardiovascular (38.9%) and gastrointestinal system (33.3%) and neuropsychiatric domain (38.9%) with a mean symptoms duration of 7 ± 1.8 years. Osteoporosis was present in 83.3%, osteopenia 5.5% and normal bone density 11.1%. Preoperatively, 22.2% received cinacalcet while 11.1% had discontinued it due to gastrointestinal intolerance.

Secondary and tertiary hyperparathyroidism patients undergoing parathyroidectomy exhibit severe clinical manifestations and complications. Their perioperative management and postoperative follow-up require great awareness and specialized multidisciplinary care.

P181**VAGAL NERVE SCHWANNOMA IN A MALE PATIENT MISDIAGNOSED AS METASTATIC CERVICAL LYMPHADENOPATHY**

Konstantinos Saliaris¹, Haridimos Markogiannakis¹, Maria Christina Kapoutsis¹, Panagiotis Theodorou¹, Andreas Theodorou¹, Anargiros Athanasiou¹, Ioannis Manouras¹, George Galyfos², Georgia Kafiri³, Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece, ²Vascular Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece, ³Pathology Department, Hippokratio Hospital, Athens, Greece

Schwannomas are rare neural sheath neoplasms arising from Schwann cells.

A vagal nerve schwannoma case misdiagnosed as metastatic cervical lymphadenopathy is presented.

A 74-year-old man presented with a painless palpable cervical mass. Clinical examination, laboratory investigation and laryngoscopy were normal. Neck ultrasound, CT and MRI demonstrated a 8x2.4x2.3cm tumor in close proximity to the internal jugular vein and carotid artery, consistent with abnormal lymph nodes. Thyroid ultrasound described two suspicious nodules. Two US-guided FNAs of these nodules were inconclusive. Two US-guided FNAs of the suspicious lymph nodes were positive for metastatic infiltration from a papillary adenocarcinoma potentially of thyroid origin and from a poorly differentiated epithelial or mesenchymal neoplasm of undetermined origin, respectively. Consequent whole body investigation with PET-CT, CT, MRI, upper and lower GI endoscopy was negative apart from the cervical mass. Surgical exploration was therefore scheduled that, surprisingly, revealed that the tumor originated from the vagus nerve. A small neoplasm piece was received for biopsy and the tumor was not resected. Histopathology and immunohistochemistry examination reported the diagnosis of a benign vagal nerve schwannoma (Ki-67 $\leq$ 2%, S100+). The patient had an uneventful postoperative course.

Vagal schwannomas are rare, usually benign neoplasms presenting as a painless cervical mass. Diagnosis is based on clinical and radiological suspicion and is proven by pathology examination of a specimen received by true-cut/core biopsy or surgery. Conservative or surgical treatment constitute the two therapy options. A multidisciplinary team approach is desirable to develop a tailored treatment for these cases.

P182**THYROID ADENOLIPOMA: A RARE CLINICOPATHOLOGICAL ENTITY**

Konstantinos Saliaris¹, Haridimos Markogiannakis¹, Maria Christina Kapoutsis¹, Panagiotis Garbounof¹, Nikolaos Intzes¹, Eleni Kitsou¹, Eleni Stoupi², Dimitra Riga², Georgia Kafiri², Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece, ²Pathology Department, Hippokratio Hospital, Athens, Greece

Thyroid adenolipoma is a rare, benign neoplasm characterized by a well-circumscribed lesion surrounded by a fibrous capsule, containing mature adipose tissue mixed with thyroid parenchyma. Limited number of published cases makes diagnosis challenging which is often established only after final histopathological examination.

A thyroid adenolipoma case is presented.

A 73-year-old woman with euthyroid multinodular goiter was referred due to a suspicious, dominant 2.9 cm thyroid nodule. Clinical examination revealed a painless, soft, mobile nodule. Neck ultrasound confirmed a hypoechoic 2.9 x 2.2 cm nodule with both peripheral and internal vascularity. She underwent US-guided FNAC that showed a microfollicular pattern with atypical features (Bethesda III). After discussion with the treating endocrinologist and the patient, an uncomplicated thyroidectomy was performed. Histopathological examination revealed a 2.5 cm encapsulated nodule with a thin fibrous capsule, microfollicular architecture and lobules of mature adipose tissue. Immunohistochemistry demonstrated positive expression of TTF-1 while there was no expression of PTH, chromogranin or synaptophysin. Additionally, Ki-67 was $\leq$ 5%. These findings established the diagnosis of a benign thyroid adenolipoma.

Thyroid adenolipoma is an infrequent, benign adipocytic lesion with excellent prognosis after surgical excision. Its recognition is important since adipose tissue presence in the thyroid gland may be associated with a variety of differential diagnoses. Accurate diagnosis enables appropriate clinical

decision-making in collaboration with the endocrinologist and after comprehensive patient counseling.

P183

COMPARISON BETWEEN LAPAROSCOPIC, OPEN AND CONVERSION TO OPEN ADRENALECTOMIES

Haridimos Markogiannakis¹, Konstantinos G Toutouzas¹, Konstantinos Saliaris¹, Viktoria Michalopoulou¹, Theodoros Hatzitheodorou¹, Ariadni Sotiria Zampopoulou¹, Ageliki Arapaki¹, Ioannis Manouras¹, Panagiotis B Kekis², Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece, ²Athens Medical Center, Athens, Greece

To compare laparoscopic, open, and conversion-to-open adrenalectomies.

Prospective study of all unilateral adrenalectomies during 1/1/2015-31/12/2024. Parameters analyzed were: demographics, prior abdominal surgery, right/left location, operative and anesthesia time, adrenalectomy type (laparoscopic, open or conversion), additional surgical procedures, intraoperative and postoperative complications, final diagnosis, malignancy, functionality, adrenal weight and diameter, tumor diameter, postoperative hospitalization and final outcome. Patient groups were compared according to adrenalectomy type.

Among 151 cases (women:60.9%, age:54.1±12.8years), laparoscopic adrenalectomy was performed in 119 (78.8%, group A), open 22 (14.6%, group B) and conversion 10 (6.6%, group C). Men were more frequent in B than A or C (p=0.03). A significant difference was observed in diagnosis (p<0.001). Group A more commonly included non-functional adenomas and Conn syndrome while less carcinomas and metastatic tumors. Group C had more usually Cushing syndrome. Malignancy was less common in A (p<0.001). Group C demonstrated a higher intraoperative complication rate (p<0.001). Group A showed fewer postoperative complications (p<0.001). Operative and anesthesia time were shorter in A (p<0.001). Group A also had lower adrenal weight (p<0.001) and diameter (p<0.001), smaller tumor size (p<0.001) and shorter hospitalization (p<0.001).

Open adrenalectomies were more frequent in men. Laparoscopic procedures more commonly involved non-functional adenomas and Conn syndrome and less malignancies whereas conversions were more often in Cushing syndrome. Conversions were associated with more intraoperative complications while laparoscopic adrenalectomies with fewer postoperative complications. Laparoscopic adrenalectomy was also associated with shorter operative and anesthesia time, lower adrenal weight and diameter, smaller tumor size and shorter hospitalization.

P184

PREDICTIVE FACTORS AND CONSEQUENCES OF INTRAOPERATIVE COMPLICATIONS DURING ADRENALECTOMIES

Haridimos Markogiannakis¹, Konstantinos G Toutouzas¹, Panagiotis Garbounof¹, Panagiotis Theodorou¹, Viktoria Michalopoulou¹, Ariadni Sotiria Zampopoulou¹, Theodoros Hatzitheodorou¹, Ageliki Arapaki¹, Panagiotis B Kekis², Dimitrios Theodorou¹

¹Endocrine Surgery Unit, 1st Department of Propaedeutic Surgery, Athens Medical School, University of Athens, Hippokratio Hospital, Athens, Greece, ²Athens Medical Center, Athens, Greece

To analyze the predictors and consequences of intraoperative complications during adrenalectomies.

Prospective study of all unilateral adrenalectomies from 1/1/2015 until 31/12/2024. Data analyzed included: sex, age, previous abdominal surgery, right/left location, operative and anesthesia time, adrenalectomy type (laparoscopic, open or conversion), additional surgical procedures, intraoperative and postoperative complications, final diagnosis, malignancy, functionality, adrenal gland weight and diameter, tumor diameter, postoperative hospitalization and the final outcome. Patients with an intraoperative complication including organ injury, hemorrhage or hemodynamic instability (Group A) were compared with those without (Group B).

Among 151 cases (women: 60.9%, age: 54.1±12.8 years), laparoscopic surgery was performed in 78.8%, open 14.6% and conversion in 6.6%. Thirteen patients (8.6%, group A) experienced intraoperative complications. A significant difference was observed regarding final diagnosis: pheochromocytoma, Cushing's syndrome and primary carcinoma were more common in group A compared to group B whereas non-functioning adenoma, Conn's syndrome and other entities were less frequent (p=0.04). Functional tumors were also more often in A (p=0.03). Conversion was more

common while laparoscopic and open surgery less frequent in A ($p < 0.001$). Operative and anesthesia time were longer in A ($p < 0.001$). Group A also had more often postoperative complications ($p < 0.001$) and longer hospitalization ($p < 0.001$). No other statistically significant differences were observed.

Intraoperative complications during adrenalectomies are associated with adrenal pathology and tumor functionality. Such complications may result in an increased likelihood of conversion to open surgery, longer operative and anesthesia time, more frequent postoperative complications and prolonged postoperative hospital stay.

P185

CHANGES IN THE MANAGEMENT OF PATIENTS WITH THYROID NODULES TO RULE OUT MALIGNANCY DURING THE COVID-19 PANDEMIC: RESULTS FROM THE EUROCRINE® REGISTRY.

Cristina Martinez-Santos¹, Ozer Makay², Thomas Clerici³, Laurent Brunaud⁴, Klass van den Heede⁵, Thomas Musholt⁶, David Scott-Coobs⁷, Olov Norlen⁸, Andrea Goldman⁹, Meno Vriens¹⁰, Arnold Trupka¹¹, Erik Nordenström¹², Mauricio Jacobone¹³, Enrique Mercader¹⁴, Lindsay Hargital¹⁵, Yigit Turk¹⁶, Kostas Nastos¹⁷, Marco Raffaelli¹⁸, Fausto Palazzo¹⁹, Phillip Riss²⁰, Marit Hansen²¹, Marcin Barczynski²²

¹Hospital Universitario Costa Del Sol, Marbella, Spain, ²Ozel Saglik Hastanesi, Izmir, Turkey, ³Kantonsspital St. Gallen, St. Gallen, Switzerland, ⁴CHRU, Nancy, France, ⁵AZORG, Flandes, Belgium, ⁶Johannes Gutenberg University, Mainz, Germany, ⁷University Hospital of Wales, Cardiff, UK, ⁸Uppsala University, Gavleborg, Sweden, ⁹Kantonsspital Winterthur, Switzerland, ¹⁰UMC Utrecht, Netherlands, ¹¹Klinikum Starnberg, Munich, Germany, ¹²Skane University Hospital, Lund, Sweden, ¹³Padua University, Italy, ¹⁴Hospital Universitario Gregorio Marañón, Madrid, Spain, ¹⁵Medical University of Vienna, Vienna, Austria, ¹⁶Ege University Hospital, Izmir, Turkey, ¹⁷National and Kapodistrian University of Athens, Athens, Greece, ¹⁸Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy, ¹⁹Imperial College, London, UK, ²⁰Landstrasse Hospital, Vienna, Austria, ²¹Universtiy Hospital of North Norway, Norway, ²²Jagiellonian University, Cracow, Poland

Previous studies suggested that changes in management of suspicious thyroid nodules during COVID-19 resulted in more aggressive tumors. However, the impact of the pandemic on waiting times and pathology results has not been assessed at the European level.

A retrospective multicenter cohort study was conducted in 55 clinics and 10 countries between January 1st, 2018, and December 31st, 2023, with three study periods: pre-COVID-19 (2018-2019), COVID-19 (2020-2021), and post-COVID-19 (2022-2023).

47,163 thyroid surgeries were analyzed with activity reduction during COVID-19 (largest in France, Spain, Latvia, Poland) and rise in post-COVID-19 ($p < 0.05$). Surgical indications increased for excluding malignancy (EM) (35,7 vs 37,9 vs 37,7%; $p < 0.05$, decreasing in France, Turkey), malignancy (12,3 vs 13,7 vs 12,8%; $p < 0,01$) and completion thyroidectomy (2,2 vs 2,8 vs 2,8%; $p < 0,01$). Among EM, there was a progressive increase of waiting times (41 vs 45 vs 51 days; $p < 0,01$, especially in Austria, France, Italy, Poland, Turkey) and definitive malignancy (25,1 vs 27,2 vs 29,5%; $p < 0.01$, mainly in Poland, France, Turkey). After COVID-19, malignant tumors did not change in size (13 vs 14 vs 13 mm) or lymph node involvement (N1) (45,1 vs 46 vs 44,4%) and T3-4 stage decreased (16,2 vs 15,7 vs 12,2%; $p < 0.01$).

Thyroid surgery decreased during the pandemic, but ruling out malignant tumors remained a priority in most countries. In countries where EM was postponed, the definitive malignancy rate increased. In post-COVID-19, a moderate increase in the incidence of malignant tumors was observed, without an increase in their aggressiveness.

P186

FROM SECOND-LINE TO FIRST-LINE: THE EMERGING ROLE OF 11C - CHOLINE PET/CT IN PARATHYROID SURGERY

Ana Martins¹, Carlos E. Costa Almeida¹, Paulo Menezes¹, Pedro Mesquita¹, Patrícia Gilde¹, Paula Messias¹

¹Head and Neck Surgery Department, Portuguese Institute of Oncology - Coimbra, Francisco Gentil, Coimbra, Portugal

Accurate preoperative localization is essential for minimally invasive parathyroidectomy. Cervical ultrasound (US) and 99mTc-sestamibi (MIBI) remain the standard first-line imaging modalities, although their performance is variable. Choline PET/CT, traditionally reserved for discordant or negative US/MIBI

studies, has shown high diagnostic accuracy and may be suitable as a first-line option.

We performed a retrospective single-center analysis of 47 consecutive patients undergoing parathyroidectomy for primary hyperparathyroidism (January 2024--October 2025). All patients underwent US and MIBI. 11C - Choline PET/CT was obtained when first-line imaging was inadequate. Diagnostic accuracy was correlated with surgical findings and histopathology.

Parathyroid pathology was confirmed in all patients. US localized adenomas in 29%, and MIBI in 70%. Due to inadequate standard imaging, 25 patients (53%) underwent 11C - choline PET/CT, which demonstrated 100% positivity and 100% sensitivity on a patient-based analysis. In comparison, sensitivity was 76% for MIBI and 32% for US.

11C - Choline PET/CT showed superior sensitivity and reliable localization in all discordant cases, directly facilitating minimally invasive parathyroidectomy. These findings support the potential adoption of choline PET/CT as a first-line imaging modality in the preoperative workup of primary hyperparathyroidism.

P187

IMPROVED VOICE: EARLY OUTCOMES OF ANSA CERVICALIS ANASTOMOSIS AFTER ONCOLOGIC RECURRENT LARYNGEAL NERVE RESECTION

Joanna Naemi Marx¹, Yigit Soytas¹, Ilker Satioglu¹, Malik Elwerr¹, Rick Schneider¹, Kerstin Lorenz¹

¹Klinik für Viszeral, Gefäß- und Endokrine Chirurgie der Universitätsmedizin Halle (Saale), Halle (Saale), Germany

Oncologic resection of the recurrent laryngeal nerve (RLN) is sometimes unavoidable in locally advanced thyroid malignancies. The resulting unilateral vocal fold paresis may impair voice, swallowing and overall quality of life. Ansa cervicalis--to--RLN end-to-end reinnervation has emerged as a promising technique, yet data remain limited. We present a single-center series focusing on patients undergoing oncologic RLN resection followed by reconstruction using the ipsilateral ansa cervicalis.

All consecutive patients receiving ansa cervicalis--to--RLN end-to-end anastomosis after oncologic RLN resection between September 2023 and December 2025 were analysed. Demographic variables, tumor pathology, surgical setting (primary vs. recurrent surgery), and early functional outcomes were analysed. Voice assessment included videoalaryngoscopy for vocal cords, the Voice Handicap Index-9 (VHI-9), maximum phonation time (MPT), patient-reported voice satisfaction, aspiration, cough strength, respiratory symptoms. Follow-up is ongoing for the most recently operated cases.

Eight patients were included (4 male, 4 female), median age 57 years (24--79). Pathologies were medullary thyroid carcinoma (n=3), papillary carcinoma (n=2), poorly differentiated carcinoma (n=2), and oncocytic carcinoma (n=1). Four procedures were primary and four recurrent. Median VHI-9 was 14 (4--24) and median MPT 11.5 s (6--19). All affected vocal cords lacked mobility. No patient reported aspiration; cough reflex was preserved in all patients; no pneumonia occurred.

Primary ansa cervicalis--to--RLN reinnervation after oncologic RLN resection is safe and yields encouraging functional outcomes. Further follow-up and matched cohort comparison will provide additional insight into long-term effectiveness.

P188

CLINICAL COURSE OF MAXILLARY BROWN TUMORS IN PRIMARY HYPERPARATHYROIDISM

Sabaretnam Mayilvaganan¹, Spandana J¹, Ambika Tandon¹, Rajni Sah¹, Namrata Maskara¹, Sushil Gupta¹

¹Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Maxillary Brown tumors are rare osteolytic lesions arising from uncontrolled hyperparathyroidism, most commonly primary hyperparathyroidism (PHPT). Although parathyroidectomy is the cornerstone of management, the natural history of maxillary lesions after surgery and the need for adjunct procedures remain incompletely defined. This study presents a single-surgeon, five-year experience evaluating the regression pattern and management outcomes of maxillary Brown tumors following parathyroidectomy.

A retrospective review was conducted of patients with maxillary Brown tumors treated between January 2020 and November 2025 under a single endocrine surgeon. Demographic details, biochemical profile, parathyroid pathology, tumor size, need for maxillofacial surgery, and use of antiresorptive therapy were analyzed. All patients underwent parathyroidectomy as definitive treatment for PHPT and were

followed clinically and radiologically for tumor regression.

A total of 18 patients with maxillary Brown tumors secondary to PHPT were identified. Parathyroidectomy led to biochemical cure in all cases. Of these, 16 patients (88.9%) exhibited spontaneous regression of the maxillary lesions over follow-up. Two patients (11.1%) required additional maxillofacial surgical intervention due to persistent deformity or functional limitation despite corrected hyperparathyroidism. Among them, one patient required postoperative zoledronic acid therapy to facilitate bony remodeling. No cases demonstrated progression or recurrence following parathyroidectomy. Overall, the majority of lesions showed substantial improvement without the need for adjunctive therapy.

This single-surgeon experience demonstrates that parathyroidectomy alone is effective in achieving regression of maxillary Brown tumors in most patients. Adjunctive surgical or antiresorptive therapy is required only in a minority, primarily due to residual deformity.

P189

DOUBLE SCRUB ADRENALECTOMY IMPROVES SAFETY AND EFFICIENCY IN COMPLEX ADRENAL TUMOURS: A 26-CASE MULTIDISCIPLINARY EXPERIENCE

Sabaretnam Mayilvaganan¹, Rajni Kumari Sah¹

¹*Sgpgims, India*

Adrenalectomy for large, functional, or anatomically complex lesions carries a high risk due to difficult vascular anatomy, proximity to the inferior vena cava (IVC), and potential hemodynamic instability. A double scrub model---two experienced surgeons operating simultaneously---may enhance safety and technical efficiency. This study evaluates outcomes of double-scrub adrenalectomy performed for high-complexity adrenal pathology.

A retrospective review was conducted of 26 consecutive adrenalectomies performed in a tertiary endocrine surgery unit. All procedures adopted a double scrub technique involving coordinated participation from Surgical Gastroenterology (n=12) and Urology (n=14) teams. The cohort included: 3 Conn's adenomas (one requiring splenectomy), 10 pheochromocytomas (two with retrocaval extension; eight >6 cm), 6 adrenocortical carcinomas (ACC) (one with IVC tumour thrombus), 6 large myelolipomas, 1 adrenal teratoma, and 1 patient with significant systemic comorbidity. Operative difficulty, vascular events, hemodynamic instability, and perioperative outcomes were assessed.

The double scrub approach improved exposure, vascular control, and real-time decision-making across all complex cases. Pheochromocytomas benefitted from simultaneous dissection, enabling rapid response to blood pressure fluctuations. Dual-surgeon mobilisation was critical for safe handling of ACC and tumour thrombus. Large myelolipomas and the teratoma required extensive dissection within restricted spaces, made safer with coordinated bimanual technique. The Conn's adenoma requiring splenectomy was completed without added morbidity. No major vascular injuries, uncontrolled crises, or conversions due to exposure difficulty occurred.

In this series of complex adrenal tumours, double scrub adrenalectomy enhanced operative safety and efficiency, supporting its adoption as a best-practice approach in high-volume endocrine centres.

P190

PREDICTIVE MODELS FOR ONCOLOGIC RISK STRATIFICATION IN INDETERMINATE THYROID NODULES: A PROSPECTIVE STUDY OF 984 CASES

Fabio Medas¹, Dott. Gian Luigi Canu¹, Dott. Federico Cappellacci¹, Dott. Leonardo Rossi³, Dott. Francesco Pennestrì², Dott. Elena Bonati⁷, Dott. Simone Harsch⁸, Michele Minuto⁵, Dott. Constantin Smaxvill⁸, Dott. Francesca Torresan⁴, Milan Jovanovic⁹, Nicola Avenia⁶, Gianluca Donatini¹⁰, Paolo Del Rio⁷, Maurizio Iacobone⁴, Gabriele Materazzi³, Marco Raffaelli², Pietro Giorgio Calò¹

¹*University Of Cagliari, Cagliari, Italy*, ²*Division of Endocrine and Metabolic Surgery, Fondazione Policlinico Universitario Agostino Gemelli IRCCS, Rome, Italy*, ³*University of Pisa, Pisa, Italy*, ⁴*University of Padova, Italy*, ⁵*University of Genova, Genova, Italy*, ⁶*University of Perugia, Perugia, Italy*, ⁷*University of Parma, Parma, Italy*, ⁸*Department of Endocrine Surgery, Diakonie Klinikum, Stuttgart, Germany*, ⁹*University Clinical Center of Serbia, Belgrade, Serbia*, ¹⁰*University of Poitiers, Poitiers, France*

The management of indeterminate thyroid nodules (ITNs) remains challenging, as up to 25% of fine-needle aspiration cytology (FNAC) results fall into this category. Diagnostic surgery is often required but frequently unnecessary. This study aimed to assess the true incidence of malignancy in

ITNs and to develop a predictive model to refine oncologic risk stratification.

A prospective analysis was conducted on 984 patients with Bethesda III (n = 413) or Bethesda IV (n = 571) FNAC diagnoses. Clinical, biochemical, and ultrasonographic (US) parameters were analyzed. Independent predictors of malignancy were identified through multivariate logistic regression to construct diagnostic models for each Bethesda category.

Full results are reported in the Tables. Among Bethesda IV nodules, 33.8% were malignant; younger age, autoimmune disease, irregular shape, and calcifications were independent predictors. The model achieved an AUC = 0.712 (95% CI 0.673--0.749), with 30.6% sensitivity, 88.6% specificity, and overall accuracy = 69%. For Bethesda III nodules, malignancy occurred in 24.9% of cases. Predictors included younger age, hypoechogenicity, and non-homogeneous structure, while hyperechogenicity and homogeneous texture were protective. This model yielded an AUC = 0.723 (95% CI 0.677--0.766), 17.5% sensitivity, 96.5% specificity, and accuracy = 76.8%. Across both groups, malignant nodules were significantly smaller and more frequently calcified.

Malignancy occurred in one-third of Bethesda IV and one-fourth of Bethesda III nodules. Younger age, irregular morphology, and calcifications were the strongest predictors. The proposed models demonstrate moderate discriminative performance and may help identify patients suitable for conservative management, thereby reducing unnecessary thyroid surgeries.

P191

NAVIGATING THYROIDECTOMY IN A WOLFRAM SYNDROME CASE: IONM CHALLENGES AND ADAPTIVE STRATEGIES

Megi Mehmeti^{1,2}, Rati Ramishvili³, Özer Makay^{4,5}

¹Department of General and Endocrine Surgery, Conception University Hospital, Aix-Marseille University, Marseille, France, ²General Surgery Residency Program, University of Milano-Bicocca, Milan, Italy, ³Tbilisi State Medical University; Caraps Medline Hospital, Tbilisi, Georgia, ⁴Özel Sağlık Hospital, Centre of Endocrine Surgery, Izmir, Türkiye, ⁵Aristotle University, School of Medicine, Thessaloniki, Greece

Wolfram syndrome (WS), also known as DIDMOAD (Diabetes Insipidus, Diabetes Mellitus, Optic Atrophy, Deafness), is a rare autosomal recessive disorder most often caused by mutations in the WFS1 gene. The disease is characterized by progressive neurodegeneration affecting both central and peripheral pathways, often resulting in attenuated electromyographic (EMG) responses during intraoperative neuromonitoring (IONM). This poses unique challenges in ensuring recurrent laryngeal nerve (RLN) preservation during thyroid surgery.

We report the case of thyroidectomy in WS highlighting a tailored IONM troubleshooting and multimodal nerve identification strategy.

A genetically confirmed WS patient underwent total thyroidectomy under IONM guidance. Anticipating neuropathic interference, a detailed preoperative protocol was established: endocrinologic stabilization, blood pressure monitoring and avoidance of long-acting neuromuscular blockade. After intubation, thyroid cartilage electrodes were positioned.

Baseline vagus (V1) and RLN (R1) signals were weak; therefore, a troubleshooting sequence was applied. Electrodes integrity and reversing residual muscle relaxation was verified, RLN was stimulated proximally and distally, and laryngeal muscular contraction was confirmed by direct digital examination during nerve stimulation. Although EMG amplitudes remained markedly low, reproducible waveforms obtained at multiple stimulation points verified ongoing neural integrity and excluded nerve injury. Immediate postoperative laryngoscopic evaluation confirmed normal bilateral vocal cord motion.

In WS, neuropathy may attenuate IONM signals without true nerve dysfunction. Applying a structured troubleshooting algorithm with adjunctive tactile and visual nerve verification ensures safe thyroidectomy and reliable RLN preservation.

P192

ANASTOMOSING HEMANGIOMA OF THE ADRENAL GLAND: A RARE DIAGNOSTIC CHALLENGE

Megi Mehmeti¹, Carole Guérin¹, Cédric Atondeh¹, Wassim Essamet³, David Taïeb⁴, Frédéric Sebag¹, Nunzia Cinzia Paladino¹

¹Department of General and Endocrine Surgery, Conception University Hospital, Aix-Marseille University, Marseille, France, ²General Surgery Residency Program, University of Milano-Bicocca, Milan, Italy, ³Department of Neuropathology, La Timone University Hospital, Centre Européen de Recherche en Imagerie Médicale, Aix-Marseille University, Marseille, France, ⁴Department of Nuclear Medicine, Timone University Hospital, Aix-Marseille University, Marseille, France

Atypical adrenal incidentalomas require careful evaluation when imaging features are not consistent with adenoma and raise concern for rare vascular tumors. We report the case of a 41-year-old male patient with a right non-secreting adrenal lesion leaving diagnostic uncertainty.

Hormonal profile excluded pheochromocytoma. Serial imaging showed a stable but atypical encapsulated mass, hypervascular on CT/MRI, with negative PET-FDOPA and mild PET-FDG uptake. The case was reviewed in a multidisciplinary tumor board, which recommended surgical management. A robot-assisted right adrenalectomy was performed. No intraoperative complication occurred.

Histopathological examination revealed a 31 × 25 × 21 mm well-limited intra-adrenal vascular tumor composed of small anastomosing vascular channels lined with turgid endothelial cells. Immunohistochemistry showed CD31 and ERG positivity, with a Ki67 index of 1%. No malignant features were identified. The diagnosis of adrenal anastomosing hemangioma was confirmed. The postoperative course was uneventful. The multidisciplinary board recommended simple surveillance.

Anastomosing hemangioma of the adrenal gland is a rare benign entity that may mimic aggressive tumors on imaging due to its hypervascularity. It tends to be asymptomatic without clinical manifestations. CT without contrast may show solid or hypodense cystic lesions, and CT with contrast usually shows homogeneous or heterogeneous enhancement in the periphery. However, imaging does not seem to help differentiate anastomosing hemangioma from other forms. In this case, robot-assisted adrenalectomy allowed safe and complete resection, providing a definitive diagnosis. This case highlights the importance of integrating imaging, hormonal assessment, and multidisciplinary evaluation when confronting atypical adrenal lesions.

P193

RISK FACTORS FOR METASTASIS AND RECURRENCE IN LARGE (≥4 CM) PHEOCHROMOCYTOMAS EVALUATED BY PET/CT

Megi Mehmeti^{1,3}, Cecilia Piazzola², Nunzia Cinzia Paladino¹, Carole Guérin¹, Nicolas Sahakian², Frédéric Castinetti², Frédéric Sebag¹, David Taïeb⁴

¹Department of General and Endocrine Surgery, Conception University Hospital, Aix-Marseille University, Marseille, France, ²Department of Endocrinology, Conception University Hospital, Marseille, France, ³General Surgery Residency Program, University of Milano-Bicocca, Milan, Italy, ⁴Department of Nuclear Medicine, Timone University Hospital, Aix-Marseille University, Marseille, France

Predictive factors for recurrence or metastasis in pheochromocytomas remain incompletely defined. Tumor size is often cited as a key determinant, but most published studies are confounded by the inclusion of paragangliomas. Robust predictors specific to adrenal pheochromocytomas are essential to guide surgical decision-making and postoperative surveillance. The aim of this study is to identify risk factors associated with recurrence or metastatic disease in a homogeneous cohort of large (≥4 cm) pheochromocytomas assessed by metabolic imaging.

This retrospective study included all patients followed for a pheochromocytoma ≥4 cm evaluated by PET/CT between 2007 and 2022. Clinical data, imaging characteristics, and pathological parameters were collected. Variables associated with recurrence or metastasis were analyzed through multivariate logistic regression to establish a predictive model.

Eighty patients were included, with a mean tumor diameter of 60.7 ± 25.7 mm. A total of 13.8% developed metastatic disease, either at diagnosis (n=2) or during follow-up (n=9), with a mean time to occurrence of 6.9 ± 5.6 years, highlighting the need for prolonged postoperative monitoring. Recurrence/metastasis was significantly associated with tumor size (p=0.019): patients with adverse outcomes had a mean maximal diameter of 94 mm versus 55.3 mm in those without disease progression. In multivariate analysis, only tumor size and mitotic rate independently predicted

recurrence or metastatic evolution.

In large pheochromocytomas (≥ 4 cm), tumor size and mitotic rate are the principal predictors of recurrence or metastasis. Their combined assessment provides a clinically useful tool to support individualized long-term surveillance strategies after adrenalectomy.

P194

PRESENTATION OF TWO RARE FORMS OF GANGLIONEUROMA IN YOUNG PATIENTS: DIAGNOSTIC AND THERAPEUTIC APPROACH

Megi Mehmeti^{1,3}, Cédric Atondeh¹, Nancy Domato¹, Julian Fernandez Aramburu¹, Carole Guérin¹, David Taïeb², Frédéric Sebag¹, Nunzia Cinzia Paladino¹

¹Department of General and Endocrine Surgery, Conception University Hospital, Aix-Marseille University, Marseille, France, ²Department of Nuclear Medicine, Timone University Hospital, Aix-Marseille University, Marseille, France,

³General Surgery Residency Program, University of Milano-Bicocca, Milan, Italy

Adrenal ganglioneuroma/AGN is an uncommon benign neural-crest tumor, discovered incidentally in young patients. Adrenal localization is rare and diagnosis is a challenge because of its non-specific imaging features. Although a benign tumor, malignant forms have been described. It often presents as voluminous symptomatic mass. Surgical excision provides both cure and definitive histopathological diagnosis. We present two cases managed in our institution.

Case 1:

A 17-year-old woman presented with lumbar and pelvic pain and was found to have a ~10 cm heterogeneous right adrenal mass with necrosis, calcifications, mass effect on the kidney and hepatic vessels, a satellite lesion between the inferior vena cava/IVC and portal vein, and necrotic coeliac/retroperitoneal lymph nodes on CT/MRI. 18F-FDG-PET showed strong hypermetabolism. No adrenal hypersecretion was present. She underwent surgery and histopathology revealed two benign AGN of 9 cm and 7 cm. A 9-month postoperative MRI showed no residual or recurrent disease.

Case 2:

A 21-year-old woman presented with abdominal pain. CT scan identified a 6-cm heterogeneous retroperitoneal interaortocaval mass in close contact with the right renal vein and IVC. Hormonal profile and 68Ga-DOTATATE PET were negative. Transduodenal EUS-guided FNA favored ganglioneuroma. Given symptomatology and vascular involvement, an open right adrenalectomy was performed without vascular reconstruction needed. Histopathology confirmed an 8-cm AGN. The postoperative course was uncomplicated and the patient remains recurrence-free.

AGN should be considered in the evaluation of non-functioning adrenal masses with indeterminate imaging features. Because imaging cannot reliably differentiate AGN benign from malignant forms, surgical resection remains the gold standard.

P195

UNDERSTANDING DECISION REGRET AFTER SURGERY FOR INDETERMINATE THYROID NODULES: A PATIENT-CENTRED PERSPECTIVE

Rossella Melcarne¹, Stefano Livi², Giorgio Grani¹, Fabrizio Consorti³, Laura Giacomelli⁴, Cosimo Durante¹, Marco Biffoni⁴

¹Department of Translational and Precision Medicine, Sapienza University of Rome, Rome, Italy, ²Department of Social and Developmental Psychology, Sapienza University of Rome, Rome, Italy, ³Department of General Surgery, Sapienza University of Rome, Rome, Italy, ⁴Department of General and Specialized Surgery and Anesthesiology, Sapienza University of Rome, Rome, Italy

Managing indeterminate thyroid nodules (Bethesda III–IV) remains a common challenge in endocrine surgery. In the absence of a definitive preoperative diagnosis, patients often face preference-sensitive decisions, including diagnostic surgery versus active surveillance. Decision regret (DR) has emerged as a meaningful patient-reported outcome in this setting, yet it remains largely unexplored in surgical populations.

We administered an Italian digital survey, including the Decision Regret Scale (DRS), Decision Conflict Scale, Satisfaction With Decision, EQ-5D, and STAI-Y2, to a cohort of patients who underwent surgery for Bethesda III/IV nodules within the previous 12 months. Fifty-three complete responses were analysed. Reliability and construct validity of the Italian DRS were assessed, and associations between DR and demographic, psychological, and clinical variables were explored.

The Italian DRS demonstrated good internal consistency (Cronbach's $\alpha=0.7$; McDonald's $\omega=0.8$). Higher DR was significantly associated with greater decision conflict, particularly the "Effective Decision" ($p<0.05$) and "Values Clarity" ($p<0.05$) subscales. DR tended to increase with time from surgery (mean 2.23 <6 months vs 2.56 >12 months), with the greatest variability observed between 6--12 months, suggesting a transitional emotional phase. No significant differences emerged between Bethesda classes, though distribution patterns indicate that a larger cohort may identify clinically relevant subgroups. Age and educational level were significantly associated with DR ($p<0.05$).

This study provides the first validation of the Italian DRS in thyroid surgery and highlights decision regret as an overlooked dimension of postoperative experience. These findings support the integration of structured communication frameworks and shared decision-making tools to improve the decisional quality of care in patients with indeterminate thyroid nodules.

P196

DOES THE SURGICAL GESTURE, RATHER THAN NODAL BURDEN, DRIVE PERMANENT HYPOPARATHYROIDISM IN PAPILLARY THYROID CARCINOMA?

Rossella Melcarne¹, Giorgio Grani¹, Eva Iannuzzi², Oirelvis Antonio Serra Esinosa², Fabrizio Consorti³, Laura Giacomelli², Cosimo Durante¹, Marco Biffoni²

¹Department of Translational and Precision Medicine, Sapienza University of Rome, Rome, Italy, ²Department of General and Specialized Surgery and Anesthesiology, Sapienza University of Rome, Rome, Italy, ³Department of General Surgery, Sapienza University of Rome, Rome, Italy

The oncological value of central neck dissection (CND) in clinically node-negative papillary thyroid carcinoma (PTC) remains uncertain, whereas its functional risks -particularly permanent hypoparathyroidism (p-HypoPTH)-are well established. It is unclear whether this morbidity is driven by tumour biology (nodal burden, ATA risk class) or by the surgical gesture itself.

We retrospectively analysed 466 consecutive patients undergoing thyroidectomy for PTC (preoperative TIR4/5). We assessed p-HypoPTH, central lymph-node metastases, number of nodes removed, ATA risk class, and 12-month response-to-therapy (rTT_{12m}). Logistic regressions were used to evaluate independent predictors of p-HypoPTH, focusing on: (1) performance of CND, (2) presence of nodal metastases, and (3) extent of nodal clearance (≤ 5 vs >5 nodes removed). Analyses of incidental parathyroidectomy are currently ongoing.

Permanent HypoPTH occurred in 8.8% of the cohort and was significantly more frequent in patients who underwent CND (17.8%). Neither the presence of central nodal metastases nor the number of nodes removed predicted p-HypoPTH. In ATA high--intermediate-risk patients (ATA 3), the risk increased further (22.8%). Conversely, rTT_{12m} outcomes were comparable between patients with and without CND, including within ATA 3, suggesting no measurable improvement in early oncological response associated with performing CND.

In this real-life cohort, the decision to perform CND itself, rather than nodal burden or dissection extent, was the strongest driver of p-HypoPTH, while providing no detectable benefit in rTT_{12m} outcomes, even in higher ATA risk classes. These findings support a more selective and risk-adapted use of CND and highlight the importance of identifying patients in whom the functional cost may outweigh any potential oncologic gain.

P197

QUALITY OF LIFE AFTER TOTAL THYROIDECTOMY WITH LATERAL NECK DISSECTION

Angeliki Emmanouilidou^{1,2}, Charilaos Koulouris¹, Kalliopi Pazaitou-Panayiotou³, Michael Karanikas¹, Nikolaos Michalopoulos¹

¹Genesis Hospital ; Department of Endocrine Surgery, Thessaloniki, Greece, ²Aristotle University of Thessaloniki ; School of Medicine, Thessaloniki, Greece, ³European Interbalkan Medical Center ; Department of Endocrinology, Thessaloniki, Greece

Well-differentiated thyroid carcinoma generally carries an excellent prognosis, with 10-year survival exceeding 90%. However, when nodal metastases necessitate central and lateral neck dissection, postoperative morbidity may increase and affect long-term quality of life (QoL). We report the initial findings of a prospective single-surgeon QoL study evaluating outcomes after total thyroidectomy with central and lateral lymph node dissection.

All patients completed the Washington QoL questionnaire ≥ 6 months postoperatively after providing written informed consent. Demographic, clinical and QoL data are being prospectively recorded in a dedicated database. The present analysis summarizes the results from the first 30 consecutively enrolled patients in this ongoing study.

Among the first 30 patients, 26 underwent unilateral and 4 bilateral lateral neck dissection. One patient required reoperation for recurrence. Permanent hypoparathyroidism occurred in 3 patients (10%). Reported postoperative issues included shoulder abduction weakness (33.3%), cervical pain (23.3%) and hoarseness (6.7%). Common daily-life difficulties involved chronic calcium supplementation, levothyroxine dose adjustments and reduced shoulder function. Overall, 13.3% reported worse QoL compared with their preoperative status.

Lateral neck dissection performed alongside total thyroidectomy remains a safe and effective procedure, with most patients reporting satisfactory QoL several months after surgery. Continued prospective analysis of this cohort will further clarify QoL patterns and factors influencing postoperative recovery.

P198

TUMOR LOCATION AND ITS ROLE IN PROPHYLACTIC LYMPH NODE DISSECTION IN THYROID CANCER

Angeliki Emmanouilidou^{1,2}, Athina Stamati², Charilaos Koulouris¹, Kalliopi Pazaitou-Panayiotou³, Michael Karanikas¹, Nikolaos Michalopoulos¹

¹Genesis Hospital ; Department of Endocrine Surgery, Thessaloniki, Greece, ²Aristotle University of Thessaloniki ; School of Medicine, Thessaloniki, Greece, ³European Interbalkan Medical Center ; Department of Endocrinology, Thessaloniki, Greece

Papillary thyroid carcinoma commonly presents with occult central lymph node metastasis, yet the benefit of prophylactic central neck dissection in clinically node-negative patients remains controversial. Tumor location has been proposed as a potential predictor of nodal spread. This study investigates whether primary tumor position predicts central lymph node metastasis and could inform surgical planning.

We retrospectively analyzed 185 patients who underwent total thyroidectomy with prophylactic central lymph node dissection from January 2022 to October 2025. The thyroid was divided into seven anatomical regions (right/left upper, middle, lower, and isthmus). Chi-square and Kruskal-Wallis tests assessed associations between tumor site and nodal status. Univariate and multivariable logistic regression identified significant predictors. Spearman correlation examined the relationship between tumor size and number of metastatic nodes.

Central lymph node metastasis occurred in 27% of patients (50/185). Tumor location across the seven predefined regions showed no significant association with lymph node metastasis ($p=0.8$), and grouping locations into broader anatomical categories also yielded non-significant results ($p=0.89$). Although several factors were associated with metastasis in univariate analysis, only lymphovascular invasion remained significant in multivariable regression. Size correlated weakly with number of metastatic nodes ($p=0.19$, $p=0.01$) but did not remain significant after adjusting for other factors.

Although larger cohorts may be necessary to confirm any subtle associations, present clinical decision-making should continue to rely on ultrasonographic criteria and patient characteristics.

P199

ANALYZING AUDIENCE PARTICIPATION AT THE 43RD WORKSHOP OF THE GERMAN SURGICAL WORKING GROUP ON ENDOCRINOLOGY (CAEK): GENDER BALANCE IN GERMAN ENDOCRINE SURGERY.

Anna Mikl¹, Maximilian Kießler¹, Maximilian Berlet¹, Marc Martignoni¹, Helmut Friess¹, Costanza Chiapponi¹

¹Tum Klinikum Rechts Der Isar, Munich, Germany

Although women now constitute most medical students in Germany (65% in 2024), surgery remains male dominated, with only 21% of university-hospital surgeons being women in 2018. Endocrine surgery is a notable exception, with 35--58% female representation internationally. This contrast raises questions about women's academic engagement in a traditionally male field. The 43rd Workshop of the German Surgical Working Group on Endocrinology (CAEK) offered an opportunity to examine

gender-specific participation.

Lecture sessions were prospectively observed. The biological gender of chairs, speakers, and audience members asking questions was recorded, with emphasis on the first questioner and its influence on subsequent participation. Gender distributions and question-asking patterns were compared.

A total of 385 participants attended the conference (52% female, 48% male), and 32 sessions were analyzed. 62 audience questions were documented: 36 (58%) from women and 26 (42%) from men. Men asked the first question in 15 sessions (55.5%), women in 12 (44.5%). When a man initiated discussion, 57% of follow-up questions came from men; when a woman initiated, 90% of subsequent questions were posed by women.

Although overall participation was balanced, the gender of the first questioner strongly influenced subsequent engagement. These findings indicate persistent gendered interaction dynamics and highlight the importance of visible female role models in fostering equitable academic participation within endocrine surgery.

P200

THE ROLE OF 4D CT IN THE SURGICAL PLANNING OF A PATIENT WITH ECTOPICALLY LOCATED PARATHYROID GLAND -- A CASE REPORT

Ivica Milosavljevic¹, Biljana Anđelković², Alberto Martinez-Janzen¹, Vladimir Ilić¹

¹Surgical Department, General Hospital Kruševac, Kruševac, Serbia, ²Department of Radiology, General Hospital Kruševac, Kruševac, Serbia

The ectopically positioned parathyroid gland is not uncommon in parathyroid surgery. However, when it is found on an aberrantly positioned right subclavian artery (a.lusoria), located retroesophageally, without clear detection on ultrasound or precise MIBI scintigraphy, it becomes a significant challenge for an endocrine surgeon to cope with this problem, particularly working in hospitals with limited technical equipment.

A 72-year-old female patient was operated on since diagnosed with primary hyperparathyroidism. The preoperative laboratory parameters were: serum calcium 3.07-mmol/L, phosphorus 1.03-mmol/L, and iPTH-153 pg/mL. The Imaging MIBI scintigraphy test revealed a slow radiopharmaceutical washout from three parathyroid glands. A 4DCT scan was performed clearly identifying an ectopically altered parathyroid gland, lying on an aberrantly positioned right subclavian artery (a.lusoria), located retroesophageally.

Using a minimally invasive surgical technique, the lower pole of the thyroid gland was approached and identified. The esophagus was mobilized, and the a.lusoria and the altered parathyroid gland at the level of the T1 vertebra were located. The excision of the parathyroid gland was performed, avoiding a conventional bilateral neck exploration and preventing potential operative complications, such as injury of the aberrantly positioned arterial vessel. The intraoperative iPTH value 15 minutes after the excision was 18-pg/mL. During the first postoperative day, serum calcium decreased to 2.38 mmol/L, as increased serum phosphorus to 1.11-mmol/L. The histopathological report confirmed a parathyroid adenoma.

The dynamic contrast enhancement in 4D CT helps identify the ectopic parathyroid adenoma more clearly, allowing surgical treatment to be performed safely and more successfully for the patient.

P201

USEFULNESS OF INTRAOPERATIVE PARATHYROID ASPIRATION AND PTH ASSAY IN THE SURGICAL STRATEGY OF PATIENTS WITH HYPERPARATHYROIDISM

Laura Musso², Emanuela Varaldo¹, Luca Nanni³, Sonia Nichetti³, Stefano Raffa⁵, Stefano Gay², Lara Vera², Gian Luca Ansaldo⁴, Michele Minuto¹

¹Department of Surgical Sciences (DISC), University Of Genoa, Genoa, Italy, ²Operative Unit of Endocrinology, IRCCS Polyclinic Hospital San Martino, Genoa, Genoa, Italy, ³Laboratory Medicine, IRCCS Polyclinic Hospital San Martino, Genoa, Genoa, Italy, ⁴Operative Unit of Endocrine Surgery, IRCCS Polyclinic Hospital San Martino, Genoa, Genoa, Italy, ⁵Operative Unit of Nuclear Medicine, IRCCS Polyclinic Hospital San Martino, Genoa, Genoa, Italy

Intraoperative aspiration for PTH assay from a removed lump (PTH-FNA) is a useful tool during surgery for hyperparathyroidism (HPT). This study aims at evaluating 3 main aims: 1) Can PTH-FNA be used to discriminate parathyroid from non-parathyroid tissue? 2) Can it be used to label pathologic parathyroid tissue? And 3) Can it be useful to manage the surgical strategy?

This prospective study evaluated 127 consecutive patients affected with HPT who underwent parathyroidectomy with the removal of at least one parathyroid. QPTH was used together with PTH-FNA from the removed parathyroids and control tissues. Overall, 153 aspirations were performed ex-vivo on the removed lumps, and, in-vivo, on control tissues and on apparently normal parathyroids. The FNA samplings were diluted with saline solution and evaluated for PTH concentration.

One-hundred and 41 parathyroids were removed. Final histology showed: adenoma (109 cases), hyperplasia (21), atypical adenoma (10) and 1 normal parathyroid. Primary aim of the study (parathyroid tissue vs. non-parathyroid): sensitivity and specificity were 95.1% and 100%, respectively, accuracy 95.4%. Secondary aim (pathologic parathyroid tissue vs. normal): sensitivity and specificity were 97.8% and 83.3%, respectively, accuracy 96.1%. For the third aim, a scenario of clinical situations is presented.

PTH-FNA can discriminate parathyroid from non-parathyroid tissue, allowing to avoid time and cost-consuming intraoperative frozen section. When differentiating normal from pathologic parathyroid tissue, the results obtained by our data are less strong but the clinical value seems extremely useful when used together with preoperative imaging, QPTH, and the surgeon's experience.

P202

PET-CT 18F-FLUOROCHOLINE IN THE DETECTION OF PARATHYROID ADENOMA IN PRIMARY HYPERPARATHYROIDISM AND ITS USE IN THE IMPLEMENTATION OF MINIMALLY INVASIVE SURGERY

Dieter Morales¹, Dra Noemi Martos¹, Dra Esperanza Ramos¹, Dra Rocio Soler¹, Juan Ruiz¹, Jose Luis Fernández¹, Dra Lourdes Garrido¹, Dra Cristina Monje¹, Luis Tomas Ocaña¹

¹Clinic University Hospital Virgen de La Victoria. University of Malaga, Málaga, Spain

To achieve minimally invasive surgery for primary hyperparathyroidism due to an adenoma, we are obliged to use the best techniques for its localization. Recently, 18F-fluorocholine PET-CT has shown sensitivity rates exceeding 85%, specificity of 91%, and a detection rate of 96%. The objective was to demonstrate the superiority of 18F-fluorocholine PET-CT over other techniques in the detection of parathyroid adenomas, thus facilitating minimally invasive surgery.

A longitudinal, prospective, pre-post intervention (before-after) single-center study of a cohort of patients with primary hyperparathyroidism undergoing endocrine surgery.

All 36 patients with hyperfunctioning parathyroid tissue detected on choline PET underwent surgery. Minimally invasive parathyroidectomy was performed in 33 patients. The parathyroid adenoma detected on imaging was recovered in 31 of these patients (86.11%) and was not recovered in 2. Two patients underwent hemithyroidectomy (both with successful adenoma resection), and one underwent bilateral cervical exploration.

-18F-fluorocholine PET-CT has demonstrated significantly greater sensitivity compared to conventional tests for detecting hyperfunctioning parathyroid tissue.

-This allowed for minimally invasive surgery (selective parathyroidectomy) in 91.67% of cases.

-The use of 18F-fluorocholine PET-CT has avoided bilateral cervical exploration in 35 patients, even among patients who had concomitant thyroid disease.

P203

PARATHYROID CARCINOMA PRESENTED AS MEDIASTINAL MASS

Dieter Morales¹, Dra Rocio Soler¹, Jose Luis Fernandez¹, Dra Cristina Monje¹, Guillermo Plata¹, Nicola Bregolli¹, Dra Maria Luisa Caño¹, Dra Maria Dolores Dominguez¹, Dra Maria Victoria Ortega¹, Dra Elena Gallego¹, Luis Tomas Ocaña¹

¹Clinic University Hospital Virgen de La Victoria. University of Malaga, MALAGA, Spain

Parathyroid carcinoma (PC) is a rare malignant neoplasm involving the parathyroid gland which was first described by Sainton and Millot in 1933. We report the case of a PC that debuted as mediastinal mass.

44- years old female with history of left thyroid nodule of six months of evolution, asociated to progressive dysphagia. Laterocervical palpable limph nodes (iconography). Neck ultrasound showed a normal right thyroid and a nodule at left side. FNA informed as follicular proliferation (Bethesda IV). CT scan showed a mass lower to left thyroid lobe 6.1x5.3x5.8 cms no clear dependence about thyroid

gland (iconography). No Hipercalcemia was observed.

After discussion in a multidisciplinary committee the patient was operated. A cervicotomy was performed and a big mass depending of thyroid gland unresectable was found. A biopsy of the mass was performed. Pathological report inform about parathyroid carcinoma por diferenciado + CK AE1/AE3, PTH, ENLASA, GATA-3, CROMOGRANIN, CK7, P63, SALL-4, INI-1. Since the irresectability of the mass, the patient received radiotherapy, being well uptodate.

-Most parathyroid carcinomas are clinically silent and not diagnosed preoperatively or intraoperatively.

-Hypercalcemia is not always the most obvious symptom of PC.

\- En bloc resection remains the gold standard for the surgical approach, but not always is posible.

\- The diagnosis of PC can only be confirmed with a detailed histopathology analysis. The World Health Organisation defines the presence of infiltrative growth or histological proof of PC vascular invasion as the minimum criteria for diagnosing PC.

P204

PROPHYLACTIC CENTRAL LYMPH NODE DISSECTION IN PATIENTS WITH BETHESDA V FNA: IS IT REALLY A NECESSARY PROCEDURE?

Dieter Morales¹, Dra Rocio Soler¹, Nicola Bregoli¹, Jose Luis Fernandez¹, Dra Cristina Monje¹, Guillermo Plata¹, Dra Maria Dolores Dominguez¹, Dra Lidia Perez¹, Luis Ocaña¹

¹Clinic University Hospital Virgen De La Victoria. University of Malaga, MALAGA, Spain

The objective of this work is to review the percentage of patients with positive lymph nodes in the central compartment who have undergone prophylactic lymphadenectomy in addition to total thyroidectomy in patients with suspected thyroid carcinoma after puncture of a nodule with a Bethesda V result.

A total of 91 cases were reviewed during the period from January 2022 to March 2025. The clinical and demographic characteristics of the patients are described, as well as whether or not central thyroidectomy was associated with the procedure, its histopathological outcome, and whether it led to increased morbidity.

Ninety-one total thyroidectomies were performed in Bethesda V patients, with a median age of 49 years (range 22--85 years). Central lymph node dissection was performed in 86 cases. In 45% of cases, at least one lymph node was found to be positive on pathology. Ten patients presented with clinical hypocalcemia and 27 with laboratory hypocalcemia. One case of permanent recurrent laryngeal nerve palsy and one case of transient recurrent laryngeal nerve palsy were observed.

-Central lymph node dissection is a surgical procedure that, in expert hands, is beneficial in patients with a preoperative diagnosis of suspected malignancy (Bethesda V), as it allows for better staging of the disease.

-The associated morbidity in our series is comparable to data reported in the literature.

-Multicenter studies are needed to identify other risk factors associated with tumor pathology, such as nodule size in relation to the rate of positive lymph nodes.

P205

OUTCOME OF TOTAL THYROIDECTOMY VERSUS CONSERVATIVE SURGERY FOR LOW- AND INTERMEDIATE-RISK PAPILLARY THYROID CARCINOMA: A PROPENSITY SCORE-MATCHED ANALYSIS

Pablo Moreno Llorente^{1,4}, Marta Recasens Subías¹, Arantxa Garcia Brrasa¹, Alvaro Valdés de Anca², Josefina Lopez Dominguez¹, Nicolás Seffino¹, Itziar Larrañaga¹, Marcos Lahera Vargas³, Losé Luis Muñoz de Nova^{2,5}

¹Hospital Universitario De Bellvitge, Hospitalet de Llobregat, Spain, ²Department of General and Digestive Surgery, Hospital Universitario de La Princesa, Instituto de Investigación Sanitaria Princesa (IIS-IP), Madrid, Spain,

³Department of Endocrinology and Nutrition, Hospital Universitario de La Princesa, Instituto de Investigación Sanitaria Princesa (IIS-IP), Madrid, Spain, ⁴Instituto de Cirugía Endocrina, Barcelona, Spain, ⁵Department of Surgery, Universidad Autónoma de Madrid (UAM), Madrid, Spain

The extent of surgical resection in low- and intermediate-risk papillary thyroid carcinoma (PTC) is a matter of debate. We aimed to compare total thyroidectomy and lobectomy in terms of response to therapy in low- and intermediate-risk PTC.

Eighty pairs (total thyroidectomy vs. lobectomy) were included in a retrospective multicenter propensity score matching study. The 2015 American Thyroid Association (ATA) criteria were used to assess response to therapy.

Most patients were females (76.3%) with a median age of 46 years. More patients in the lobectomy group were operated on due to suspicious nodules (Bethesda III-IV) (46.2% vs. 10%, $P < 0.001$) and more patients in the total thyroidectomy group had a diagnosis of malignancy (Bethesda V-VI) (43.7% vs. 27.5%, $P = 0.048$). Multifocality was more common among patients in the total thyroidectomy group (26.3% vs. 12.7%, $P = 0.050$). After a median follow-up of 58 months, one structural recurrence was diagnosed in each group. Differences in the initial and final 2015 ATA response to therapy according to the surgical extent were not observed. Postoperative hypocalcemia was more frequent in the total thyroidectomy group than in the lobectomy group (31.3% vs. 0%, $P < 0.001$), but permanent hypocalcemia and transient and permanent recurrent laryngeal nerve impairment were similar.

In this propensity score-matched study, patients with low- and intermediate-risk PTC showed comparable outcomes in terms of response to therapy and recurrence regardless of whether they underwent lobectomy or total thyroidectomy.

P206

SPONTANEOUS CERVICAL HEMATOMA DUE TO PARATHYROID ADENOMA: A RARE CLINICAL EVENT

Celia Moreno¹, Jose María Rodríguez, Andrea María Hurtado, Jesús Sandoval, Carla Plana, Victoria Lucas, Hajar Dahmouni, María Mellado, María Fe Candel

¹Department of General Surgery, Hospital Universitario Reina Sofía, Murcia, Spain

Spontaneous cervical hematoma due to parathyroid adenomas or hyperplasia is rare and potentially life-threatening. Most cases present with sudden neck swelling, dysphagia, and occasionally airway compromise. Diagnosis relies primarily on cervical CT, which identifies the hematoma, its anatomical extent, and probable parathyroid lesions. Management is generally conservative in hemodynamically stable patients without airway compromise, but close observation is essential due to the risk of progression.

An 88-year-old woman, not on antiplatelet or anticoagulant therapy, with a history of primary hyperparathyroidism due to hyperplasia of both lower parathyroid glands, which had not been surgically treated, attended the emergency department complaining of dysphagia, dysphonia and the sudden appearance of a cervical mass without trauma.

Examination revealed a large cervical hematoma. Cervicothoracic CT showed an extensive deep cervical hematoma, predominantly on the left side, affecting the retroesophageal and parathyroid spaces, with no evidence of active bleeding. It caused esophageal compression but no airway involvement, no mediastinitis, and revealed probable bilateral parathyroid adenomas. The patient remains hemodynamically stable, with adequate oral contrast passage. During her stay in the emergency department, she experienced a 1.5 g/dL drop in hemoglobin, prompting hospital admission for monitoring and laboratory tests.

In conclusion, although spontaneous rupture and extracapsular hemorrhage of a parathyroid adenoma is a rare complication, it can be serious. Therefore, it should be suspected in any patient presenting with a cervical hematoma without a history of trauma.

P207

NON-FUNCTIONING PANCREATIC PARAGANGLIOMA: A RARE PRESENTATION OF AN EXTRA-ADRENAL TUMOUR.

Celia Moreno¹, Jose María Rodríguez, Andrea María Hurtado, Jesús Sandoval, Victoria Lucas, Carla Plana, María Mellado, Hajar Dahmouni, Delia María Luján, María Fe Candel

¹Department of General Surgery, Hospital Universitario Reina Sofía, Murcia, Spain

Paragangliomas are rare neuroendocrine tumors that arise from extra-adrenal autonomic paraganglia. Pancreatic localization is extremely rare. These tumors may be functional, releasing hormones and

producing symptoms, or non-functional and go unnoticed for a long period of time. The diagnosis is reached through a combination of biochemical and imaging tests, avoiding invasive measures, such as biopsy, in functional tumors due to the risk of catecholamine release. Surgery is the mainstay of treatment.

A 77-year-old patient was referred to Internal Medicine for suspected active tuberculosis due to a positive Mantoux test. During the examination, a chest CT scan was performed, which incidentally revealed a mass in the anterior region of the pancreatic head.

An abdominal CT confirmed a 3.6 × 4.5 × 4.1 cm mass with intense contrast enhancement, compatible with a hypervascular lesion. A functionality study was negative except for an elevated chromogranin A level (250.7 ng/mL), and a CT-guided biopsy established the diagnosis of a non-functioning pancreatic paraganglioma. Additional tests (PET-CT and MIBG scintigraphy) supported the diagnosis and showed no evidence of metastatic disease. The patient underwent robot-assisted laparoscopic tumor resection with no postoperative complications and is currently in good general condition.

Pancreatic paragangliomas are exceptionally rare, with only isolated cases described in the literature. This case highlights the importance of considering uncommon diagnoses when encountering incidental pancreatic masses and reinforces the essential role of multidisciplinary evaluation and surgery in achieving definitive management.

P208

ROLE OF 99MTC-METHOXY-ISOBUTYL-ISONITRIL (MIBI) SCINTIGRAPHY IN THE RISK STRATIFICATION OF HYPOFUNCTIONING THYROID NODULES

Ali Naddaf¹, Dr.med. Anne Kauffels-Sprenger^{1,2}, PD.dr.med. Martin Reichert², Prof.dr.med. Martin Schneider², Dr.med. Jochen Schabram¹

¹Department of Endocrine Surgery, Asklepios Hospital Lich, Lich, Germany, ²Department of General, Visceral, Thoracic and Transplantation Surgery, University Hospital Giessen, Giessen, Germany

Risk stratification of hypofunctioning thyroid nodules remains a central challenge. 99mTc-MIBI scintigraphy assesses mitochondrial activity; a "mismatch" (reduced Tc-99m pertechnetate uptake with increased MIBI uptake) raises suspicion for malignancy. Malignancy probability for MIBI-positive nodules has been reported up to 20%.

Retrospective, single-center analysis with prospective data collection of all operated patients (N = 4,985) from January 2014 to December 2023. In 506 cases (10.1%), MIBI scintigraphy was performed. A mismatch occurred in 450 cases (88.9%), a match-finding in 74 cases (14.6%). In addition to evaluating frozen sections and definitive histology of mismatch nodules, cohort complication rates were assessed.

Carcinomas were found in 62 of 450 patients with a mismatch (13.7%). Of these, 35 (7.8%) matched the target nodule; 27 were incidental papillary microcarcinomas. Intraoperative frozen section identified 18 of 35 carcinomas (51.4%), of which 16 were papillary carcinomas (> pT1b). Sensitivity 85.4%, specificity 14.1%, PPV 7.8%, NPV 91.9%. Complication rates showed no significant differences between benign and malignant findings: postoperative bleeding 1.83% (benign) vs 1.52% (malignant). The permanent recurrent laryngeal nerve palsy rate, for the Nerves at Risk, for the overall cohort, was 0.26%.

The present study shows a malignancy probability of only 7.8% for nodules with a "mismatch" finding. Hence, an operative indication should not be based on mismatch alone; decisions should integrate all available findings (e.g., TIRADS) and, when appropriate, be complemented by fine-needle aspiration for cytology.

P209

MOLECULAR GENETIC TESTS IN THE DIAGNOSIS OF PAPILLARY THYROID CANCER

Oleksandr Nechai¹, Natalia Belemets¹, Dmytro Kvitka¹, Kateryna Dryha¹, Andrii Tovkai², Yelyzaveta Kozachuk¹, Volodymyr Palamarchuk¹, Oleksandr Tovkai¹

¹State Non-commercial Enterprise «Ukrainian Scientific And Practical Center Of Endocrine Surgery, Transplantation Of Endocrine Organs and Tissues under MoH of Ukraine», Kyiv, Ukraine, ²Bogomolets National Medical University, Kyiv, Ukraine

Purpose. To assess the significance of BRAFV600E, NRAS, KRAS, HRAS, RET/PTC and PAX8/PPARγ mutations for diagnosing papillary thyroid cancer (PTC) and to identify the most informative predictor.

Materials and methods. We analyzed 63 patients who underwent preoperative molecular genetic testing (MGT) of thyroid nodules and subsequent surgery. All patients underwent FNAB with cytological classification according to the Bethesda system: III category --3 patients, IV--13, V--12, VI--35. Pathogenic mutations were detected in 47 (74.6%) patients (group 1), while 16 (25.4%) had no mutations (group 2).

Results. The BRAFV600E mutation was detected most frequently (55.6%), followed by NRAS (17.5%) and KRAS (4.8%). Among cases with confirmed PTC, mutations were detected in 79.1%. BRAFV600E was found in 28.9% of Bethesda III-V lesions and in 77.1% of Bethesda VI. The association between BRAFV600E and malignancy was statistically significant ($\chi^2 = 5.207$; $p = 0.023$). NRAS mutation analysis was not informative ($p = 0.927$). The frequency of detection of PTC in group 1 on Bethesda cytological class III-V was higher than in group 2, but they did not differ statistically significantly. The aggressiveness of PTC in patients of group 1 with a positive MGT result did not have statistically significant differences compared to the results obtained in group 2 (39.5% and 33.3%, respectively).

Conclusions. MGT detected pathogenic mutations in 79.1% of cases of PTC. BRAFV600E was the most significant and predictive mutation. The presence of the mutation in Bethesda category III-V cases did not improve the detection of PTC.

P210

RISK FACTORS FOR NODAL METASTASIS IN PAPILLARY THYROID CARCINOMA UNDERGOING UNILATERAL CLND: A COHORT ANALYSIS INCLUDING MICROCARCINOMA

Rita Niciporuka^{1,2}, Laura Veinberga¹, Arturs Ozolins^{1,2}, Zenons Narbutis^{1,2}

¹Pauls Stradins Clinical University Hospital, Surgery department, Endocrine surgery unit, Riga, Latvia, ²Riga Stradins University, Surgery department, Riga, Latvia

Prophylactic or therapeutic central lymph node dissection (CLND) in papillary thyroid carcinoma (PTC) is performed to manage nodal metastasis. However if there are predictors of nodal involvement remains debatable especially in microcarcinoma.

We analyzed 188 PTC patients undergoing unilateral CLND. The primary outcome was the presence of nodal metastasis (≥ 1 positive lymph node). Evaluated predictors included age, tumour size, sex, indication for CLND, and multifocality. Logistic regression estimated odds ratios; risk stratification was based on predicted probabilities. A subgroup of microcarcinomas (≤ 10 mm) was evaluated separately.

Nodal metastasis occurred in 51.6% of cases. Younger age (OR 0.96 per year, $p < 0.001$), larger tumour size (OR 1.05 per mm, $p = 0.009$), and therapeutic CLND indication (OR 3.86, $p = 0.025$) independently predicted metastasis; sex was not significant. Risk groups based on predicted probability were: low (< 0.33) 16.9%, medium (0.33--0.66) 59.3%, high (> 0.66) 23.7%. Multifocality showed no significant association with metastasis ($p > 0.3$). Among 44 microcarcinoma cases (median size 8 mm), metastasis occurred in 45.5%, with most CLNDs performed prophylactically (73%). Lymph node yield was similar to the overall cohort (median 6 nodes).

In unilateral CLND for PTC, younger age, larger tumour size, and therapeutic indication are key predictors of nodal metastasis, while multifocality does not significantly influence nodal status. Nearly half of microcarcinomas had nodal involvement, supporting careful risk assessment even in small tumours. These findings highlight the need for individualized CLND strategies and risk-based decision-making.

P211

PERMANENT HYPOPARATHYROIDISM AND MORTALITY AFTER SURGERY FOR PRIMARY HYPERPARATHYROIDISM

Erik Norén¹, Anders Bergenfelz¹, Erik Nordenström¹

¹Lund University; Department of clinical sciences

The aim of this study was to determine the frequency of permanent hypoparathyroidism after first-time surgery for primary hyperparathyroidism (pHPT) and to investigate whether the presence of permanent hypoparathyroidism affects long-term mortality.

This ethically approved retrospective observational study used data from the Swedish surgical quality register (SQRTPA) combined with Swedish national registers for drug prescription and mortality.

Included were adult patients undergoing first-time surgery for sporadic pHPT between July 1, 2006, and December 31, 2020. Newly initiated treatment with active vitamin D six months postoperatively or later was used as a surrogacy marker for permanent hypoparathyroidism. Cox regression analysis was used to estimate hazard ratios (HRs) for mortality, and multivariable logistic regression was used to estimate odds ratios (ORs) for permanent hypoparathyroidism.

Permanent hypoparathyroidism occurred in 238 of 10,142 operations (2.3%). The HR for long-term mortality in patients with permanent hypoparathyroidism was 1.56 (95% confidence interval 1.21–2.02). Permanent hypoparathyroidism was found in 148 (4.0%) of 4,071 planned or converted bilateral explorations and in 90 of 6,071 limited parathyroidectomies (1.5%). The OR for permanent hypoparathyroidism after bilateral exploration was 2.54 (1.95–3.32). The risk for mortality was higher after bilateral exploration, HR 1.27 (1.14–1.42).

Permanent hypoparathyroidism occurs in approximately 2.3% of surgeries for pHPT and increases long-term mortality risk by about 50%. Both the risk for permanent hypoparathyroidism and the risk of mortality are significantly lower after limited parathyroidectomy.

P212

BRAIN METASTASIS OF PARATHYROID CARCINOMA IN A PATIENT AFTER INITIAL SURGICAL TREATMENT OF TERTIARY HYPERPARATHYROIDISM KEY WORDS: PARATHYROID CARCINOMA, BRAIN METASTASES, HYPERCALCEMIA, 11-CHOLINE POSITRON EMISSION TOMOGRAPHY/COMPUTED TOMOGRAPHY

Natalia Nowak¹, Ph D MD Agnieszka Dworzyńska¹, Ph D MD Michał Kusiński¹

¹Klinika Chirurgii Endokrynologicznej i Ogólnej Uniwersytet Medyczny w Łodzi, Łódź, Poland

Parathyroid carcinoma (PC) is a rare endocrine tumor accounting for less than 1 % of cases of hyperparathyroidism. There have been 11 cases of brain metastasis of PC reported in the literature so far, most in primary hyperparathyroidism.

Case report

A 76 yo male who had undergone a subtotal parathyroidectomy in February 2021 due to tertiary hyperparathyroidism, reported in 2025 to the outpatient clinic with neurocognitive symptoms. The initial histopathology report from 2021 showed hyperplasia. Further investigation revealed high hypercalcemia and hyperparathyroidism. A 11-Choline PET was performed which revealed persistent disease of the neck and metastases: in the right temporal lobe, thyroid and subcutaneous tissue.

Due to a risk of hypercalcemic crisis, the patient underwent emergency neck exploration followed by a resection of the brain tumor after which hyperparathyroidism resolved. Twelve days postoperatively PTH was 153pg/ml and calcium level 2.23 mmol/l. The postoperative pathology confirmed the diagnosis of PC. The patient was treated with radiotherapy. 6 months after surgical treatment the patient's PTH and calcium level are still stable.

Distant metastases of PC are very rare and can occur many years after surgery. Calcium levelowanie and PTH as a long-term follow-up are important. An initial diagnosis of parathyroid hyperplasia does not rule out the possibility of PC in the future.

This case demonstrating role of 11-CH-PET/CT in detection of metastases from PC. Many patients die from complications associated with hyperparathyroidism, mainly hypercalcemia, rather than from tumor growth.

P213

SURGICAL TREATMENT OF PARATHYROID CYSTS: CASE SERIES AND REVIEW OF LITERATURE

Bozidar Odalovic^{1,4}, Matija Buzejc², Goran Zoric², Teaching ass Milan Jovanovic^{2,3}, Teaching ass Branislav Rovcanin^{2,3}, Katarina Tausanovic^{2,3}, Nikola Slijepcevic^{2,3}, Vladan Zivaljevic^{2,3}

¹Clinical Center Of Pristina, Serbia, ²University Clinical Center of Serbia, ³School of Medicine, University of Belgrade, ⁴School of Medicine, University of Pristina, Serbia

Parathyroid cysts (PCs) are rare lesions classified as functional or nonfunctional. Although they account for only about 0.5% of parathyroid gland abnormalities, larger cysts may present as cervical or mediastinal masses and mimic other neck pathologies. This study reviews the characteristics and

outcomes of patients in whom PCs were confirmed following surgery.

A retrospective analysis was performed on patients operated on between 2016 and 2021 for primary hyperparathyroidism or for cervical/mediastinal masses. Demographic data, clinical presentation, preoperative fine-needle aspiration biopsy (FNAB), serum parathyroid hormone (PTH) and calcium levels before and after surgery, and definitive histopathology results were evaluated. Only cases with confirmed parathyroid tissue in the final pathology report were included.

Among 555 surgically treated patients with confirmed parathyroid pathology, seven cases of PC were identified. Five of the seven cysts were nonfunctional. The patients included four women and three men with a mean age of 49.8 years. One nonfunctional cyst presented as a large cervical and upper mediastinal mass measuring 10 cm. Functional cysts were associated with elevated preoperative PTH and hypercalcemia, which normalized after surgery. In several cases, FNAB yielding clear, watery fluid increased suspicion of a PC.

Although uncommon, PCs should be considered in the differential diagnosis of cervical or mediastinal cystic lesions, particularly when FNAB produces clear fluid. Complete excision without capsular rupture is essential to prevent parathyromatosis and protect the recurrent laryngeal nerves. Surgery should be performed by an experienced endocrine surgeon to ensure optimal outcomes.

P214

CLINICAL SIGNIFICANCE OF TRANSIENT POSTOPERATIVE HYPOPARATHYROIDISM: HOW MUCH WEIGHT SHOULD IT CARRY?

Steffen Rose¹, Mikel Osorio Capitan¹, Laura Carballo Rodriguez¹, Asier Martin Lopez¹, Jose Felix Fernandez Val¹, Elena Castro Esnal¹, Lander Gallego Otaegui¹, Maria Isabel Bollo Arocena¹

¹Donostia University Hospital. Osakidetza, San sebastian, Spain

Hypoparathyroidism remains a significant challenge in endocrine surgery due to heterogeneous diagnostic criteria, variable clinical correlation with hypocalcemia, and diverse management protocols. The true incidence and postoperative impact of symptomatic transient hypoparathyroidism remain uncertain. According to the American Thyroid Association (ATA) and European Guidelines, transient hypoparathyroidism is defined biochemically by low parathyroid hormone (< 12 ng/dL PTH) levels, often accompanied by hypocalcemia. Thresholds for defining hypoparathyroidism and hypocalcemia vary among institutions, with the British Association of Endocrine and Thyroid Surgeons (BAETS) defining hypocalcemia as serum calcium < 8.42 mg/dL (2.1 mmol/L).

The aim of the study is to determine whether clinically significant hypoparathyroidism with hypocalcemia is associated with chronic hypoparathyroidism

We retrospectively reviewed all total thyroidectomies performed between January 2020 and May 2025. Transient hypoparathyroidism was detected as PTH < 12 pg/mL and hypocalcemia as serum calcium < 8.42 mg/dL, within the first 24 hours after surgery.

Among 350 patients, 25 (7.14%) developed transient hypoparathyroidism with biochemical hypocalcemia, of whom 5 (1.4%) progressed to chronic hypoparathyroidism. Among patients with transient hypoparathyroidism without hypocalcemia, 14 (4%) developed chronic hypoparathyroidism. Statistical analysis using chi-square yielded a p-value of 0.44, indicating no significant association between transient hypocalcemia and chronic disease.

Transient hypoparathyroidism with hypocalcemia is a clinically relevant process following total thyroidectomy, but our findings suggest it does not reliably predict chronic hypoparathyroidism. Further research is needed to identify clinical markers that accurately predict long-term parathyroid dysfunction. Until then, transient hypoparathyroidism with hypocalcemia should be interpreted cautiously.

P215

PROTOCOL FOR THE INTEGRATION OF NOVICE SURGEONS INTO AN ENDOCRINE SURGERY UNIT

Steffen Rose¹, Mikel Osorio Capitan¹, Uxue Iparraguirre Zulaica¹, Laura Carballo Rodriguez¹, Elena Castro Esnal¹, Juan Tubia Landaberea¹, Maria Isabel Inchaurredo Moreno¹, Lander Gallego Otaegui¹, Maria Isabel Bollo Arocena¹

¹Donostia University Hospital. Osakidetza, San sebastian, Spain

Surgical outcomes in thyroid surgery are strongly associated with the annual procedural volume of the operating surgeon. High-volume surgeons, defined as those performing >100 annual benign total thyroidectomies, >25 malignant thyroidectomies, and >10 lateral neck dissections, show significantly lower rates of recurrent laryngeal nerve injury and chronic hypoparathyroidism. Despite structured training pathways, surgical proficiency largely depends on progressive supervised practice, which carries inherent risks for early-career surgeons. This study describes the implementation and outcomes of a structured protocol designed to guide surgeons through a progressive learning curve.

Between January 2020 and October 2025, a stepwise training protocol was applied to ensure a minimum surgical volumes compatible with established quality standards. Only total thyroidectomies were included, focusing on complications most strongly associated with this procedure. Surgeons initially operated on benign, non-inflammatory thyroid disease with favorable anatomy until surpassing 100 annual cases, after which confirmed malignant cases were added up to 25 per year. Subsequently, surgeons incorporated the recommended number of lateral neck dissections.

A total of 381 total thyroidectomies were performed. Reoperation for postoperative bleeding occurred in 2.62% of patients, with true thyroid-bed hematoma in 1.83%. Intraoperative neuromonitoring abnormalities with postoperative vocal cord dysfunction were observed in 4.72% of patients, with confirmed anatomical nerve injury in 0.78%. Transient hypoparathyroidism occurred in 12.07%, and chronic biochemical hypoparathyroidism in 5.2%.

This structured, progressive training model proved effective and reproducible, allowing novice surgeons to reach safe procedural volumes while maintaining complication rates within widely accepted quality benchmarks.

P216

DELAYED TRACHEAL PERFORATION AFTER TOTAL THYROIDECTOMY: LITERATURE REVIEW AND CASE REPORT

Steffen Rose¹, Mikel Osorio Capitan¹, Eunat Martinez de Rituerto Zeberio¹, Anna Molist Gomez¹, Laura Carballo Rodriguez¹, Elena Castro Esnal¹, Lander Gallego Otaegui¹, Maria Isabel Bollo Arocena¹

¹Donostia University Hospital. Osakidetza, San Sebastian, Spain

Delayed tracheal perforation after total thyroidectomy is an extremely rare complication, with limited evidence available in the literature. Reported risk factors include female sex, underlying thyroid disease such as Graves-Basedow or thyroid malignancy, and modifiable factors including diathermy use, prolonged intubation with elevated cuff pressure, postoperative coughing, and corticosteroid therapy. Given its low incidence, management remains individualized and lacks standardized recommendations. We present a case of delayed tracheal perforation in a pediatric patient, along with our therapeutic approach and clinical outcome.

A 14-year-old female with poorly controlled Graves-Basedow disease and a grade II goiter underwent total thyroidectomy. Her initial postoperative course was favorable, with discharge delayed until postoperative day 4 due to transient hypocalcemia requiring intravenous calcium. On postoperative day 13, she presented with cervicofacial crepitus after a coughing episode. CT imaging revealed diffuse cervical and mediastinal emphysema, bilateral pneumothorax, and a 2.3-mm anterolateral tracheal wall defect.

The patient remained clinically stable without respiratory compromise. A drainage catheter was placed through the surgical incision. She subsequently developed transient fever with negative cultures and received empirical amoxicillin-clavulanate. Clinical progression was favorable. Flexible endoscopy confirmed complete healing of the millimetric perforation at the level of the second tracheal ring. She was discharged after 10 days and remains asymptomatic without sequelae.

Delayed tracheal perforation following thyroidectomy is a rare and challenging entity with scarce literature to guide management. Our experience supports a conservative, minimally invasive approach in stable patients with small perforations and no airway compromise

P217

LATE THYROID ABSCESS FOLLOWING RADIOFREQUENCY ABLATION OF A NODULAR LESION

Paula Bengoechea Abaigar¹, Ane Erausquin Barandiaran¹, Mikel Osorio Capitan¹, Laura Carballo Rodriguez¹, Steffen Rose¹, Elena Castro Esnal¹, Lander Gallego Otaegui¹, Maria Isabel Bollo Arocena¹

¹Donostia University Hospital. Osakidetza, San sebastian, Spain

Suppurative thyroiditis and its complication, thyroid abscess, have an estimated incidence below 1%. Infectious complications following interventional thyroid procedures are likewise exceedingly rare. The thyroid gland's encapsulation, rich vascularization, and high iodine content confer substantial resistance to infection; however, once established, thyroid infections may progress rapidly, making early diagnosis and appropriate management essential. The literature remains scarce and provides no standardized diagnostic or therapeutic protocols. We present a case of delayed thyroid abscess following radiofrequency ablation (RFA).

An 82-year-old woman with chronic anticoagulation for arrhythmogenic heart disease was diagnosed with multinodular goiter, including a dominant right thyroid nodule (3.3 × 3 × 4.2 cm). After two nondiagnostic core needle biopsies demonstrating degenerative changes and coagulative necrosis, RFA was performed. Approximately 2--3 months later, she presented with anterior cervical swelling and localized inflammation. Although inflammatory markers were normal, ultrasound revealed a persistent 3 × 3.1 cm heterogeneous lesion with anechoic and fluid-filled areas extending into superficial fat planes, consistent with abscess formation.

Given her stable condition and absence of airway compromise, hospital admission and empirical broad-spectrum antibiotics were initiated. After partial reversal of anticoagulation, surgical drainage via skin incision was performed within 24--48 hours. Imaging and laboratory follow-up showed progressive resolution, allowing discharge. She remains in outpatient follow-up, with persistent nodular disease prompting consideration of delayed right hemithyroidectomy.

Thyroid infections are extremely rare but potentially life-threatening. Prompt recognition, appropriate antimicrobial therapy, and timely drainage are fundamental to effective management.

P218

SYNCHRONOUS MEDULLARY AND PAPILLARY THYROID CARCINOMAS: CLINICOPATHOLOGICAL ANALYSIS OF 24 CASES

Доктор Marian Ostafiichuk¹, Sci. (Medicine) Bohdan Guda¹, Hanna Zelinska¹, Andriy Tymkiv¹, Ihor Komisarenko¹, Sci. (Medicine), Prof, Corresponding Member of NAS of Ukraine, Academician of NAMS of Ukraine, Head of the Department of Fundamental and Applied Problems of Endocrinology, Director of the Institute, Mykola Tronko¹

¹The State Institution «v.p. Komisarenko Institute Of Endocrinology And Metabolism», Kyiv, Ukraine

This study presents a rare series of 24 synchronous medullary (MTC) and papillary thyroid carcinomas (PTC) identified among 16,696 thyroid tumor surgeries (0.1%) over a 24-year period. MTC arises from parafollicular C-cells, whereas PTC originates from follicular epithelial cells, making their coexistence exceptionally uncommon (<1%).

Synchronous tumors were classified into four subtypes:

Type I -- true mixed MTC/PTC;

Type II -- collision tumors merging into a single mass;

Type III -- separate tumors in one lobe;

Type IV -- tumors occurring in different lobes or the isthmus.

Type IV was the most frequent (54.2%).

The cohort included 18 women and 6 men (mean age 55.8 years). Mean tumor sizes were 1.58 cm for MTC and 0.75 cm for PTC, with microcarcinomas present in 29% and 71% of cases respectively. Fine-needle aspiration diagnosed MTC in most cases, though its ability to detect dual pathology was limited. Preoperative calcitonin was elevated in nine patients.

Metastatic lymph nodes were found in 12 cases: six with MTC metastases, five with PTC, and one with combined features. Multifocal growth occurred in three MTC and one PTC case. Two patients experienced recurrence requiring reoperation.

Total thyroidectomy with appropriate lymph node dissection remained the primary treatment strategy, guided by the more aggressive MTC component. Postoperative management included hormonal suppression, radioiodine therapy, and targeted therapy when indicated.

Synchronous PTC/MTC requires careful diagnostic evaluation integrating ultrasound, calcitonin levels, cytology, and histopathology. Despite its rarity, prognosis in this cohort was generally favorable, with recurrence observed only in isolated cases.

P219

RADIOIODINE-RESISTANT METASTASES OF WELL-DIFFERENTIATED THYROID CARCINOMA: CLINICAL AND SURGICAL PREDICTORS AND THE ROLE OF PRIMARY TREATMENT STRATEGY

Доктор Marian Ostafiichuk¹, Sci. (Medicine), Head of the Department of Orphan Endocrine Diseases and Endocrine Surgery Bogdan Bogdanovich Guda¹, Sci. (Medicine), Cor. Member of the NAS of Ukraine, Acad. of the NAMS of Ukraine, Head of the Department of Fundamental and Applied Problems of Endocrinology, Director of the Institute Mykola Dmytrovych, Tronko¹

¹The State Institution V.P. Komisarenko Institute Of Endocrinology And Metabolism, Київ, Ukraine

Title:

Radioiodine-Resistant Metastases of Well-Differentiated Thyroid Carcinoma: Clinical and Surgical Predictors and the Role of Primary Treatment Strategy

Well-differentiated thyroid carcinoma typically responds well to radioactive iodine (131I). However, a subset of patients develops metastases that fail to accumulate radioiodine, leading to poorer outcomes and more complex treatment. The goal of this study was to identify clinical and surgical predictors associated with the development of radioiodine resistance.

A total of 345 patients (1990–2024) were retrospectively analyzed and divided into two groups:

- Group 1 --- 156 patients with confirmed radioiodine-resistant metastases.
- Group 2 --- 189 patients with a complete response to 131I therapy and stable remission.

Parameters evaluated included: age, tumor morphology, radicality of primary surgery, central/lateral neck dissection, and localization/extent of metastases.

1\ Age above 40 years was the strongest predictor of resistance ($p < 0.0001$). Resistance increased 6.5-fold in patients aged 41–60 and 11-fold in patients over 61 years.

2\ Omission of prophylactic central neck dissection significantly correlated with higher incidence of resistant metastases (33.97%).

3\ The most common metastatic sites were Level VI of the central compartment and Levels II–IV of the lateral neck.

4\ Aggressive variants (oxyphilic, follicular, sclerosing) more frequently produced non-iodine-avid metastases.

- Patient age and the completeness of the primary surgery are key determinants of radioiodine resistance.
- Prophylactic central neck dissection significantly reduces the risk of developing resistant metastases.
- Meticulous preoperative assessment and oncologically complete surgical management are essential to improving long-term outcomes.

P220

THE RISK OF MALIGNANCY IN BETHESDA III THYROID NODULES AND CLINICAL-SONOGRAPHIC PREDICTORS: A RETROSPECTIVE STUDY

Aykut Özkılıç¹, Yiğit Türk¹, Özer Makay^{2,3}, Recep Gökhan İçöz¹, Murat Özdemir¹

¹Division of Endocrine Surgery, Department of General Surgery, Ege University Hospital, İzmir, Türkiye, ²Özel Sağlık Hospital, Centre for Endocrine Surgery, İzmir, Türkiye, ³Aristotle University, School of Medicine, Thessaloniki, Greece

The malignancy risk of Bethesda III thyroid nodules varies widely in the literature. This study aimed to identify clinical-sonographic predictors of malignancy to guide surgery and reduce unnecessary interventions.

Patients with an initial FNA result of Bethesda III between January 2017 and December 2024 were retrospectively reviewed. Nodules were classified using the EU-TIRADS system. Demographic data, sonographic features, and single- or repeat-FNA results were assessed for associations with malignancy using univariate tests, followed by logistic regression to identify predictors.

A total of 519 patients had an initial Bethesda III result. Malignancy occurred in 22.2% after a single FNA. Of 357 repeat-FNA patients, 168 remained Bethesda III with 18.3% malignancy. The overall malignancy rate in the cohort was 40.5%. Benign cytology was obtained in 48% of EU-TIRADS 3 nodules, 17% of EU-TIRADS 4 nodules, and 8% of EU-TIRADS 5 nodules among patients who underwent repeat-FNA. Among operated Bethesda III nodules, malignancy rates were similar between single- and repeat-FNA groups across EU-TIRADS categories, with no significant differences in EU-TIRADS 3 (46.0% vs. 52.5%), EU-TIRADS 4 (64.4% vs. 74.2%), or EU-TIRADS 5 (84.6% vs. 81.5%) nodules. In logistic regression analysis, younger age (OR 0.94), EU-TIRADS 5 (OR 5.49), and EU-TIRADS 4 (OR 2.57) were independent predictors of malignancy, while a history of thyroiditis was protective (OR 0.35).

Direct surgery may be appropriate for EU-TIRADS 5 nodules, while repeat FNA may be considered for EU-TIRADS 3 nodules. We propose a risk-based, personalized approach for the management of Bethesda III nodules.

P221

ADRENALECTOMIES: REVIEW AND EMERGING TRENDS IN THE LAST DECADE

Carla P. Carratalá¹, Victoria Lucas Leon¹, Celia Moreno García¹, Jesús Sandoval Marín¹, MariFe Candel Arenas¹

¹Hospital General Universitario Reina Sofía (murcia), Murcia, Spain

Adrenalectomy is the surgical treatment of choice for a wide range of adrenal pathologies. In recent years, surgical practice has evolved from traditional open approaches---preferred for large or aggressive lesions---to minimally invasive techniques, largely driven by the increasing adoption of laparoscopic and robot-assisted procedures.

We conducted a retrospective descriptive analysis of 110 patients who underwent total or partial adrenalectomy at our center between 2014 and 2024, using laparoscopic (transperitoneal), robot-assisted percutaneous, or open approaches. Demographic, clinical, surgical, and histopathological variables were collected from medical records and compared with data from the current literature.

Of the 110 adrenalectomies performed, 2 (1.8%) were partial and 108 (98.2%) total. The cohort included 46 men (41.8%) and 64 women (58.2%), with a mean age of 52.2 ± 12.2 years. Procedures involved the left gland in 59 cases (53.6%), the right in 47 (42.7%), and both in 4 (3.7%). The laparoscopic approach was most frequent (70.2%), followed by robot-assisted (20.9%) and open surgery (8.9%). Main indications were adrenal incidentaloma (35.8%), primary hyperaldosteronism (21.7%), malignant urological neoplasm (17.9%), and Cushing's syndrome (16%). Histopathology revealed adrenal adenoma in 48.7%, medullary hyperplasia in 19.5%, and pheochromocytoma in 8%.

Our series shows a clear transition from conventional laparoscopic to robot-assisted adrenalectomy as the preferred technique, offering shorter hospital stays, less postoperative pain, and lower complication rates. Ongoing evaluation will help identify future trends.

P222

MANIPULATION-INDUCED CERVICAL HAEMATOMA REVEALING A PARATHYROID ADENOMA: A RARE CASE

Erlinda Daniela Padilla Zegarra¹, Marc Vallvè-Bernal¹, Albert Gil Arrieta¹, Luciana Contino¹, Rosa Jorba Martín¹

¹Joan XXIII University Hospital of Tarragona, Tarragona, Spain

Cervical haemorrhage secondary to parathyroid lesions is uncommon, accounting for about 5.3% of parathyroid adenoma presentations and potentially causing airway compromise. Fewer than one hundred cases have been reported, most spontaneous; manipulation-induced haemorrhage is exceptionally rare. We present a case of cervical haemorrhage following external physiotherapy manipulation.

A 63-year-old woman developed progressive neck swelling and an anterior cervical haematoma four days after cervical physiotherapy. She reported foreign-body sensation and mild dyspnoea, though no airway compromise was observed. CT revealed a right retrothyroid cervico-mediastinal mass (40 × 35

× 100 mm) without active bleeding. Calcium (9.4 mg/dL) and PTH (87.2 pg/mL) were normal, making primary hyperparathyroidism unlikely. Due to the acute onset after manipulation, the extent of the collection, and the absence of hyperfunction, a malignant cervical mass with intralesional bleeding was initially suspected. EUS-guided biopsy showed endocrine-type tissue without atypia. PET-CT demonstrated mild hypermetabolism (SUVmax 3.50 g/mL) without nodal involvement. Five weeks later, sestamibi SPECT-CT showed significant reduction in size (12 × 12 × 19 mm) with focal uptake suggestive of a right inferior parathyroid adenoma.

Given the haemorrhagic presentation and persistent concern for malignancy, a radioguided right inferior parathyroidectomy was performed. Histology confirmed a parathyroid adenoma. Postoperative course and follow-up were uneventful.

Haemorrhagic presentation of parathyroid adenoma is rare, and manipulation-induced bleeding is even more exceptional. Imaging---particularly CT, ultrasound, and sestamibi SPECT-CT---is essential for diagnosis. Manipulation-induced cervical haemorrhage may mimic malignancy, and in atypical cases surgery is indicated to exclude malignancy and manage haemorrhagic complications.

P223

RETROPERITONEAL PARAGANGLIOMA: A CASE REPORT OF A RARE NEUROENDOCRINE TUMOR WITH HIGH MALIGNANT POTENTIAL

Theodora Palyvou¹, Georgios-Anargyros Karantzikos, Despoina Chatzopoulou, Asimina Ntotsika, Nikolaos Kardaras, Vangelis Vafias, Dionysia Thermou

¹Department of Surgery, Hippokration General Hospital Of Athens, Athens, Greece

Abstract

Paragangliomas are rare, highly vascular neuroendocrine tumors arising from neural crest--derived chromaffin cells within autonomic ganglia, capable of catecholamine secretion. Their combined incidence with pheochromocytomas is approximately 0.8 per 100,000 person-years. Although many cases appear sporadically, 30% are associated with hereditary syndromes. Compared with adrenal pheochromocytomas, paragangliomas often lack hormonal symptoms, and clinical presentation depends on tumor location and secretory activity. Extra-adrenal paragangliomas may develop along sympathetic or parasympathetic chains of the thorax, abdomen, and pelvis. We present a rare retroperitoneal paraganglioma requiring multivisceral resection.

A 73-year-old man presented with melena, anemia, and weight loss. Examination revealed a large left-sided abdominal mass. Endoscopy demonstrated extrinsic compression at the gastric body. CT and MRI revealed a 16 × 9.4 cm solid retroperitoneal tumor adjacent to the distal pancreas, extending toward the left para-aortic region. The splenic vessels were encased. Biochemical evaluation, including plasma and urinary fractionated metanephrines and catecholamines, was negative. CT-guided core needle biopsy suggested a mesenchymal neoplasm, likely liposarcoma.

The patient underwent excision of the mass with en bloc splenectomy and partial pancreatectomy. Histopathology showed increased cellularity, nuclear atypia with spindle-shaped cells, a high mitotic index (>20 per 10 high-power fields), and extensive infiltrative activity. Surgical margins were negative. Immunohistochemistry was positive for chromogranin A, synaptophysin, S100, CDK8/18, and GATA3, confirming paraganglioma with high malignant potential. Postoperative recovery was uneventful; the patient was discharged on day 6.

Non-secretory retroperitoneal paragangliomas mimic other abdominal tumors, requiring histologic confirmation and complete excision for high-risk cases.

P224

EUROPEAN MILESTONE IN REMOTE ACCESS THYROID SURGERY: KEY LESSONS FROM OVER 1,000 ROBOT-ASSISTED TRANSAXILLARY THYROIDECTOMIES

Piermarco Papini¹, Serena Romano¹, Andrea De Palma¹, Leonardo Rossi¹, Leonardo Russo¹, Matteo Pezzotti¹, Suela Ajdini¹, Chiara Mazzau¹, Gabriele Materazzi¹

¹University Of Pisa; Department of Surgical, Medical, Molecular Pathology, and Critical Care; Endocrine Surgery Unit, Pisa, Italy

Robot-assisted transaxillary thyroidectomy (RATT) is the most widely adopted remote-access technique for patients seeking a scarless neck. Although most large series come from Asia, high-quality Western data remain limited. We report the largest European single-center experience, providing an updated assessment of safety, efficiency, and oncologic adequacy.

Material&Methods:

All consecutive RATTs performed from February 2012 to July 2025 at a high-volume endocrine surgery center were retrospectively reviewed. Demographic, operative, and postoperative data were collected, including hypoparathyroidism, recurrent laryngeal nerve(RLN) palsy, hematoma, and remote-access-related complications. Malignant cases were evaluated according to the 2025 ATA response-to-therapy system.

A total of 1070 RATT procedures were included. Mean age was 37.8 ± 10.9 years; 99.5% were female. Indications comprised benign or indeterminate disease (75.9%) and differentiated thyroid carcinoma (24.1%). Mean operative time was 78.6 ± 25.4 minutes for lobectomy and 99.4 ± 27.8 minutes for total thyroidectomy. A distinct learning curve was observed only for the first surgeon initiating the program ($p < .001$). Surgeons joining later, already exposed to the technique through structured internal proctoring, showed significantly shorter operative times from the outset, confirming the value of supervised training. Conversion occurred in 1 case (0.09%). Overall complications were 9.5%. Permanent hypoparathyroidism occurred in 2.2% and permanent RLN palsy in 0.3%. Hematoma requiring revision occurred in 0.7%, and remote-access-specific complications in 1%. Among 503 malignant cases, most achieved an excellent response at a median 45-month follow-up.

This largest European RATT series confirms that the technique is safe, efficient, and oncologically reliable in high-volume centers. Structured proctoring/tutoring significantly optimizes the learning curve, facilitating early procedural proficiency

P225

MATRIX-PATTERN ULTRASOUND-GUIDED LASER ABLATION FOR BENIGN THYROID GOITER: PRELIMINARY CLINICAL RESULTS

Piermarco Papini¹, Chiara Becucci¹, Marinunzia Paternoster¹, Benard Gjeloši¹, Leonardo Rossi¹, Carlo Enrico Ambrosini¹, Gabriele Materazzi¹

¹University Of Pisa; Department of Surgical, Medical, Molecular Pathology, and Critical Care; Endocrine Surgery Unit, Pisa, Italy

Minimally invasive ablative techniques have increasingly emerged as a conservative alternative to surgery for symptomatic benign thyroid goiter, offering effective volume reduction with lower morbidity. Among these, ultrasound-guided laser ablation performed with a matrix technique, combining cross-longitudinal and trans-isthmic energy delivery, may enhance treatment uniformity and procedural safety. We report our preliminary single-center experience with this approach.

This prospective observational study included consecutive patients with symptomatic nodular goiter treated with percutaneous ultrasound-guided laser ablation at our institution over the past year. A standardized matrix technique was used, consisting of longitudinal ablation lines intersected by trans-isthmic fiber placement to achieve homogeneous three-dimensional coverage, particularly in deep or irregular nodules. Demographic features, ultrasound characteristics, procedural parameters (duration, total and per-ml delivered energy), complications, and clinical and ultrasound outcomes up to 12 months were recorded.

From May 2024 to November 2025, 42 patients (36 women, 6 men) underwent laser ablation. Mean age was 54.1 ± 13.4 years and mean nodule volume 21.9 ± 16.7 ml. Delivered energy averaged 621.1 ± 279.4 J/ml. One patient (2.4%) developed transient recurrent laryngeal nerve palsy that spontaneously resolved during the procedure, and two patients (4.8%) developed fever. Mean volume reduction was 41.5% at 3 months, 50% at 6 months, and 49% at 12 months. Symptomatic improvement was achieved in 87.1% of cases, while 12.9% required additional treatments.

Matrix-pattern laser ablation appears to be a safe, reproducible, and effective minimally invasive option for symptomatic benign thyroid goiter. Larger comparative studies with extended follow-up are warranted to confirm these encouraging early results.

P226

BILATERAL RETROPERITONEOSCOPIC ADRENALECTOMY IN A PATIENT WITH RECURRENT CUSHING'S DISEASE - CASE REPORT

Milan Parezanovic¹, Milan Jovanovic¹, Bozidar Odalovic¹, Branislav Rovcanin¹, Katarina Tausanovic¹, Nikola Slijepcevic¹, Goran Zoric¹, Matija Buzejic¹, Duska Vucen¹, Boban Stepanovic¹, Jovan Ilic¹, Sara Ivanis¹, Milan Marinkovic¹, Vladan Zivaljevic¹

¹Clinic For Endocrine Surgery, Univerity Clinical Centre Of Serbia, Serbia

Bilateral adrenalectomy is an operative procedure that is rarely used because of the many potential complications and the rare circumstances where this procedure is needed.

A 16-year-old female patient was diagnosed with a relapse of Cushing's disease, six months after transsphenoidal resection of the pituitary gland, when Cushing's stigmata reappeared. In several control tests, a disturbed diurnal rhythm of cortisol was found with suppression in the DEX I test and elevated ACTH. Control magnetic resonance imaging shows a suspicious rest/recurrence in the right aspect of the pituitary gland with a diameter of 4 mm. The neurosurgeon's control examination did not indicate reoperation due to a possible injury to the cavernous sinus. Considering the age of the patient and the potential development of hypopituitarism, radiotherapy and medical treatment were not indicated, but a decision was made in consultation to perform a bilateral adrenalectomy. The chosen approach for the operation is retroperitoneoscopic, due to the same position of the patient on the operating table for right and left adrenalectomy, as well as the minimally invasive approach. The intervention took place without hemodynamic and surgical complications. The length of the operation was 100 minutes. The postoperative period passed smoothly, the patient was prescribed hydrocortisone according to the scheme, intramuscularly. At discharge, serum cortisol is unmeasurable.

Bilateral retroperitoneoscopic adrenalectomy is the method of choice in case of need for bilateral adrenalectomy due to the minimally invasive approach, positioning of the patient and faster postoperative recovery.

P227

PET/CT 18F-FLUOROCHOLINE LOCALIZATION OF ECTOPIC INTRA-VAGAL PARATHYROID ADENOMA

Roneil Parikh¹, Priy Silva², Shad Khan¹

¹Oxford University Trust Hospitals ; Department of Endocrine Surgery, Oxford, United Kingdom, ²Oxford University Trust Hospitals ; Department of Head and Neck Surgery, Oxford, United Kingdom

Primary hyperparathyroidism (PHPT) often results from solitary parathyroid adenomas. Ectopic parathyroid adenomas, particularly intravagally located, are exceedingly rare and can contribute to persistent disease after surgery.

A 62-year-old male presented with renal stones and bony pain, revealing hypercalciuria (24-hour urinary calcium: 12.1 mmol/L), hypercalcemia (calcium: 2.78 mmol/L) and borderline-elevated parathyroid hormone (PTH 6.1 pmol/L). Initial surgical exploration involved resection of three parathyroids for suspected hyperplasia; however, postoperative calcium (2.66 mmol/L) and parathyroid hormone (PTH: 7.6 pmol/L) levels remained elevated with pathology showing normal parathyroids. Imaging with 4D CT and ultrasound identified a right-sided vagal lesion, initially misdiagnosed as a schwannoma. Subsequent 18F-fluorocholine PET/CT indicated an ectopic parathyroid adenoma. Re-exploration confirmed a 1.5 cm right intravagal parathyroid adenoma, which was enucleated with careful preservation of the vagus nerve, confirmed by intraoperative monitoring and normalization of calcium (2.3 mmol/L) and PTH (3.5 pmol/L) levels.

Intravagal parathyroid adenomas are a rare and challenging to diagnose. Recognition of this ectopic location, especially in patients with negative conventional imaging or failed prior surgery, is essential. 18F-fluorocholine PET/CT has emerged as a valuable alternative, utilising the increased uptake of choline by parathyroid adenomas. By combining both functional (PET) and anatomical (CT) information, it provides superior spatial resolution and improves localization accuracy in small or ectopic glands.

This case emphasizes the diagnostic value of 18F-fluorocholine PET/CT in improving preoperative localization, and the need for meticulous surgical management to ensure both cure and preservation of nerve function in cases of intravagal parathyroid adenomas.

P228

RETROPERITONEOSCOPIC ADRENALECTOMY FOR PATIENTS WITH SEVERE OBESITY (BMI $\geq$ 35) IS FEASIBLE AND SAFE

Roneil Parikh¹, Karen Bosch¹, Shad Khan¹, Radu Mihai¹

¹Oxford University Trust Hospitals; Department of Endocrine Surgery, Oxford, United Kingdom

Retroperitoneoscopic adrenalectomy (RPA) is increasingly adopted as an alternative to laparoscopic adrenalectomy (LPA). The aim of this study was to assess the threshold at which the body weight/body mass index (BMI) or the size of tumour impact on the feasibility of RPA.

Retrospective cohort study of consecutive unselected patients who underwent adrenalectomy in a single university centre. The operative technique used was the decision of individual surgeons.

Between January 2021 -- November 2025, excluding 20 open adrenalectomies, 188 patients (105 male, 83 female, mean age 56.8 ± 14.6 years) underwent RPA (n=151) or LPA (n=44), for functional (n=128), non-functional (n=40) or metastatic (n=27) lesions. Mean BMI did not differ significantly between the RPA and LPA groups (28.8 ± 5.3 vs 30.1 ± 6.8 p=NS). There were 42 patients with BMI < 25 , 78 overweight patients (BMI 25-30), 40 obese (BMI 30-35) and 28 severely obese (BMI ≥ 35). Larger tumors were more often approached by LPA (4.4 ± 2.5 vs 3.4 ± 1.7 cm, p=0.01), though 11/151 RPA were done for tumours with maximum diameter of 6-9 cm.

Within the RPA cohort, normal/overweight patients (n=94) and those with obesity/severe obesity (n=51), had similar operative times (99 ± 45 vs 116 ± 56 mins p=NS) but shorter in-theatre times (134 ± 45 vs 155 ± 59 mins p=0.034). Complication rates (Clavien-Dindo ≥ 2) were low (8 vs 5 patients p=NS), and both groups had a median postoperative stay of one day.

Severe obesity is not an absolute contraindication for RPA but can create (peri)operative challenges that require significant experience with the technique. Proficiency with both RPA and LPA remains beneficial.

P229

SURGERY IN SPORADIC PANCREATIC NEUROENDOCRINE NEOPLASMS IN PATIENTS WITH AGE $\geq$ 75 YEARS

Anna Caterina Milanetto^{2,3}, Eugenio De Carlo³, Matteo Fassan⁴, Claudio Pasquali¹

¹University of Padova/Dept DiSCOG, PADOVA, Italy, ²Unicamillus International Medical University in Rome, ROME, Italy, ³Policlinico di Abano, Abano Terme, Italy, ⁴University of Padova/Dept. MED; Pathology, PADOVA, Italia

Due to a wider use of diagnostic imaging there is an increase in findings of sporadic pancreatic neuroendocrine tumors (pNETs) in old people.

Clinical records of patients ≥ 75 years-old who were diagnosed with sporadic pNETs (1979 -- 2024) were retrieved, retrospectively. We evaluated the postoperative outcome of those who had surgery and the reasons for choosing surveillance.

49 pts were enrolled (22 M/27 F, averaging 79.2 years) out of 431 pts observed (11.4%). Seven pts (14.3%) had a Functioning-pNET (F-pNET). Nineteen pts had a pNET in the head, 30 in the body-tail. Size of pNET was < 1.0 cm in 17 pts (34.7%). Twenty-one pts (42.8%) underwent surgery: six with F-pNET and 15 Non-Functioning. Five enucleations, 5 pancreaticoduodenectomy, 10 distal pancreatectomy and 1 lymph-node excision were performed. Overall surgical morbidity was 14.3% (with only 1 grade B pancreatic fistula). Average hospital stay was 10 days (range 7-21). After a mean follow-up of 80 mo., 12/21 pts died, 8 of unrelated causes and 4 for disease progression. Nine/21 pts are still alive (two with disease) after a median of 128 mo. after surgery. Among pts who underwent surveillance, 6 pts had a pNET < 1 cm., 7 patients refused surgery and 16 patients were not fit for surgery and/or extension of disease.

Elderly patients with sporadic p-NET must be carefully selected to undergo surgery. The postoperative morbidity is low, and the long-term results are excellent (nearly 50% at 10years).

P230**SURGICAL TREATMENT OF DUODENAL NEUROENDOCRINE NEOPLASMS. LONG-TERM RESULTS.**

Anna Caterina Milanetto^{2,3}, Eugenio De Carlo³, Matteo Fassan⁴, Alina David⁵, Claudio Pasquali¹

¹University of Padova/Dept DiSCOG, PADOVA, Italy, ²Unicamillus International Medical University in Rome, Rome, Italy, ³Policlinico di Abano, Abano Terme, Italy, ⁴University of Padova/Dept Medicine/Unit Pathology, PADOVA, Italia, ⁵University of Padova/Dept Medicine/Unit Emergency Medicine, PADOVA, Italia

Duodenal neuroendocrine neoplasms (d-NENs) represent 2% of primary duodenal tumors. They may be associated with inherited syndrome (MEN-1 or NF1). The surgical treatment choice depends primarily on tumor size, site and TNM stage.

A series of 51 histologically confirmed d-NENs diagnosed from 1975 to June 2024, were retrospectively analyzed. Follow-up (FU) closed in December 2024.

There were 30M/21F, with a median age of 53.2 (range 23-76) years. Twelve (23.5%) had a MEN-1 syndrome and two (3.9 %) a NF1. Twenty-three (45.1 %) patients had a Zollinger-Ellison syndrome (ZES). In 13 cases (25.5%) the major or minor papilla were involved. Surgery consisted in: 26 duodenotomy and tumor excision, 13 pancreaticoduodenectomy, 2 total pancreatectomy, 2 ampullectomy, 5 distal gastric resection, 2 gastric by-pass. One MEN1-ZES pts died in emergency surgery. Mean tumor size was 0.6 (range 0.1-8.0) cm, and 8 patients had multiple d-NENs. Only two cases were G3 NET/NEC. Nineteen (37.3%) d-NENs had lymph node metastases: 10 in T1 tumors, and 6/10 were ZES. Five patients had liver or distant metastases. The cure rate in resective surgery was 84% but 5 pts recurred. After a median FU of 15 (range 0-41) years, 65% patients are still alive. Ten-year overall survival (OS) was 78.4%. Only 4 pts died for d-NEN progression in 10 yrs time after surgery

Even d-NENs <1 cm in size may have lymph nodes metastases. Long-term survival may be achieved in pts with liver metastases Surgery may result curative in 84% of cases.

P231**CUSA ASSISTED THYROIDECTOMY -- A NOVEL WAY TO AVOID STERNOTOMY IN EXTENSIVE RETROSTERNAL GOITRE?**

Ilaria Pecorella¹, Jagan Nath Rao², Sabapathy Balasubramanian¹

¹Endocrine Surgery Unit, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom,

²Cardiothoracic Surgery Unit, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom

Retrosternal goitre (RSG) is a common disease that requires surgery when symptomatic. While a transcervical approach is successful in most cases (96-98%), extensive goitre necessitates extra-cervical approaches. These include sternotomy which is associated with longer hospital stay and higher morbidity; while minimally invasive alternatives have limitations such as reduced access or limited availability. This case report evaluates Cavitron Ultrasonic Aspirator (CUSA)-assisted thyroidectomy via a transcervical approach for extensive RSG to avoid extra-cervical approaches.

Two female patients with extensive symptomatic retrosternal goitre (Grade 3 as per Huins classification) were included in the study. Transcervical thyroidectomy was performed, using CUSA to debulk the retrosternal tissue and facilitate cervical delivery. For both patients, data on demographics, presentation, imaging and follow-up was reviewed.

Sternotomy was successfully avoided in both patients. The first patient was discharged on the day after surgery, but experienced transient recurrent laryngeal nerve injury, resulting in hoarseness which significantly improved by 4 months. The second patient was discharged on the second post-operative day without any known complications. Histology confirmed benign multinodular goitre.

CUSA-assisted transcervical thyroidectomy appears to be feasible and safe. It has potential in avoiding the risks associated with extra-cervical approaches and facilitates a short hospital stay.

P232

BILATERAL INTERNAL JUGULAR VEIN (BIJV) SAMPLING DURING SURGERY FOR PRIMARY HYPERPARATHYROIDISM (PHPT) -- SCOPING REVIEW OF EVIDENCE AND SEARCH FOR AN OPTIMAL DEFINITION FOR LATERALISATION.

varun prakash¹, Sabapathy Balasubramanian², Nithilan Kamalakkannan³

¹Newcastle University, Newcastle Upon tyne, United Kingdom, ²sheffield teaching hospitals, Sheffield, United Kingdom, ³Sheffield University, Sheffield, United Kingdom

Accurate localisation of hyperfunctioning parathyroid glands is crucial for successful parathyroid surgery. In patients with inconclusive imaging, intraoperative bilateral internal jugular venous sampling (BIJVS) has been reported; but its utility remains unclear. The purpose of the review is to evaluate published techniques and reported effectiveness of BIJVS in parathyroid surgery.

Various databases were searched for articles on intraoperative BIJVS in parathyroid surgery. All original English language human studies reporting on lateralisation rates, diagnostic accuracy or cure rates following use of intraoperative BIJVS were included. Exclusion criteria included case reports, reviews, IJV sampling in non-parathyroid pathology. Data on patient numbers, definitions used for lateralisation and correlation with clinical outcomes were extracted by one reviewer and cross-checked by a second reviewer. The review was prospectively registered on the Open Science Framework (OSF; DOI: <https://doi.org/10.17605/OSF.IO/TSQA6>).

Of 753 screened, 12 studies including 502 patients where BIJVS was performed were included. Lateralisation definitions were reported in 7 studies. Among studies with relevant data, lateralisation gradient was defined as ranging from 5-20% and lateralisation rates varied from 51-100%. The positive and negative predictive values ranged from 76-100% (6 studies) and 0-53% respectively (3 studies). Reported cure rates following BIJVS-guided surgery were high (>98%), but definition for cure was only reported in 8 studies.

BIJVS can aid localisation in parathyroid surgery. A significant lateralisation gradient may permit unilateral surgery, but a lack of gradient does not imply bilateral disease. However, the lack of standard definition for lateralisation and inconsistent reporting limits widespread adoption.

P233

COMPARATIVE CHARACTERIZATION OF THYROID CANCER PRESENTATION IN CERVICAL AND RETROSTERNAL GOITER

Martina Amendolagine¹, Martina Amendolagine¹, Giuliana Puglisi¹, Silvia Malerba¹, Michele Bisceglie¹, Lucia Ilaria Sgaramella², Elisabetta Poli², Angela Gurrado¹, Mario Testini¹

¹University of Bari, Bari, Italy, ²Policlinico di Bari University Hospital, Bari, Italy

The notion of increased cancer incidence in retrosternal goiter (RSG) with respect to cervical goiters is controversial, while preoperative diagnosis of thyroid cancer within RSG can be challenging due to difficulties in imaging and sampling the mediastinal thyroid.

Six-hundred-three patients (157 M) with preoperative diagnosis of multinodular goiter (MNG-158 retrosternal, 445 cervical), who underwent thyroidectomy at an academic endocrine surgery referral center between January 2019 and August 2024, were retrospectively reviewed. Prevalence and features of cancer detected on final pathology, overall and not anticipated by the preoperative workup, were compared between cervical MNG (cMNG) and RSG.

Patients with RSG were older (58.6% vs. 51.8%; $p < 0.001$) and more likely to be men (34.8% vs. 23%; $p = 0.003$). Overall, thyroid cancer was found in 54.2% of cMNG specimens and in 33.5% of RSGs ($p < 0.0001$). Cancer >1 cm was more frequent in cMNG than in RSG (35.5% vs 16.5% respectively, $p < 0.001$), while mean tumor size was larger in RSGs (31 mm vs 19.6, $p < 0.0001$). Prevalence of unexpected thyroid cancer and multicentric presentation was not significantly different between cMNGs and RSGs. Unexpected carcinomas > 1 cm impacted around one tenth of all RSGs. Conclusions

In this study, the location of goiter was associated to how thyroid cancer manifests and is detected. Rate of unexpected thyroid cancer was similar between RSG and cMNG and significant from a clinical standpoint. Difficulty in performing FNA in the mediastinum likely impacted results. Further studies are necessary to validate these results.

P234

CLINICAL-PATHOLOGICAL EVALUATION OF NON-INVASIVE FOLLICULAR THYROID NEOPLASM WITH PAPILLARY-LIKE NUCLEAR FEATURES(NIFTP): A SINGLE-CENTER EXPERIENCE

Mariangela Nestola¹, Martina Amendolagine¹, Monica Miccoli¹, Francesca Rizzello¹, Alessandro Pasculli², Giovanna Di Meo², Angela Gurrado¹, Mario Testini¹

¹University of Bari, Bari, Italy, ²Policlinico di Bari University Hospital, Bari, Italy

Since non-invasive follicular thyroid neoplasm (NIFTP) was first defined as an indolent, non-aggressive neoplasm, accurate histologic evaluation is crucial. This study reviewed and reclassified follicular variants of papillary thyroid carcinoma (FVPTC) cases diagnosed in a single center using the stringent NIFTP criteria and determined incidence, clinicopathological features, and survival of NIFTP cases.

Pathology slides of 107 patients diagnosed with differentiated thyroid carcinoma, who underwent thyroidectomy at an academic endocrine surgery referral center between January 2023 and September 2024, were reviewed and potential NIFTP cases were retrieved and reviewed independently by two pathologists. Clinical data from patients meeting criteria of NIFTP (complete lack of invasion; encapsulation or clear demarcation; follicular growth pattern; papillary-like nuclei) was retrospectively analysed, with a minimum follow-up of 6 months.

FVPTC was diagnosed in 41 patients, mean age 50.5 years. After re-evaluation, 10 cases were identified as candidates, while 5 (4.7 %) confirmed as NIFTPs (3 F), of mean size 16.2 mm (3-35). Two patients had additional foci of papillary carcinoma. The median follow-up was 26.2 months, with no relapse. In four patients with available lymphatic tissue, there were no positive nodes.

Findings from this study reaffirm the very low recurrence risk associated with NIFTP, indicating an excellent prognosis even with less extensive surgical approaches, such as lobectomy, and supporting the possibility of managing patients with NIFTP similarly to those with adenoma. Reclassification helps avoid labeling patients with cancer when the lesion carries essentially no metastatic potential and an extremely favorable prognosis.

P235

ASSESSMENT OF INTRA-OPERATIVE NERVE MONITORING DATA QUALITY DURING THYROIDECTOMY WITH MIONQA (MAINZ IONM QUALITY ASSURANCE AND ANALYSIS): THE ITALIAN WAY.

Valentina Borella¹, Elisa Serena Tempera², Casimiro Nigro^{2,3}, Giulia Salvi², Pietro Princi^{1,2}

¹Unicamillus International Medical University, Rome, Italy, ²Cristo Re General Hospital, Rome, Italy, ³Department of General Surgery, University of Rome "Tor Vergata", Rome, Italy

Intra-operative neuromonitoring (IONM) is considered, with visual identification, the gold standard for a safe dissection of recurrent laryngeal nerve (RLN) during thyroidectomy. Guidelines provide reference values of amplitude and latency of EMG, but studies about correction of human and device related errors on IONM are lacking. Aims of this study are to evaluate the impact of MIONQA in an Italian regional referral center, analyze data quality and correct human and machine errors.

IONM raw data were stored from 151 patients who underwent thyroidectomy between January 2022 and April 2025 in a regional referral center in Rome. Demographic, surgical and medical data and all data regarding IONM (intermittent and continuous) coming from C2-explore Inomed ® were considered.

292 nerves at risk were evaluated from 141 total thyroidectomy and 10 lobectomies with 294 csv extracted files, 2 incomplete files were excluded. MIONQA identified errors in 28 files (18.5%) and signal errors in 41 patients (27.1%) due to low latency values, while improved stimulations were observed in 12 patients (7.9%). Latencies for left and right vagus and recurrent laryngeal nerves were 6.2 ± 2.2 ms, 3.2 ± 1.4 ms, and 2.3 ± 0.5 ms, respectively.

MIONQA is useful for IONM data analysis after thyroidectomy with in-depth review and multi-step cleaning processes before analysis to standardize scientific reports. The time necessary for correction of a single patient could be a partial limitation, however its implementation with AI analysis, soon available, could be useful for the routine application of MIONQA.

P236**A DECADE OF SURGICAL MANAGEMENT OF GASTROENTEROPANCREATIC NEUROENDOCRINE TUMORS: A SINGLE-CENTER COHORT STUDY OF INCIDENCE, PATHOLOGY, AND OUTCOMES (2015--2025)**

Ritvars Purinš^{1,2}, Māris Pavārs¹, Sergejs Šapovālovs^{1,2}, Zenons Narbutis^{1,2}, Artūrs Ozoliņš^{1,2}, Jānis Gardovskis^{1,2}

¹Pauls Stradins Clinical university hospital, Department of Surgery, Riga, Latvia, ²Riga Stradins university, Department of Surgery, Riga, Latvia

Gastroenteropancreatic neuroendocrine tumors (GEP-NETs) represent a biologically heterogeneous group of neoplasms with increasing incidence worldwide. Their clinical course ranges from indolent to highly aggressive disease. This study aimed to evaluate the epidemiology, surgical strategies, pathological characteristics and survival outcomes of surgically treated GEP-NET patients in a tertiary referral center over a 10-year period.

A retrospective cohort analysis was conducted of 113 patients who underwent surgery for histologically confirmed GEP-NETs between 2015 and 2025. Data were extracted from EUROCRINE registry. Demographics, tumor biology, operative intent, postoperative treatments and outcome parameters were assessed.

Among 113 patients, median age at diagnosis was 60 years (IQR 50--70), with a slight female predominance (54.0%). The pancreas was the most common primary site (42.5%), followed by stomach (20.4%), appendix (19.5%), and small intestine (16.8%); 3.5% had an unknown primary. Tumor grading revealed 52.2% G1, 32.7% G2, and 14.2% G3 lesions. Regional or distant metastases were present in 25.7%, and 31.0% had pathologic M1 disease. Curative-intent operations were performed in 71.7%, explorative procedures in 24.8% and palliative interventions in 1.8%. Postoperative chemotherapy was administered to 14.2%. Overall postoperative and oncologic-related mortality was 5.3%.

This 10-year institutional experience demonstrates that most surgically treated GEP-NETs were low-to intermediate-grade neoplasms amenable to curative-intent surgery. Despite a substantial portion presenting with metastatic disease, early postoperative mortality remained low. These findings support the central role of surgery in multidisciplinary GEP-NET management and highlight the need for long-term follow-up to better understand survival trajectories in this heterogeneous patient population.

P237**SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS IN ADRENAL DISEASES: WHAT EVIDENCE-BASED MEDICINE TELL US ?**

Pierre Puygrenier¹, Charles De Ponthaud¹, Clément Bailly², MD, Fabrice Menegaux¹, MD, Sebastien Gaujoux¹

¹Department of General, Visceral, and Endocrine Surgery, Pitié-Salpêtrière Hospital, AP-HP, Paris, France, ²Sorbonne University, Paris, France

Adrenal diseases comprise rare and heterogeneous disorders for which international recommendations often rely on low-level evidence. High-quality randomized controlled trials (RCTs) remain scarce. This systematic review aimed to identify and summarize all RCTs evaluating diagnostic, medical, surgical, or interventional strategies for adrenal disorders.

We systematically searched PubMed, Embase, and Cochrane for English-language RCTs on adrenal diseases from 2005--2025. Adult patients with functional, non-functional, or malignant adrenal disorders were eligible. Two reviewers screened studies and extracted data, with risk of bias assessed via Cochrane RoB 2.0. Due to heterogeneity, results were descriptively synthesized following PRISMA 2020 guidelines.

36 RCTs were included. In pheochromocytoma (n=8), RCTs evaluated preoperative preparation, confirmed perioperative benefits of minimally invasive surgery, and showed sunitinib prolongs progression-free survival in metastatic disease. In primary aldosteronism (n=13), adrenal vein sampling (AVS) refinements, imaging alternatives, partial adrenalectomy, embolization/ablation, and new drugs were effective. In adrenal Cushing's syndrome (n=5), adrenalectomy improves blood pressure, metabolic control, and quality of life compared with conservative management, while levoketoconazole normalized cortisol. In adrenocortical carcinoma, adjuvant mitotane did not improve recurrence-free survival, while EDP-mitotane remained superior to streptozotocin-mitotane. Surgical trials (n=7) showed similar safety across minimally invasive adrenalectomy.

Despite covering key adrenal disorders, RCT evidence remains limited and unevenly distributed. Evidence supports optimized preoperative and minimally invasive approaches in pheochromocytoma, effective AVS and partial adrenalectomy strategies in primary aldosteronism, adrenalectomy and levoketoconazole in Cushing's syndrome, and EDP-mitotane in adrenocortical carcinoma. Key gaps remain, warranting further multicenter trials.

P238

RETROPERITONEAL VIDEO-ASSISTED VS TRANSPERITONEAL LAPAROSCOPIC ADRENALECTOMY: LONG-TERM OUTCOMES, COMPLICATIONS, AND HEALTH-RELATED QUALITY OF LIFE IN A 20 YEARS' EXPERIENCE

Oscar Quagli¹, Marco Boniardi², Iuliana Pauna², Sara Andreani², Paolo Salvatore Lorenzo Aiello², Carlo Giovanni Ferrari²

¹Clinica San Carlo, Paderno - Milan, Italy, ²Grande Ospedale Metropolitano - Niguarda, Milano, Italy

Adrenalectomy is a surgical procedure with a long-lasting history. The technological improvements provide to this kind of surgery the possibility to evolve and reach new frontiers. As with most retroperitoneal structures, the idea to approaching the organ posteriorly has not been slow to come to fruition. The first transperitoneal laparoscopic adrenalectomy was performed in the 1992 by Gagner et al. Some years later (1997) the first retroperitoneal video-assisted operation was theorized and completed by Mercan et al. In addition, the development and the recent spread of the robotic surgery has provided a new frontier for both the approaches described above.

All the papers and the reviews published until now evaluate the surgical differences between the two techniques and the short-to-medium-term morbidity. Some analysts have therefore found that there are no studies that carry out follow-up of more than 5 years.

In this regard, our comparative, observational, retrospective study has the will to analyze this aspect, often underestimated, through the direct interviews and outpatient visits of more than 150 patients operated in past 20 years at our center. During our research we collected information about the reported quality of life and the presence of complications such as appearance of anterior or posterior incisional hernias, episodes of bowel obstruction and more.

The aim of our research is to bridge the gap of studies about the health-related quality of life and the potential long-term consequences of this kinds of procedures and to make a comparison between the two techniques.

P239

PREDICTING LATERAL NECK METASTASES IN PEDIATRIC AND ADOLESCENT PAPILLARY THYROID CARCINOMA: DIAGNOSTIC COMPARISON OF ULTRASOUND AND CENTRAL LYMPH NODE RATIO

Jovan Raketic¹, Ivan Markovic^{1,2}, Merima Goran^{1,2}, Nada Santrac^{1,2}, Nevena Savkovic¹, Nikola Jetic¹, Saska Pavlovic¹, Andjelija Cvetkovic¹, Marko Buta^{1,2}

¹Institute For Oncology And Radiology Of Serbia, Belgrade, Serbia, ²School of Medicine University of Belgrade, Belgrade, Serbia

Pediatric papillary thyroid carcinoma (PTC) commonly involves cervical lymph nodes. Current guidelines discourage prophylactic lateral neck dissection (LND), making reliable detection of lateral metastases essential. We compared the diagnostic performance of preoperative ultrasound (US) with postoperative central lymph node ratio (LNR) in predicting lateral disease.

Eighty-four children with PTC who underwent total thyroidectomy, central and lateral neck operation were analyzed. ROC curve analysis was performed to determine the optimal LNR cutoff. Diagnostic parameters were calculated for US and LNR and compared with exact McNemar tests. LNR performance was further assessed in subgroup of patients with negative preoperative US.

ROC analysis identified an optimal LNR cutoff of 0.2; AUC of 84.11% (95% CI: 74.33%--93.88%), $p = 7.4 \times 10^{-8}$. LNR demonstrated higher sensitivity (85.5% vs 67.3%, $p = 0.041$), NPV (75% vs 60%) and overall performance (84.5% vs 76.2%, $p = 0.015$) with a lower LR- (0.18 vs 0.35). Specificity, PPV and LR+ were comparable. In the US-negative subgroup ($n=45$), LNR maintained high accuracy: sensitivity 83.3%, specificity 85.2%, PPV 78.9%, NPV 88.5%, overall accuracy 84.4%, LR+ 5.63, and LR- 0.20. Thus, LNR identified most metastases missed by US while maintaining strong rule-in and rule-out performance.

While preoperative US remains essential for guiding therapeutic LND, central LNR provides meaningful biological risk stratification tool. A high LNR strongly predicts occult or future lateral metastases, particularly in US-negative patients, supporting intensified surveillance rather than prophylactic LND. Combining US-based surgical selection with LNR-guided follow-up optimizes detection while avoiding overtreatment.

P243

EVALUATION OF VIRON-X , AN IMAGE-BASED NEAR-INFRARED AUTOFLUORESCENCE SYSTEM, FOR PARATHYROID PRESERVATION IN TOTAL THYROIDECTOMY: PRELIMINARY REPORT

Tomas Ratia¹, Enrique Ovejero Merino¹, Raul Diaz Pedrero¹, Felix Mañes Jimenez¹, Dra Patricia Urbón Sanchez¹, Dra Pilar Laguna Hernandez¹, Carlos Medina Reinoso¹, Dra Rosario San Román¹, Alberto Gutierrez Calvo¹

¹Hospital Univ Príncipe De Asturias, Alcalá de Henares, Spain

Postoperative hypoparathyroidism (PHP) is the most frequent complication after total thyroidectomy (TT), with incidence rates between 14--60%. Near-infrared autofluorescence (NIRAF) has emerged as an adjunct to improve parathyroid gland (PG) identification. This study evaluates the performance of the VIRON-X (Erbe) NIRAF system in total thyroidectomies for benign disease.

A retrospective observational cohort study was conducted including 40 consecutive TTs performed in the same unit between October 2024 and October 2025. Two groups were studied: standard visual identification (Group I, n=22) and VIRON-X-assisted surgery (Group II, n=18). Demographics and clinical variables were comparable in both groups. Postoperative PTH and calcium levels were recorded 24 h after surgery.

Mean postoperative PTH levels were 33.9 pg/mL (SD 18.5) Group I versus 41.7 pg/mL (SD 20.3) Group II ($p > 0.05$). Calcium levels were 8.72 mg/dL (SD 0.71) vs 8.81 mg/dL (SD 0.32), respectively ($p > 0.05$). Transient PHP occurred in 22.7% of Group I and 11.1% of Group II patients ($p > 0.05$). Four PGs were identified in 27.2% of Group I and 55.5% of Group II ($p < 0.005$). The mean number of PGs identified was 2.2 vs 3.3, respectively. Operative time increased modestly with NIRAF: 90 min (SD 25) vs 105 min (SD 19).

In our short initial experience VIRON-X NIRAF system improved intraoperative parathyroid identification without increasing morbidity in TTs. A reduced transient PHP was observed, statistical significance was not reached. NIRAF-guided thyroidectomy appears to be a valuable tool, requiring standardized technique and a learning curve for optimal results.

P244

URGENT AND EMERGENT THYROID SURGERY: A MULTICENTRIC CASE SERIES

Vanessa Rebelo dos Santos^{1,6}, Alexandra Araújo Antunes^{2,6}, Artur Rocha³, Catarina Moura Furtado¹, David Aparício^{1,6}, Diogo Cruz⁴, Filipe Madeira Martins^{5,6}, Joana Seabra^{3,6}, Luís Miguel Castro^{2,6}, Marta Alexandre Silva^{2,6}, Miguel Andrade de Almeida^{4,6}

¹ULS Santa Maria, Lisbon, Portugal, ²ULS de Braga, Braga, Portugal, ³ULS da Arrábida, Setúbal, Portugal, ⁴ULS São João, Porto, Portugal, ⁵Hospital da Horta, E.P.E.R., Faial, Portugal, ⁶YESG-PT, Portugal

Although thyroid emergencies are rare, they may pose a severe clinical onset in patients. Early recognition and management are thus imperative to the best clinical outcome.

The authors performed a retrospective descriptive analysis on patients who underwent an emergent thyroid surgery, in five hospital centers in Portugal, between January 2020 and September 2025. The main purpose was to characterize the clinical presentation, surgical management and postoperative outcomes.

We defined urgent and emergent thyroid surgery as surgeries performed in patients admitted to the hospital through the emergency department or referred to the Endocrine Surgery Unit and underwent surgery in a timely manner.

A total of 17 cases were reported. A female predominance was observed (76.5%) and the median age was 64 years (from 21 to 88 years).

Cervical mass, dyspnea, stridor and dysphonia were the most observed symptoms. Total thyroidectomy was performed in 58.8% of cases, while lobectomy was performed in 35.3% and isthmectomy in 23.5%.

Compressive symptoms were the most common indication for surgery; trauma was identified in 2 patients and other 2 were related to Graves disease. Transient dysphonia was the most common complication (17.6%). No permanent complications or mortality were identified.

Urgent and emergent thyroid surgery is a challenging entity. The morbidity presented in our case series highlights the importance of its approach in a specialized center and in a multidisciplinary setting, thus aiming to an early recognition, prompt surgical intervention, and careful postoperative monitoring to optimize patient outcomes.

P245

PREOPERATIVE METASTASIS RISK ASSESSMENT OF PAPILLARY THYROID MICROCARCINOMA

Yurii Roienko¹, Sofia Chala¹, Roman Tsymbaliuk²

¹Kyiv City Clinical Endocrinological Center, Kyiv, Ukraine, ²National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Kyiv, Ukraine

Although most papillary thyroid microcarcinoma (PTMC) cases have a good prognosis, some develop cervical lymph node metastases. Identifying risk factors is essential for improving surgical decisions and risk stratification.

This retrospective cohort study included 221 patients (median age 46 years, IQR 35-57) who underwent surgery for PTMC at the Kyiv City Clinical Endocrinological Centre. Metastatic involvement of cervical lymph nodes was confirmed in 16.3% of cases (n=36; 95% CI 12.0-21.7), while 185 patients (83.7%) had no metastases. The analysis incorporated ultrasound-based tumour size and location, extent of thyroid surgery and lymphadenectomy, intraoperative frozen-section results, and final histopathological findings.

Patients with metastatic disease were on average 4.9 years younger than those without metastases, a statistically significant difference (p=0.043, Mann-Whitney). Metastasis rates varied by ultrasound tumour location: the left lobe (22.5%), isthmus (14.3%), right lobe (10.6%), and bilateral lesions (23.8%) - yet the overall distribution did not reach statistical significance (p=0.157, χ^2).

Tumour size demonstrated a strong association with metastatic risk. Median nodule size was 0.7 cm (IQR 0.6-0.9) in non-metastatic patients compared with 1.0 cm (IQR 0.7-1.3) in the metastatic group (p < 0.001). Nodules in the metastatic cohort were approximately 0.3 cm larger.

Metastases occurred in 36.6% of patients with nodules >1.0 cm versus 11.7% with nodules ≤1.0 cm (RR = 3.14; 95% CI 1.77-5.54; p < 0.001). These results highlight the importance of tumour size in guiding preoperative risk assessment and surgical planning for PTMC patients.

P246

DEFINITIVE SURGICAL TREATMENT FOR RECURRENT THYROTOXIC PERIODIC PARALYSIS IN GRAVE'S DISEASE: CASE REPORT.

Diego Romero Triana¹, Manuel Escanciano Escanciano, Dra Paula Pastor Peinado, Dra Irene Osorio Silla, Dra Maria Luisa Sanchez de Molina

¹Hospital Universitario Fundación Jimenez Diaz, Madrid, Spain

Thyrotoxic periodic paralysis (TPP) is a rare and potentially life-threatening complication of hyperthyroidism, characterized by acute flaccid muscle weakness and hypokalemia due to intracellular potassium shift. Although it typically presents as symmetric proximal paralysis, it may mimic acute neurological events such as stroke, delaying appropriate treatment. Definitive management of hyperthyroidism remains essential to prevent recurrence.

We report the case of a 33-year-old Filipino woman with poorly controlled Graves' disease and a previous episode of TPP, who was poorly adherent to antithyroid therapy and presented with sudden-onset left-sided weakness initially suspected as ischemic stroke.

Neuroimaging was unremarkable, while laboratory studies revealed severe hypokalemia (1.6 mmol/L) and marked thyrotoxicosis, confirming recurrent TPP. The patient was treated with cautious potassium replacement, propranolol, and thiamazole, achieving full neurological recovery. Considering the recurrence, poor therapeutic adherence, and risk of life-threatening complications, a total thyroidectomy was performed after stabilization. The procedure was uneventful, followed by hungry bone syndrome that was successfully managed with calcium and vitamin D supplementation.

Histopathological examination revealed diffuse hyperplasia consistent with Graves' disease, negative for malignancy.

TPP is a rare but important differential diagnosis in patients presenting with acute paralysis or stroke-like symptoms, particularly in those with underlying hyperthyroidism. Prompt recognition and management with β -blockers and potassium replacement are essential. Definitive treatment should be considered in recurrent or poorly controlled cases, with total thyroidectomy offering the most reliable long-term control and lowest recurrence rates when performed by experienced endocrine surgeons.

P247

RANDOMIZED CLINICAL TRIAL ASSESSING HEMOPATCH® VERSUS STANDARD HEMOSTASIS FOR POSTOPERATIVE SEROMA AFTER TOTAL THYROIDECTOMY

Mercedes Rubio Manzanares Dorado¹, Anabel Garcia Leon¹, Verónica Pino Díaz², Marina Pérez Andrés¹, Javier Padillo Ruiz¹, Juan Manuel Martos Martínez¹

¹Virgen Del Rocío University Hospital, Seville, Spain, ²Juan Ramón Jiménez Hospital, Huelva, Spain

ABSTRACT

Seroma formation is a frequent but underreported complication after total thyroidectomy. Collagen-based sealing patches such as Hemopatch® may enhance intraoperative hemostasis and decrease postoperative fluid accumulation, but evidence in thyroid surgery remains limited. This study aimed to evaluate whether the use of a collagen--polyethylene glycol hemostatic patch reduces postoperative fluid in the thyroid bed.

We conducted a prospective, randomized, single-centre trial including 109 adults undergoing total thyroidectomy for multinodular goiter. Patients were allocated to Hemopatch® or standard hemostasis, with no drains used. The primary outcome was residual fluid volume at 18 hours postoperatively, assessed by blinded cervical ultrasonography. Secondary outcomes included seroma and hematoma rates, wound status, patient-reported symptoms, biochemical parameters, hospital stay and adverse events.

Seroma incidence was similar between groups; however, total seroma volume was significantly lower with Hemopatch® compared with standard hemostasis. Rates of major complications, postoperative calcium and parathyroid hormone levels and length of stay were comparable. Hoarseness at discharge was less frequent in the Hemopatch® group, although the difference resolved by 30 days. No device-related adverse events were observed.

Adjunctive use of a collagen--polyethylene glycol sealing patch reduced postoperative fluid accumulation after total thyroidectomy without altering overall recovery. Selective use in patients at higher risk of seroma may provide meaningful clinical benefit.

P248

APPLICATION OF THE OUTCOME TEXTBOOK AS A QUALITY INDICATOR IN SURGERY FOR SPORADIC PRIMARY HYPERPARATHYROIDISM

Juan José Ruiz-Manzanera^{1,2,3}, Beatriz Febrero^{1,2,3}, Natalia Escavy², Inmaculada Ros-Madrid⁴, M. Isabel Jiménez-Masculán^{1,2,3}, Miriam Abellán^{1,2,3}, M. Teresa Soriano^{1,2,3}, José M. Rodríguez^{1,2,3}

¹Endocrine Surgery Unit. Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain, ²University of Murcia, Murcia, Spain, ³Murcian Institute for Biosanitary Research Pascual Parrilla (IMIB), Murcia, Spain, ⁴Endocrinology Department. Virgen de la Arrixaca University Clinical Hospital, Murcia, Spain

Textbook Outcome (TO) is a composite quality metric integrating multiple desirable endpoints to represent an ideal postoperative course. While widely adopted in other surgical fields, its application in endocrine surgery remains limited. This study aimed to assess the achievement rate and predictors of TO after parathyroidectomy for sporadic primary hyperparathyroidism (PHPT).

A retrospective cohort of 100 consecutive patients undergoing parathyroidectomy for sporadic PHPT at a tertiary endocrine surgery unit was analyzed. TO was defined by the simultaneous fulfillment of nine criteria: absence of wound complications, symptomatic hypocalcemia, or vocal cord dysfunction; hospital stay $\leq$ 24 h; histological confirmation of parathyroid tissue; no 90-day readmission or mortality; biochemical cure at six months; and no recurrence at one year. Descriptive and univariate analyses were performed to identify variables associated with TO.

TO was achieved in 78% of patients. Most failures (68.2%) were due to a single unmet criterion. The most frequent causes were hospital stay ≥ 24 h (31.8%) and lack of biochemical cure at six months (31.8%). Symptomatic hypocalcemia occurred in 5%, wound complications in 6%, and one-year recurrence in 5%. Absence of dyslipidemia ($p = 0.016$), single-gland resection ($p = 0.022$), and histological confirmation of a solitary adenoma ($p = 0.028$) were significantly associated with TO achievement.

TO achievement reflects optimal recovery and identifies targets for improvement in perioperative care and biochemical follow-up. Integrating safety, efficiency, and disease control, TO represents a promising benchmark for quality assessment and standardization in endocrine surgery.

P250

LOBECTOMY ELIGIBILITY IN T2 DIFFERENTIATED THYROID CARCINOMA: A TERTIARY HOSPITAL EXPERIENCE

Cansu Sagar¹, Aykut Ozkiloglu¹, Yiğit Türk¹, Ozer Makay^{2,3}, Recep Gökhan Icoz¹, Murat Ozdemir¹

¹Ege University; Faculty of Medicine ; Department of General Surgery, Izmir, Turkey, ²Özel Sağlık Hospital, Centre for Endocrine Surgery, Izmir, Turkey, ³Aristotle University, School of Medicine, Thessaloniki, Greece

According to the 2025 ATA guidelines, lobectomy may be considered for T2 thyroid cancers. The aim of this study was to evaluate the suitability of this patient group for lobectomy at a tertiary hospital.

Patients who underwent total thyroidectomy between 2021 and 2025 and were diagnosed with differentiated thyroid carcinoma measuring 20 to 40 mm on final pathology were included in the study. Their demographic data, nodule size, pathology results, and the presence of contralateral nodules and malignancy were analyzed retrospectively.

A total of 78 patients were included in the study, consisting of 22 men and 58 women. The median age was 43 years (IQR: 18--74). Contralateral nodules were detected by ultrasonography in 30 patients (38.4%). Contralateral malignancy was identified in 24 patients (30.8%). Of these, 10 patients (41.7%) had no ultrasonographically visible nodule in the contralateral lobe. Among the remaining 14 patients with a detectable nodule, TIRADS 3 was the most common (8/14), followed by TIRADS 2 (3/14) and TIRADS 4 (3/14). The median size of contralateral malignant tumors was 2 mm (range: 2--11 mm). Pathology revealed variants of papillary carcinoma in 23 patients, and one patient had a 3-mm medullary carcinoma. Lymph node metastasis was present in seven patients (9%), two of whom also had contralateral malignancy.

The rate of contralateral malignancy in our cohort was higher than the 5--25% range reported in the literature. These findings suggest that patients should be carefully selected for lobectomy in this tumor size range.

P251

LONG-TERM OUTCOMES OF VARIOUS SURGICAL PROCEDURES IN MULTINODULAR EUTHYROID GOITER

Farida Saidova, MD, Oruc Shahsuvarov, MD, Rasim Huseynov, MD, Shahla Alakbarova, MD, Nizami Muradov

¹Scientific Center of Surgery named after acad. M.A. Topchubashov, Baku, Azərbaycan, ²Scientific Center of Surgery named after acad. M.A. Topchubashov, Baku, Azərbaycan, ³Scientific Center of Surgery named after acad. M.A. Topchubashov, Baku, Azərbaycan, ⁴Scientific Center of Surgery named after acad. M.A. Topchubashov, Baku, Azərbaycan, ⁵Scientific Center of Surgery named after acad. M.A. Topchubashov, Baku, Azərbaycan

The aim To evaluate the long-term outcomes of different surgical volumes performed for multinodular euthyroid goiter.

Materials and methods A total of 235 patients with multinodular euthyroid goiter (MNEG) who underwent surgical treatment were examined. Among them, 76 (32,3%) patients with bilateral MNEG underwent total thyroidectomy, 72 (30,6%) patients with bilateral MNEG underwent subtotal thyroidectomy, 35 (14,9%) patients with bilateral MNEG underwent Dunhill's procedure and 52 (22,1%) patients with unilateral MNEG underwent hemithyroidectomy. The patients' ages ranged from 20 to 77 years. Among them, 218 (92,7%) were women and 17 (7,2%) were men.

Results and discussion The recurrence rate after subtotal thyroidectomy for MNEG was 23,6%, after Dunhill's procedure --- 11,4% and after hemithyroidectomy --- 11,5%. The quality of life in patients after hemithyroidectomy was significantly better: 78,8% of patients with MNEG did not require lifelong

hormone replacement therapy. Postoperative hypothyroidism was observed in 21,2% of cases after hemithyroidectomy for unilateral MNEG. Patients in this group required a minimal daily dose of levothyroxine compared with other groups ($40,9 \pm 5.1 \mu\text{g}$, $p < 0.001$). During the follow-up period, 6 (11,5%) patients from this group developed recurrence. In all these cases, the newly formed nodules were smaller than 1 cm in diameter and had a subclinical character, as detected by ultrasound examination.

Conclusions Thus, hemithyroidectomy performed for unilateral MNEG represents the optimal volume of surgical intervention. However, the final choice of procedure should be a joint decision between the surgeon and the patient, made with consideration of individual risk factors for recurrence and postoperative hypothyroidism.

P252

DESCENDING NECROTIZING MEDIASTINITIS AFTER ENDOCRINE NECK SURGERY

Nathanaël Saison¹, Mirza Muradbegovic¹, Maxime Constant², Carsten Viehl¹, Laure Maillard³, Jean-Christophe Lifante³

¹Department of Surgery, Hospital Center Biel-Bienne, Biel-Bienne, Switzerland, ²Department of Digestive and Surgical Oncology, Liver Transplantation Unit, CHU Besançon, Besançon, France, ³Department of Endocrine Surgery, Lyon Sud Hospital, Hospices Civil de Lyon, Lyon, France

Thyroidectomy is a commonly performed endocrine procedure with generally low complication rates. Descending necrotizing mediastinitis (DNM) is an exceptionally rare but life-threatening complication resulting from cervical infections that spread into the mediastinum.

We retrospectively reviewed five cases of DNM following thyroid surgery between 2023 and 2025 at two tertiary centers, assessing demographics, comorbidities, procedures, presentation, imaging, microbiology, management, and outcomes. A literature search of PubMed, MEDLINE, and Embase supplemented our analysis.

Five patients (age 35--68, mean 53.8 years) developed DNM 2--10 days postoperatively. All had comorbidities, including obesity, hypertension, immunosuppression, or multiple sclerosis. Procedures included total thyroidectomy (n=3) and hemithyroidectomy (n=2). Presenting features were cervical pain, swelling, fever, dysphagia, dyspnea, tachycardia, and subcutaneous emphysema. Diagnosis was confirmed by contrast-enhanced CT. Pathogens included *Streptococcus pyogenes* (n=3), *Streptococcus pneumoniae* (n=1), and MRSA (n=1). Management involved cervical drainage (n=4), thoracic intervention (n=2), tracheal repair (n=1), and ICU care (n=4). Complications included acute kidney injury, septic shock, pleural/pericardial effusions, pulmonary embolism, and cardiac arrest. All patients survived; hospital stays ranged 7--42 days (median 21). One patient required long-term rehabilitation with persistent functional impairment.

DNM after thyroidectomy, although rare, can be fatal. Early recognition, contrast-enhanced CT, aggressive surgical drainage, and broad-spectrum antibiotics are essential. Awareness of risk factors and vigilant postoperative monitoring may improve outcomes.

P253

COMPOSITE PHEOCHROMOCYTOMA--GANGLIONEUROMA: A RARE ADRENAL TUMOR

Nathanaël Saison¹, Sandrina Bervini², Carsten Viehl¹, Mirza Muradbegovic¹

¹Department of Surgery Hospital Center Biel-bienne, Biel-Bienne, Switzerland, ²Endocrinology and Diabetes, Medical Center EndoDia-Centre, Biel/Bienne, Biel-Bienne, Switzerland

Composite pheochromocytoma--ganglioneuroma is a rare adrenal medullary tumor characterized by the coexistence of a pheochromocytoma with a mature ganglioneuromatous component. Its heterogeneous cellular composition can lead to variable clinical presentations and diagnostic uncertainty.

We report the case of a 57-year-old female referred for evaluation of a right adrenal mass detected during investigation of persistent right lower abdominal and leg pain. She exhibited no clinical signs of catecholamine excess; however, biochemical testing revealed markedly elevated plasma metanephrine, normetanephrine, and noradrenaline levels, with a normal aldosterone--renin ratio. Imaging confirmed a well-circumscribed right adrenal tumor. The patient underwent adrenalectomy.

Histopathological examination demonstrated a composite pheochromocytoma--ganglioneuroma, measuring approximately 40 mm in total, including a 10-mm ganglioneuroma component. No vascular invasion or perineural sheath infiltration was identified.

Composite pheochromocytoma--ganglioneuroma (CP) is a very rare neural crest--derived tumor, most often composed of a predominant pheochromocytoma with a smaller ganglioneuroma component. Reported cases suggest largely benign behavior, with malignant transformation occurring almost exclusively when immature neurogenic elements are present. Clinical presentation varies, but many patients are hypertensive or exhibit catecholamine-related symptoms; incidental discovery is increasingly recognized. CP has been reported in association with hereditary syndromes---most notably NF1, MEN2A, and VHL---and emerging evidence suggests a distinct molecular profile with higher frequencies of HRAS and BRAF mutations compared with ordinary pheochromocytomas. Overall prognosis is favorable for tumors composed solely of pheochromocytoma and ganglioneuroma, although long-term follow-up is recommended due to rare reports of recurrence or metastasis from immature components.

P254

TUBERCULOUS LYMPHADENITIS OF THE NECK MIMICKING PAPILLARY THYROID CARCINOMA.

Maria Saladich Cubero¹, Dra Natàlia Guàrdia Torné¹, Pablo Collera Ormazábal¹, Marcos Solà Cardona¹

¹Althaia Xarxa Assistencial Universitària De Manresa, Manresa, Spain

Tuberculosis (TB) mainly affects the lungs, but the most frequent extrapulmonary presentation is the cervical tuberculous lymphadenitis, also known as scrofula.

A 60-year-old female is referred from endocrinology with a right thyroid nodule with ipsilateral ganglionic affectation. Ultrasound revealed a solid-cystic right thyroid nodule with macrocalcifications (TR5, Bethesda III 5x6x4 mm) and a US pathological lymph node at right level IV with negative Thyroglobulin (images 1 and 2).

Total thyroidectomy with right central and lateral nodal resection was performed. In the postoperative course the patient developed a chylous fistula. Lymphography was performed to evaluate possible Lipiodol embolization, but no major lymphatic duct is visualized. The clinical course was slow but with progressive decrease in output, allowing discharge.

Pathology of the lymph node reported granulomatous lymphadenitis suggestive of tuberculosis. Infectious Diseases consultation led to a Quantiferon test, which was positive, Anti-tuberculosis therapy was initiated. The right thyroid lobe was a non-malignant hyperplastic nodule

Cervical tuberculosis can closely mimic papillary thyroid carcinoma on imaging (either US and CT) and fine-needle aspiration, often leading to misdiagnosis. Histopathology is essential to distinguish granulomatous inflammation from true malignancy.

In developed countries, tuberculosis is rarely suspected, which can delay correct diagnosis. Considering TB in the differential diagnosis may eventually avoid unnecessary surgery or extensive resections.

P255

HEMITHYROIDECTOMY THROUGH LATERAL APPROACH IN A PATIENT WITH LARINGOTRACHEOPLASTY HISTORY

Carmen Sánchez García¹, Claudia Santamaria García¹, Julia Bernal Tirapo¹, Francisco Javier Guadarrama González¹, Almudena Martínez Pozuelo¹, Laura Martín-Pérez Olivares², Myriam Partida Muñoz², Pedro Yuste García¹, Eduardo Ferrero Herrero¹

¹Digestive and General Surgery, Hospital Universitario 12 De Octubre, Madrid, Spain, ²Endocrinology and Nutrition Department, Hospital Universitario 12 de Octubre, Madrid, Spain

Reinterventions are associated with higher incidence of complications compared to primary procedures. Factors such as fibrosis, edema and distortion of anatomy contribute to increased surgical risk.

The incidence of recurrent laryngeal nerve injury can be eight times higher than primary surgery and permanent hypoparathyroidism can affect up to 22% of patients.

The lateral approach to prethyroid muscles may be an alternative to anterior cervicotomy, allowing an access through a naive surgical field.

A 22-year-old male with a history of severe bronchiolitis in childhood, cardiopulmonary arrest, and subglottic stenosis secondary to prolonged intubation underwent laryngotracheoplasty with anterior costal cartilage grafting at 13 years old.

During follow-up, a 18-mm left thyroid nodule (TIRADS 4) was detected on a neck CT scan, and cytological examination reported Bethesda IV.

A left hemithyroidectomy through lateral approach to the prethyroid muscles was performed to avoid the medial area of the costal graft. Preoperative laryngoscopy revealed altered vocal cord movement, with adequate closure but limited opening.

During anesthesia induction, a fibrobronchoscopy was performed to visualize the tracheal area of the graft, and a neuromonitoring tube was placed.

There were no postoperative complications.

The histopathologic report described a minimally invasive oncocytic carcinoma hence clinical follow-up was decided.

Lateral approach in patients with previous cervicotomies may be an alternative when the anterior anatomy is distorted and may be suggested in centers with experience in complex neck endocrine surgery.

P256

AUTOFLUORESCENCE WITH THE PTEYETM SYSTEM: INITIAL EXPERIENCE IN A TERTIARY HOSPITAL

Carmen Sánchez García¹, Julia Bernal Tirapo¹, Francisco Javier Guadarrama González¹, Almudena Martínez Pozuelo¹, Dra Myriam Partida Muñoz², Dra Laura Pérez-Martin Olivares², Daniel Pastor Altaba¹, Alejandro Moreno Bagueiras¹, Dra Marta Gutiérrez Andreu¹, Pedro Yuste García¹, Eduardo Ferrero¹

¹General and Digestive Surgery Department, Hospital Universitario 12 De Octubre, Madrid, Spain, ²Endocrinology and Nutrition Department, Hospital Universitario 12 de Octubre, Madrid, Spain

The PTeye™ system is the first intraoperative probe-based technology that provides real-time quantitative information on the autofluorescence of the parathyroid glands.

A descriptive observational study of 15 patients who underwent surgery using the PTeye™ autofluorescence system was performed. Six total thyroidectomies and 9 parathyroidectomies were included. Based on initial experience, a protocol was developed to establish the validity of the test.

In the thyroid surgery group, 6 total thyroidectomies with 2 central neck dissection were performed. Two false positives were recorded for thyroid nodules.

A total of 22 target tissues were evaluated with a Sensivity of 100%, Specificity of 80%, Positive Predictive Value (PPV) of 87.5% and Negative Predictive Value (NPV) of 100%.

In the parathyroid surgery group, 9 cases of primary hyperparathyroidism (PHPT) were performed with two recurrences. Seven focused parathyroidectomies and two bilateral cervical explorations were performed.

Four false positives were recorded in two cases. Case 1: thyroid nodule (ratio of 1.2). Case 2: 1 lymph node and 2 fatty tissues (ratios of 3) in recurrent PHPT in a MEN1 syndrome.

A total of 20 target tissues were evaluated with a Sensivity of 100%, Specificity of 94%, PPV of 70% and NPV of 100%.

We concluded that PTeye™ system may be useful in cases of non-localized adenomas and reinterventions. In thyroid surgery may be useful in central neck lymph nodes, Graves disease, Hashimoto thyroiditis and distorted anatomy.

Multicenter studies with large sample sizes are needed to demonstrate its impact on postoperative hypocalcemia.

P257

BILATERAL NECK EXPLORATION OR FOCUSED PARATHYROIDECTOMY? REEVALUATING SURGICAL STRATEGY IN SPORADIC HYPERCALCEMIC PRIMARY HYPERPARATHYROIDISM

María Sánchez Rodríguez, Leire Zarain Obrador¹, Iñaki Amunategui Prats¹, María Fernández Martínez¹, Enrique Mercader Cidoncha¹

¹Hospital General Universitario Gregorio Marañón, Madrid, Spain

identification of multiglandular disease (MGD) in sporadic hypercalcemic primary hyperparathyroidism (sHHPT) remains controversial. Despite advances in intraoperative iPTH monitoring and choline-PET, cure rates are not 100%. Some authors therefore advocate a more extensive approach---bilateral neck exploration (BNE)---instead of focus parathyroidectomy (FP). Although, BNE is associated with resection of more macroscopically abnormal glands and higher MGD rates, its superiority in cure remains unclear.

to analyze sHHPT surgical outcomes and compare BNE versus FP; to assess whether cure and MGD rates differ according to number of glands resected and surgical technique.

retrospective observational study of patients operated for sHHPT (January 2015--December 2023) at an experienced Endocrine Surgery Unit. Exclusion criteria: previous/synchronous thyroid surgery or <6-month follow-up. Cure: normocalcemia at 6 months. Comparative analyses were performed by technique (BNE/FP) and glands resected (1/≥1).

249 patients were included, 49.4% underwent BNE vs. 51.0% FP, 82.7% had 1 gland resection vs. 16.9% ≥1 gland. Postoperative complications: 2.8%. MGD rate: 12.0%. Median follow-up: 16.6 months. Overall cure rate: 95.6%. BNE showed higher MGD detection (21.1% vs. 3.2%, $p<0.001$) with similar cure (94.3% vs. 96.8%, $p=0.334$) and morbidity (1.6% vs. 4.0%, $p=0.447$). ≥1 gland resection yielded higher MGD (54.8% vs. 3.4%, $p<0.001$) but no difference in cure. After cure, 1 BNE patient (≥1 gland) and 4 FP patients (1 gland) presented recurrence.

BNE and ≥1 gland resection achieve higher MGD detection with comparable cure and morbidity, but lower recurrence. In experienced centers, BNE may be justified as the preferred approach for sHHPT.

P258

DELAYED TRACHEAL PERFORATION: AN UNUSUAL COMPLICATION ONE WEEK AFTER TOTAL THYROIDECTOMY

Jesus Sandoval Marin¹, Dra. CELIA MORENO GARCÍA¹, Dra. MARÍA MELLADO GARCÍA¹, JOSE MARÍA RODRÍGUEZ LUCAS¹, Dra. ANDREA MARÍA HURTADO VÁZQUEZ¹, Dra. VICTORIA LUCAS LEÓN¹, Dra. CARLA PLANA CARRATALÁ¹, Dra. HAJAR DAHMOUNI DAHMOUNI¹, Dra. DELIA MARÍA LUJÁN MARTÍNEZ¹, Dra. MARI FE CANDEL ARENAS¹

¹Hospital General Universitario Reina Sofía De Murcia, Murcia, Spain

We report the case of a 56-year-old female patient diagnosed in 2021 with multinodular goitre (MNG) associated with subclinical hyperthyroidism. A total thyroidectomy was performed in July 2025. The post-operative period passed without incident.

One week later, the patient presented to the emergency department with progressive cervical swelling, dysphagia and dysphonia. Examination revealed a normotrophic cervical incision with marked bulging and subcutaneous emphysema extending from the mandibular region to the thorax. CT imaging demonstrated extensive emphysema dissecting multiple cervical spaces and spreading into the upper mediastinum (Figure 1). Percutaneous drainage with an abbocath connected to a closed system yielded abundant air evacuation.

During admission, laryngeal fibroscopy was unremarkable. Bronchoscopy revealed bilateral subglottic inflammation with fibrinous deposits and a small lateral defect at the level of the first tracheal rings, consistent with minimal air leakage (Figure 2). The patient showed progressive improvement under conservative management---antibiotic therapy, close clinical monitoring and maintenance of drainage---and was discharged after six days.

Post-thyroidectomy complications are uncommon (≈3%), and tracheal injury is exceedingly rare (≈0.06%). Identified risk factors include female sex, MNG, difficult or prolonged intubation and the use of energy-based devices. Tracheal injuries may present immediately or in delayed form; the latter, typically related to thermal damage, can appear days to weeks after surgery and produce emphysema secondary to focal necrosis. In clinically stable patients with small defects (<2 cm), conservative

treatment is considered safe and effective, while surgical repair should be reserved for cases with respiratory compromise, sepsis or large defects.

P259

LATE RECURRENCE OF PHEOCHROMOCYTOMA: A DIAGNOSTIC AND SURGICAL CHALLENGE 23 YEARS LATER

Jesus Sandoval Marin¹, Dra. CELIA MORENO GARCÍA¹, Dra. MARÍA MELLADO GARCÍA¹, JOSE MARÍA RODRÍGUEZ LUCAS¹, Dra. ANDREA MARÍA HURTADO VÁZQUEZ¹, Dra. VICTORIA LUCAS LEÓN¹, Dra. CARLA PLANA CARRATALÁ¹, Dra. HAJAR DAHMOUNI DAHMOUNI¹, Dra. DELIA MARÍA LUJÁN MARTÍNEZ¹, Dra. MARI FE CANDEL ARENAS¹

¹Hospital General Universitario Reina Sofía De Murcia, Murcia, Spain

An 80-year-old woman with a history of hypertensive heart disease and extrinsic bronchial asthma, underwent right adrenalectomy in 1995 for a 6-cm pheochromocytoma without cellular pleomorphism or vascular invasion.

In 2018, she presented with hypertensive crises and headache. Biochemical testing confirmed catecholamine excess, and abdominal CT combined with I-123 MIBG scintigraphy demonstrated a 3-cm mass in the adrenalectomy bed, compatible with local recurrence (Figure 1). Histopathology revealed a pheochromocytoma with capsular and vasculolymphatic invasion. Genetic testing for hereditary syndromes was negative.

A further clinical and biochemical relapse occurred in 2019. CT imaging identified a 3-cm soft-tissue lesion in the interaortocaval region (Figure 2). The patient declined surgical reintervention, and medical management was initiated. Due to persistent symptoms, Ga-68 DOTA-SSA PET-CT was performed. She subsequently underwent I-123 MIBG therapy and external beam radiotherapy, achieving radiological and clinical stability.

Pheochromocytoma is a neuroendocrine tumour with malignant potential, although metastasis remains the only universally accepted criterion of malignancy. No single histological or molecular marker reliably predicts aggressive behaviour, but several risk-assessment algorithms have been proposed.

Tumour recurrence occurs in approximately 6.5--16.5% of cases and may be either local or distant. Proposed mechanisms include incomplete tumour excision, tumour seeding during biopsy or surgery, and unrecognised metastatic disease. Larger primary tumours (>5 cm) appear to confer a higher recurrence risk and warrant closer surveillance. Recurrent pheochromocytoma poses significant therapeutic challenges, underscoring the importance of long-term follow-up and early detection.

P260

ENERGY-BASED ABLATION SHOWS EQUIVALENT OUTCOMES IN BETHESDA II AND MOLECULARLY NEGATIVE INDETERMINATE THYROID NODULES

Marcos Santos¹, Bruna Rabelo¹, Miriane de Oliveira¹, Andrei Felix de Oliveira¹, Alana Sueli dos Santos¹, Gabriella Carolina Scalice Chiari, Rafael de Cicco², Letícia Fernandes Saraiva³, Felipe Otávio Saraiva França³, Marco Seferin⁴, José Higino Steck⁵, Bernardo Fonseca⁶, Emerson Favero⁷, Claudio Albino⁸, Erivelto Volpi⁹

¹Onkos Molecular Diagnostics, Ribeirão Preto, Brazil, ²Instituto de Câncer Doutor Arnaldo, São Paulo, Brazil,

³Policlínica Medianeira, Medianeira, Brazil, ⁴Hospital Mãe de Deus, Porto Alegre, Brazil, ⁵Campinas State University, Campinas, Brazil, ⁶Spectra Diagnóstico por Imagem, Belo Horizonte, Brazil, ⁷Hospital Israelita Albert Einstein, São Paulo, Brazil, ⁸ND Núcleo Diagnóstico, Maringá, Brazil, ⁹Oswaldo Cruz German Hospital, São Paulo, Brazil

Energy-based ablation (EBA) is a well established and accepted technique for thyroid nodules with very low risk of malignancy (RoM), such as those classified as Bethesda II by cytology. Although molecular tests can also classify indeterminate thyroid nodules (ITNs; Bethesda III/IV) as very low RoM (NPV 96%), the performance and safety of EBA for these cases remains limited. In this study, we compared the EBA performance between Bethesda II nodules and ITNs with a benign molecular profile (mir-THYpe full negative results) and contextualized these findings within the follow-up outcomes.

Two complementary analyses were performed. First, 23 Bethesda II nodules and 31 mir-THYpe--negative ITNs treated with EBA were evaluated at 6 months to compare volume reduction rate (VRR). Second, the mir-THYpe--negative ITNs cohort was followed for up to 24 months to characterize VRR progression. Complications and need for reintervention were recorded.

At 6 months, mean VRR was 57.63% for Bethesda II nodules and 64.67% for mir-THYpe--negative ITNs ($p = 0.27$), indicating equivalent early efficacy. The outcomes in the ITNs cohort followed for a longer period showed sustained response, with mean VRRs of 69.0% (12 months), 71.4% (18 months) and 72.4% (24 months). One patient required reintervention and no major complications occurred.

These preliminary data suggest that EBA treatment of ITNs with a negative mir-THYpe full test yields equivalent VRR to EBA treatment of nodules classified as Bethesda II. The data also indicate that the VRR increases over the following 18 months.

P261

EVALUATING THE YIELD OF GENETIC TESTING IN ENDOCRINE SURGERY: INSIGHTS FROM A TERTIARY HOSPITAL IN SOUTH AFRICA

Krystle Saunderson¹

¹Stellenbosch University Surgery Division, Cape Town, South Africa

Genetic testing enables the identification of heritable disease-related variants that influence phenotypic presentation, malignancy risk, and prognosis in high-risk individuals. While up to 40% of pheochromocytomas and paragangliomas are associated with hereditary syndromes, genetic testing remains limited in South Africa. Between 2018 and 2023, Tygerberg Hospital (TBH) had access to next-generation sequencing (NGS) multi-gene panels, for patients with medullary thyroid cancer (MTC), pheochromocytoma (PCC), paraganglioma (PGL), primary hyperparathyroidism (PHPT), and pancreatic neuroendocrine tumours (pNETs). Since 2023, genetic testing for endocrine surgical diseases has been discontinued at TBH due to austerity measures.

This retrospective study included all patients undergoing NGS multi-gene panel testing for endocrine surgical disease at TBH between January 2018 and June 2025.

Eighty-three patients were tested, 50 index cases and 33 relatives. Pathogenic/likely pathogenic (P/LP) variants were identified in 36% (18/50) of index cases, with SDHB variants in 20%, SDHD in 2%, RET in 6%, VHL in 4%, MEN1 in 6%, and CDC73 in 2%, while 18% harboured variants of uncertain significance. Detection rates varied significantly across pathologies: 100% in pNETs (all MEN1), 69% in paragangliomas (50% SDHB), 63% in pheochromocytomas, 55% in PHPT, and 33% in MTC (17% RET). Among 33 family members undergoing targeted testing, RET variants were identified in two patients, who subsequently underwent prophylactic thyroidectomy with microMTC detected histologically. Eighty-six percent (43/50) of index patients underwent surgery.

This descriptive study shows a high genetic yield in our patients and motivates for ongoing genetic counselling and testing in our selected population.

P262

FROZEN SECTION--GUIDED SELECTIVE IPSILATERAL CENTRAL NECK DISSECTION IN BETHESDA V--VI THYROID NODULES: A PILOT COHORT STUDY INFORMING SURGICAL EXTENT

Marco Marciano¹, Giuseppina Melfa², Bianca Vicari¹, Maria Aurora Bullaro¹, Pierina Richiusa³, Vito Rodolico⁴, Giuseppina Orlando², Gregorio Scerrino²

¹Department Of Surgical Oncological And Oral Sciences-General and Emergency Surgery Unit-Policlinico P. Giaccone-Palermo University, Palermo, Italy, ²Department Of Surgical Oncological And Oral Sciences-Endocrine Surgery Unit-Policlinico P. Giaccone-Palermo University, Palermo, Italy, ³Department PROMISE-Section of Endocrinology-Policlinico P. Giaccone-Palermo University, Palermo, Italy, ⁴Department PROMISE-Section Pathological Anatomy-University of Palermo

Background.

In T1cN0 differentiated thyroid carcinoma, the optimal extent of thyroidectomy and the selective central neck dissection (CND) remain debated. In Bethesda V--VI (BV-VI) nodules, intraoperative frozen section analysis (FSA) of ipsilateral central compartment lymph nodes (ipsiCCLN) may refine decision-making. We implemented a strategy consisting of pre-emptive ipsiCCLN excision, FSA, and hemithyroidectomy (HT) on the tumor side; completion thyroidectomy with bilateral CND was performed only if FSA identified metastatic nodes. This study aimed to explore feasibility, diagnostic performance, and clinical impact of this approach.

We prospectively analyzed data from 59 consecutive BV--VI patients. Twenty-nine underwent ipsiCCLN FSA; 30 Total Thyroidectomies (TT) constituted a non-FSA control group. FSA diagnostic performance

was evaluated through sensitivity, specificity, predictive values, accuracy, and AUC. Treatment adequacy (well treated vs under- or overtreated) was assessed relative to final pathology. Confounding was addressed through inverse probability of treatment weighting (IPTW) derived from a propensity score including age, cytology class, planned thyroidectomy extent, and tumor size.

FSA diagnostic accuracy was high (sensitivity 91.7%, specificity 94.1%, AUC 0.93; 95% CI 0.82--1.00). Inadequate treatment occurred in 50.0% of TT versus 10.3% of FSA (crude OR 0.12, 95% CI 0.03--0.46; $p=0.0015$). After IPTW adjustment, the association persisted (weighted OR 0.12, 95% CI 0.04--0.36; $p<0.001$). Complication rates, including transient/persistent hypoparathyroidism, were comparable between groups.

This study indicates that an FSA-guided strategy based on ipsiCCLN sampling reduces suboptimal treatment in BV--VI nodules without increasing morbidity. These findings support FSA as a practical intraoperative decision-support tool within tailored CND pathways.

P263

THE APA--APCC CONTINUUM: A CORRELATION STUDY OF HISTOPATHOLOGICAL PREDICTORS OF LATERALISATION AND SURGICAL CURE IN PRIMARY ALDOSTERONISM.

Donatella Schiavone¹, Francesca Torresan¹, Brasilina Caroccia¹, Gian Paolo Rossi¹, Maurizio Iacobone¹

¹University of Padua, Padua, Italy

Aldosterone-producing adenomas (APAs) and aldosterone-producing cell clusters (APCCs) are key substrates of primary aldosteronism (PA). APCCs, focal CYP11B2 expression, may act as subclinical aldosterone sources or early precursors, but their link to adenoma morphology, biochemical activity, imaging, and surgical outcomes is unclear. This study assesses associations between APCC and APA features, biochemical markers, imaging, lateralisation index (LI), and PASO score (Primary Aldosteronism Surgical Outcome).

Adrenal glands from 40 patients with APA who underwent adrenalectomy between 2015 and 2022 were retrospectively analysed. CYP11B2 immunohistochemistry was digitally quantified. Correlations were assessed between APCC burden and APA size, aldosterone--renin ratio (ARR), KCNJ5 mutation status, LI, CT adrenal diameter, and PASO score.

Mean APCC count was 4.0 ± 3.0 and median APCC total area 0.46 (0.04 -- 9.95) mm². Median APA area was 18 (0 -- 64.25) mm². Median CT size was 11 (8 -- 13) mm, median LI 6.56 (2.605 -- 21.383), and median PASO score 12.25 (11 -- 16.25). ARR correlated positively with APA size ($r = 0.5$; $p = 0.02$) and inversely with APCC count ($r = -0.4$; $p = 0.04$) and APCC area ($r = -0.4$; $p = 0.03$). APA and APCC area were negatively correlated ($r = -0.4$; $p = 0.03$), especially in KCNJ5 wild-type. No significant associations were observed between APCC area and LI, PASO score, or CT size.

Larger APAs coexist with reduced APCC burden, supporting a possible continuum where APCCs represent early aldosterone--producing lesions that may progress into dominant adenomas. This spectrum may improve diagnostic interpretation and guide surgical decision--making.

P264

NEOADJUVANT TYROSINE KINASE INHIBITORS CHANGING SURGICAL MANAGEMENT FOR ADVANCED DIFFERENTIATED THYROID CANCER

Sina Schmidt¹, Gina Treichler², Andrea Goldmann¹

¹Klinik für Viszeral- und Thoraxchirurgie, Kantonsspital Winterthur, Winterthur, Switzerland, ²Klinik für medizinische Onkologie und Hämatologie, Kantonsspital Winterthur, Winterthur, Switzerland

Surgery followed by radioiodine treatment remains the standard treatment for papillary thyroid cancer (PTC). However, recent case series suggest that neoadjuvant tyrosine kinase inhibitors (TKIs) may improve resectability and outcomes in locally advanced disease.

We present a case of a 32-year-old female patient with newly diagnosed PTC of the right lobe, presenting with extensive bilateral central, lateral, and mediastinal lymph node involvement but no distant metastasis. The grossly enlarged lymph nodes displaced and compressed the internal jugular and right subclavian veins with possible infiltration. Mediastinal access was deemed technically challenging. After multidisciplinary discussion, neoadjuvant systemic therapy with lenvatinib was initiated, chosen for availability and oncologists' preference.

After three months of neoadjuvant therapy with lenvatinib, FDG PET CT showed a 30--50% reduction in lymph node volume. Vascular involvement was no longer apparent. Right thyroidectomy with complete lymph node clearance was successfully performed, with the contralateral side scheduled for a second procedure. Histopathology confirmed classic PTC, with the largest metastasis measuring 8.5 cm. Importantly, sternotomy was avoided due to significant tumor shrinkage.

The neoadjuvant use of tyrosine kinase inhibitors can effectively downsize complex and surgically challenging differentiated thyroid cancers, facilitating complete resection and potentially reducing surgical morbidity.

P265

PRE-OPERATIVE LUGOL SOLUTION USE IN SURGERY FOR GRAVES' DISEASE -- A NATIONWIDE MULTI-CENTER QUESTIONNAIRE STUDY IN PORTUGAL

Joana Seabra^{1,6}, Alexandra Araújo Antunes^{2,6}, Artur Rocha¹, David Aparício^{3,6}, Diogo Cruz⁴, Eva Borges³, Filipe Madeira Martins^{5,6}, Luís Miguel Castro^{2,6}, Marta Alexandre Silva^{2,6}, Miguel Andrade de Almeida^{4,6}, Vanessa Rebelo dos Santos^{3,6}

¹ULS da Arrábida, Setúbal, Portugal, ²ULS Braga, Braga, Portugal, ³ULS Santa Maria, Lisbon, Portugal, ⁴ULS São João, Porto, Portugal, ⁵Hospital da Horta, E.P.E.R., Horta, Portugal, ⁶YESG-PT, Portugal

The use of Lugol solution as a pretreatment before surgery for Graves' Disease aims to decrease the thyroid's vascular flow, reducing the risk of intra-operative hemorrhage.

Although some guidelines still recommend its use, this practice lacks consensus, with a great variety of protocols described in the literature.

The authors applied a nationwide questionnaire to characterise the practice of different surgeons, from several Portuguese Endocrine Surgery Units, considering the use of Lugol.

The questions aimed to characterise the surgical volume in each centre (reporting to the year of 2024) and the personal surgeon's practice at the present time.

We analysed the answers from 35 surgeons, most of them from high volume surgical centres (40% performing more than 200 thyroid procedures during one year).

Considering the question about the percentage of patients in which Lugol is used, the results were: approximately 25.7% of surgeons always use Lugol (although protocols vary), and 37.1% never use it preoperatively. This practice is not uniform - even among surgeons within the same Unit - in nearly half of the centres.

The most frequently reported reason for not using Lugol was "not considering to have an intra-operative technical benefit".

The results of this nationwide questionnaire reflect the great heterogeneity that still exists in clinical practice considering the use of Lugol. The authors believe that this study may be used as a starting point for the development of a multicentric collaboration, in order to create a more standardised approach between different Endocrine Surgery Units.

P266

INTRAOPERATIVE NEUROMONITORING WITH NIM VITAL™ IN ENDOCRINE SURGERY: A SUBSET ANALYSIS

Frederic Sebag¹, Miguel Allen, Lisa Pechtold, Jonas Park, Sébastien Vergez, César Cartier, Manuel Duran, Kerstin Lorenz

¹Aixmarseille University, Marseilles, France

The NIM Vital™ system (NIM Vital) supports intraoperative neuromonitoring (IONM) to enhance nerve identification and preservation during head and neck surgeries. This analysis focuses on a subset of endocrine procedures---thyroidectomy, hemithyroidectomy, parathyroidectomy, and neck dissection---within a broader dataset of 205 patients enrolled in the NIM Vital Product Surveillance Registry.

129 patients underwent Endocrine procedures: thyroidectomy (n=48), hemithyroidectomy (n=40), parathyroidectomy (n=23), neck dissection (n=9), lobo/isthmus resection (n=7), thyroidectomy with lymph node or central compartment dissection (n=2). A total of 415 target nerves were monitored including recurrent laryngeal (178), superior laryngeal (61), phrenic (9), and vagus nerves (167). Electromyography (EMG) Monitoring was considered successful when the target nerve was located,

monitored, and stimulated throughout the procedure.

NIM Vital enabled successful monitoring in 96.1% of recurrent laryngeal, 95.8% of vagus, 100% of phrenic nerves, and 77% of superior laryngeal nerves. Mean procedure durations were 116.4 minutes (thyroidectomy), 89.4 (hemithyroidectomy), 42 (parathyroidectomy), and 151.9 (neck dissection). An EMG Tube was used in 100% of cases. The NIM Trivantage™ and NIM Flex™ EMG Tubes successfully monitored 100% and 95.5% of target nerves respectively. Adverse events were rare (0.8%), with one non-serious intubation device-related event and no nerve injuries. Device deficiencies (5.4%) were primarily related to EMG tube calibration or electrode issues.

This endocrine-focused subset analysis demonstrates that NIM Vital IONM is reliable and safe for endocrine procedures, supporting its use as a standard adjunct in head & neck surgery.

P267

'CONTRAST SPEAKS LOUDER THAN GREYSCALE'- CONTRAST ENHANCED ULTRASONOGRAPHY(CEUS) IN PREDICTING THE MALIGNANCY RISK AND BRIDGING THE DIAGNOSTIC GAP FOR INDETERMINATE THYROID NODULES(ITN) IN LOWER AND MIDDLE INCOME COUNTRY(LMIC)'

Meghana Shetty¹

¹King George's Medical University, Lucknow, Uttar Pradesh India, India

Increasing incidence of thyroid malignancy complicates diagnosis. Traditional methods have limitations. Ultrasound(US) features of benign and malignant nodules overlap. Fine needle aspiration cytology (FNAC) results are indeterminate in 30% of cases, leading to over- or undertreatment. Application of molecular diagnostics in ITN is expensive and often gives an unnecessary layer of information. CEUS visualizes tumor enhancement, helping predict malignancy risk in indeterminate nodules and guiding surgical decisions making.

To determine the diagnostic strength of CEUS and identify the CEUS parameters that predict malignancy in ITN

ITN planned for surgery were prospectively recruited, underwent US and CEUS, final histopathology (HPE) considered gold standard.

An interim analysis was conducted on 212 patients who underwent thyroidectomy, with 66 identified as ITN. US primarily classified most cases as TIRADS 3---mildly suspicious. Final HPE revealed 47 benign and 19 malignant cases. The study examined CEUS parameters including margin enhancement (ME), enhancement direction (ED), shape enhancement (SE), enhancement area (AE), enhancement degree (EDe), enhancement type (TE), and contrast arrival (CA). Except for margin enhancement, all other parameters significantly predicted malignancy ($p < 0.05$). Compared to grayscale US, CEUS demonstrated higher specificity, positive predictive value, and diagnostic accuracy in malignancy detection of ITN.

CEUS significantly improves the accuracy of malignancy prediction in indeterminate thyroid nodules, outperforming greyscale ultrasound and offering a practical, cost-effective diagnostic advantage for LMIC settings.

P268

ONCOLOGICAL SAFETY AND MALIGNANCY PREDICTORS AFTER HEMITHYROIDECTOMY FOR BETHESDA I AND III NODULES

Mafalda Roque¹, Marta Marques¹, Marta Alexandre Silva¹, Alexandra Antunes¹, Luís Castro¹, Jéssica Rodrigues¹, Ana Sousa¹, Mário Reis¹

¹ULS Braga; General Surgery Department; Endocrine Surgery Unit, Portugal

Uncertainty persists regarding the management of Bethesda I and III nodules, particularly in settings without molecular testing. We aimed to evaluate the oncological safety of hemithyroidectomy and to identify malignancy predictors in this group.

We retrospectively analysed all patients with Bethesda I or III cytology who underwent hemithyroidectomy in our centre between 2019 and 2025. Variables included demographics, number of citologies, clinical and ultrasonographic features, complications, histology (NIFTP considered non-malignant) and follow-up. Primary outcomes were postoperative complications and malignancy rate. Completion thyroidectomy and malignancy-related factors were explored using univariable logistic

regression.

Seventy-one patients were included. Cytology was Bethesda I in 64.8% and III in 35.2%. Most nodules were EU-TI-RADS 3 (31%) or 4 (41%). Median nodule size was 27 mm; median of two cytologies was performed. Patient anxiety motivated surgery in 11.3% of cases. Malignancy rate was 14.1% (8.7% for Bethesda I; 24% for Bethesda III). Transient RLN paresis occurred in 5.6%, with no permanent nerve injury; haematoma requiring reoperation occurred in 2.8%. Completion thyroidectomy was required in one patient. None of the assessed variables reached statistical significance as malignancy predictors, likely due to the limited number of events; however, Bethesda III cytology showed the strongest trend, with approximately three-fold higher malignancy odds (OR 3.32, $p=0.37$).

Bethesda I and III nodules showed low malignancy and need for completion thyroidectomy rates. Bethesda III demonstrated a trend towards higher malignancy risk, and patient preference should be considered in decision-making.

P269

RETROCAVAL PARAGANGLIOMAS: TAILORED SURGICAL STRATEGIES IN A RARE ANATOMICAL CHALLENGE

Marta Alexandre Silva¹, Carlos Veiga¹, Alexandra Antunes¹, Luís Castro¹, Fernando Manso², Diana Duarte³, Mário Reis¹

¹ULS Braga; General Surgery Department; Endocrine Surgery Unit, Braga, Portugal, ²ULS Braga; General Surgery Department; Bariatric Surgery Unit, Braga, Portugal, ³ULS Braga; Endocrinology Department, Braga, Portugal

Paragangliomas (PGLs) are rare extra-adrenal neuroendocrine tumours. Retrocaval location represents an exceptional presentation, with only 15 cases previously reported. Their deep, vascularised position behind the inferior vena cava (IVC) poses major surgical challenges, and most published resections have been performed by laparotomy.

We describe two cases of functional retrocaval PGLs managed at our centre, highlighting diagnostic workup, surgical decision-making, and techniques supporting safe resection through open and minimally invasive approaches.

Case 1 involved a 32-year-old male with long-standing hypertension and elevated normetanephrines. Imaging revealed a 40 mm retrocaval mass below the right renal vessels. After preoperative alpha- and beta-blockade, the tumour was resected via laparotomy using Kocher and Cattell-Braasch maneuvers with vascular control of the IVC and renal veins. Histology confirmed a benign PGL with preserved SDHB expression; a germline SDHB mutation was identified.

Case 2 involved a 70-year-old male with incidentally discovered 35 mm retrocaval PGL above the right renal vessels. A laparoscopic approach was chosen. Dissection was facilitated by vascular taping and a "Hanging Maneuver," in which the tumour was encircled with tape to provide traction and improve exposure. Both procedures were uneventful, with discharge on postoperative days 3 and 4, respectively. No recurrence was observed at 1- and 2-year follow-up.

Retrocaval PGLs are exceptionally rare but can be safely managed with tailored surgical strategies. Minimally invasive resection is feasible in selected cases. Adjunctive maneuvers such as tumour suspension ("Hanging Maneuver") may improve exposure and enable safe manipulation within the narrow retrocaval space.

P270

POSTERIOR RETROPERITONEOSCOPIC ADRENALECTOMY: EARLY OUTCOMES AFTER TECHNIQUE IMPLEMENTATION

Marta Alexandre Silva¹, Mafalda Roque¹, Alexandra Antunes¹, Luís Castro¹, Mário Reis¹, Fernando Manso²

¹ULS Braga; General Surgery Department; Endocrine Surgery Unit, Braga, Portugal, ²ULS Braga; General Surgery Department; Bariatric Surgery Unit, Braga, Portugal

Posterior retroperitoneoscopic adrenalectomy (PRA) is a minimally invasive technique that provides direct access to the adrenal gland while avoiding mobilization of intraperitoneal organs. Despite its advantages, PRA remains underused due to limited familiarity with the retroperitoneal space. This study analyzes the first 14 PRA cases at our institution and compares outcomes with published series.

We retrospectively reviewed 14 consecutive PRA procedures performed between March 2023 and November 2025. Variables included age, sex, diagnosis, laterality, lesion size, operative time, conversion rate, complications, and length of stay. Five cases were performed by an experienced PRA surgeon and nine by surgeons without prior PRA experience.

Fourteen patients were included (64.3% female), with a median age of 58.5 years (IQR 34.8--66.0). Median lesion size was 28 mm (IQR 20.5--38.3). Median operative time was 110 minutes (IQR 95--135), with longer times in experienced-surgeon cases, reflecting higher complexity. No conversions occurred. One intraoperative complication (7.1%) was recorded --- a punctiform inferior vena cava lesion, managed intraoperatively. Postoperative morbidity was minimal, and no major complications occurred. Median length of stay was 2.5 days (IQR 2--4).

Operative times were longer than in series from Walz and Costa Almeida, likely reflecting early learning phases and case selection. However, the absence of conversions, low morbidity, and consistent length of stay support the feasibility and reproducibility of PRA in mixed-experience settings.

PRA is a safe and effective technique. With appropriate laparoscopic training and supervision, surgeons without retroperitoneoscopic experience can perform PRA with low complication rates.

P271

MANAGEMENT OF BETHESDA III AND IV THYROID NODULES - OUR EXPERIENCE

Natalia Sipitco¹, Doina Fosa¹, Veronica Gonța², Richarda Romanenco²

¹State University of Medicine and Pharmacy 'Nicolae Testemițanu' 'I' 'I', Republic of Moldova, ²Clinical Republican Hospital, Chisinau, Republic of Moldova

Bethesda III and IV thyroid nodules are considered indeterminate because the cytology from the biopsy does not provide sufficient evidence to definitively diagnose the nodule as benign or malignant. Most of them are benign (over 70-95%), but there is a 5-30% risk of malignancy.

The goal: investigating the possibility of structuring criteria and decision-making factors for the surgical management of indeterminate thyroid nodules.

Cytology and ultrasound examination cannot provide a definitive answer, the decision to operate is based on the set of clinical, paraclinical, imaging criteria and the patient's preferences (thyroid nodule >4 cm; multinodular goiter; ultrasound characteristics, calcitonin level).

In our department, between 2020-2025, 228 patients were treated. The mean age was 52.5 years, the population was predominately female (n = 187, 82%). Bethesda III and Bethesda IV category were diagnosed in 78 cases. The majority of patients had Bethesda III -- 51 (65,3%), Bethesda IV -- 27 (34,7%). Hemithyroidectomy was performed in 54 cases, thyroidectomy -- 24 cases for multinodular goiter. The malignancy rate of Bethesda III thyroid nodules was 10,4%, the most common - papillary thyroid carcinoma. The malignancy rate of Bethesda IV thyroid nodules was 23%.

The malignancy rate for Bethesda III and IV thyroid nodules is high, the decision to operate is based on a multimodal assessment that estimates the patient's individualized risk. Hemithyroidectomy without lymph node dissection remains the recommended treatment in indeterminate thyroid nodules.

Keywords: thyroid nodules, Bethesda, indeterminate nodules

P272

FAMILIAL NON-MEDULLARY THYROID CANCER: DOES FAMILY HISTORY AFFECT TUMOR AGGRESSIVENESS?

Volodymyr Palamarchuk¹, Nadia Smolovyk¹, Oleksandr Nechay¹, Oleksandr Tovkai¹, Volodymyr Voitenko¹, Tetyana Yuzvenko¹

¹State Non-Commercial Enterprise «Ukrainian Scientific and Practice Center of Endocrine Surgery, Transplantation of Endocrine Organs and Tissues under MoH of Ukraine», Kyiv, Ukraine

Familial non-medullary thyroid carcinoma (FNMTTC) is diagnosed when two or more first-degree relatives have differentiated thyroid carcinoma in the absence of other hereditary tumor syndromes or environmental risk factors. A more aggressive clinical course of papillary thyroid carcinoma (PTC) is generally associated with younger age at diagnosis, lymph node metastasis, extrathyroidal invasion, multifocal growth, contralateral dissemination, and a higher proportion of male patients. Previous studies have shown controversial results regarding whether FNMTTC demonstrates such aggressive

features compared with sporadic PTC.

A retrospective analysis was performed on 151 patients operated on for papillary thyroid carcinoma in 2024 at the Ukrainian Center of Endocrine Surgery. Patients were divided into two groups: Group 1 (n = 49) with a positive family history, and Group 2 (n = 102) without. Clinical and pathological parameters (age, sex, metastasis, invasion, multifocality, contralateral dissemination) were compared using χ^2 and Mann-Whitney tests.

Middle age was 43.9 ± 16.1 years in familial and 46.4 ± 13.5 years in sporadic cases ($p > 0.05$). The frequency of metastasis (32.7% vs 26.5%), invasion (30.6% vs 35.2%), multifocality (30.6% vs 31.4%), contralateral dissemination (18.4% vs 17.6%), and male ratio (20.4% vs 26.5%) showed no statistically significant differences between familial and sporadic cases ($p > 0.05$).

No correlation with more aggressive features of papillary thyroid carcinoma was found in the group with family history. Familial disease patients, like those with sporadic PTC, should be treated according to disease stage and risk factors.

P273

WHEN NOT TO OPERATE: RIEDEL'S THYROIDITIS

Marcos Sola Cardona¹, Dra Natalia Guardia Torne¹, Pablo Collera Ormazabal¹, Dra Maria Saladich Cubero¹

¹Althaia Foundation, Manresa, Spain

Riedel's thyroiditis is a rare disease characterized by replacing the thyroid parenchyma with fibrosis affecting adjacent tissues. Differentiation between Riedel's thyroiditis and thyroid cancer is difficult. Through this clinical case, we describe the diagnostic approach and treatment.

CASE REPORT:

A 62-year-old female consulted for anterior cervical swelling with dysphagia. Ultrasound (US) revealed a thyroid nodule, fine-needle aspiration (FNA) showed follicular cells with atypia. Given the suspicion of malignancy was scheduled a lobectomy, as a result of clinical worsening, a new US showed diffuse infiltration of both thyroid lobes, a core-needle biopsy (CNB) was performed and pathological examination showed fibrosis of the thyroid parenchyma (fig.1), diagnosing Riedel's thyroiditis. Surgery was cancelled and the patient was treated with corticoids with clinical and US improvement.

Riedel's thyroiditis, or Riedel struma, is an autoimmune disease with fibrosis of the thyroid parenchyma and surrounding tissues. It must be differentiated from other masses which can infiltrate the surrounding extra-thyroidal tissues, namely advanced papillary thyroid carcinoma or thyroid lymphoma. FNA is usually inconclusive leading to diagnostic surgery usually associated with intraoperative complications, so the preoperative diagnosis is essential. Core-needle biopsy (CNB) can serve as a complementary technique to FNA in inconclusive cases. Systemic corticosteroid therapy often stabilizes the disease, with an improvement in compressive signs and regression of fibro-inflammatory lesions.

The diagnosis of Riedel's thyroiditis requires a high clinical awareness and also must be highlighted that CNB is a useful tool in cases of inconclusive FNA to avoid a diagnostic surgery.

P274

SURGERY FOR PHEOCHROMOCYTOMA

Ricardo Soto Gómez¹, Dra. Elena Jiménez Cubedo, Dra. Natalia Casanueva Hernández, Juan González González, Miguel Juan García-Oria Serrano, Manuel Fernández Rodríguez, Alonso Sastre Marcos, Mariano Artés Caselles, María del Pilar Martín Rodrigo¹

¹Hospital Universitario Puerta De Hierro Majadahonda, Majadahonda, Spain

Pheochromocytomas are rare catecholamin-secreting tumors diagnosed by biochemical and imaging studies. Laparoscopic adrenalectomy is preferred for unilateral, small and benign lesions. We evaluated the surgical outcomes of patients with pheochromocytoma at a tertiary care center in Spain.

This is a descriptive retrospective study of 28 patients who underwent surgery pheochromocytoma between 2015 and 2025.

29 tumors were removed from 28 patients with a mean age of 52 years and no sex or right/left difference. Bilateral resection was performed in a MEN2A patient. Mean tumor size was 3,48 cm in laparoscopic and 9,13 cm in open procedures. No posterior approaches were performed. 26 patients underwent laparoscopic surgery, laparotomy in 3 patients due to adhesions or imaging malignancy and

3 more cases were converted because of adhesions or bleeding. 3 major complications were found: one left ureteral lesion repaired on site, one deep infection and one chylous fistula. Mean hospital stay was 4,95 days for laparoscopic and 10,83 for open procedures. Malignancy (PASS scale ≥ 4), was present in 7 patients who had no recurrences.

Pheochromocytomas are rare tumors mostly sporadic, benign and unilateral in which the laparoscopic approach is a safe and effective procedure with a low complication rate.

REFERENCES

Surgery for pheochromocytoma: A 20-year experience of a single institution. Aggeli C. doi: 10.14310/horm.2002.1759. PMID: 29518759.

Pheochromocytoma: Clinical Experience From a Single Tertiary Care Center in India. Lu C doi: 10.7759/cureus.41671. PMID: 37575861; PMCID: PMC10412895.

P275

DECREASING THRESHOLD TO IDENTIFY AND PROTECT THE EXTERNAL BRANCH OF SUPERIOR LARYNGEAL NERVE (EBSLN) IN NEUROMONITORED THYROIDECTOMY, A MULTICENTER STUDY

Elif Eda Soykut Demirel¹, Recep Temel¹, Yiğit Türk¹, Mutlu Ünver², Murat Özdemir¹, Gökhan İçöz¹, Özer Makay^{2,3}

¹Division of Endocrine Surgery, Department of General Surgery, Ege University Hospital, İzmir, Turkey, ²Özel Sağlık Hospital, Centre for Endocrine Surgery, İzmir, Turkey, ³Aristotle University, School of Medicine, Thessaloniki, Greece

During neuromonitored thyroidectomy, the external branch of the superior laryngeal nerve (EBSLN) may not be detected due to lower amplitude or anatomic variations. In this study, we aimed to demonstrate the importance of identifying and protecting more nerves by lowering the threshold.

Neuromonitoring data of patients who underwent thyroid surgery between October 2023 and October 2025 at two centers were retrospectively analysed. Patients with a history of previous thyroid surgery and neurologic disorder were excluded. The amplitude value for EBSLN before (S1) and after (S2) resection was evaluated. When amplitude could not be obtained from EBSLN, the device's default threshold setting of 100 μ V was first lowered to 50 μ V or lower to obtain amplitude.

A total of 801 patients' neuromonitoring data (1459 nerves at risk) were analysed. Total thyroidectomy was performed in 658 patients (82 %). A total of 68 (4,6 %) S1 amplitudes and 156 (10,6 %) S2 amplitudes were obtained below 100 μ V. The mean S1 amplitude on both sides was 253 μ V, consistent with the literature. The mean S1 and S2 amplitudes, which were below 100 μ V, were 89,45 μ V (min 40-max 99) and 71,94 μ V (min 13-max 99), respectively.

With a low mean amplitude, EBSLN may not be detected at a high neuromonitoring device threshold. During surgery, it is recommended to lower the threshold to below 100 μ V (to 50 μ V or lower) to better identify and protect the EBSLN.

P276

THYROID VOLUME AND POSTOPERATIVE COMPLICATIONS FOLLOWING THYROIDECTOMY: DOES SIZE REALLY MATTER?

Lara Fuentes Gómez, Joaquín Gómez Ramírez¹, Raquel Arranz Jiménez¹, Elisa York Pineda¹, Blanca Monje Vera¹, Rebeca Abad Moret¹, Constantino Fondevila Campo¹

¹La Paz University Hospital, Madrid, Spain

Thyroidectomy is a procedure with low mortality and postoperative complications. Efforts have been made to identify risk factors to predict them, with gland size traditionally considered one of them. The aim of the study is to assess the influence of gland volume on the occurrence of complications after surgery.

Patients and method: A prospective review was conducted of patients who underwent total thyroidectomy between January 2019 and October 2025 in a tertiary center. Thyroid volume was calculated using ultrasound measurements: length (L) $\times$ width (W) $\times$ depth (D) $\times$ 0.52. Volume was then correlated with main postoperative complications using PSPPIRE statistical software.

189 patients were included. Postoperative bleeding occurred in 1.06%, definitive recurrent laryngeal nerve paralysis in 1.85%, and transient hypoparathyroidism in 37.6%, persisting in 11.1% at one month

and decreasing to 3.7% at one year. Parathyroid gland removal occurred in 34.39% of patients, with a median of one gland.

Analysis showed no increase in complications among patients with larger thyroids (quartiles: Q1 ≤ 16 ml, Q2 17--25 ml, Q3 26--40 ml, Q4 > 40 ml). Larger thyroid volume appeared protective against parathyroid removal: quartiles 1 and 2 accounted for 30.77% and 36.92% of removals, while quartiles 3 and 4 had lower rates (15.38% and 16.92%; $p < 0.05$, $RR < 1$).

Thyroid size has not been shown to be a risk factor for postoperative complications, contrary to what has traditionally been believed. The incidence of hypoparathyroidism, recurrent nerve injury, or bleeding is similar to that found after surgery on smaller glands when performed by experienced surgeons.

P277

DRAIN VERSUS NO DRAIN AFTER THYROIDECTOMY: A WEIGHT-BASED PROPENSITY-MATCHED COMPARATIVE STUDY OF LARGE GOITERS

Meenakshi Suhalka¹, Anjali Mishra², Gaurav Agarwal², Gyan Chand², Sabaretnam Mayilvaganan²

¹Department of Endocrine Surgery SGPGIMS Lucknow Uttar Pradesh, India, Lucknow, India, ²Department of Endocrine Surgery SGPGIMS Lucknow Uttar Pradesh India, Lucknow, India

Drain Versus No Drain After Thyroidectomy: A Weight-Based Propensity-Matched Comparative Study of Large Goiters

Meenakshi Suhalka¹, Anjali Mishra², Sabaretnam M², Gyan Chand², Gaurav Agarwal²

¹Senior Resident, ²Professor, Department of Endocrine Surgery, SGPGIMS, Lucknow

The practice of drain placement after thyroidectomy remains contentious. The aim of the current study was to compare postoperative outcomes of propensity matched thyroidectomy patients with specimen weight of ≥ 100 gm, operated with and without drain placement.

In this retrospective study (January 2019--December 2023), 719 patients were identified who underwent primary thyroidectomy without lymph node dissection. Patients with specimen weighing ≥ 100 gm were identified and propensity score matching was performed taking into account patients' age, thyroid function and thyroidectomy type. Propensity score matching (caliper 0.05) produced two balanced cohorts of 186 patients each, Group 1: Non-drainage group and Group 2: Drainage group.

In Unmatched groups the incidence of solitary thyroid nodules ($p = < 0.001$) and hemithyroidectomy ($p = 0.001$) was significantly high in Group 1 but incidence of retrosternal extension ($p = 0.002$) and use of energy device was significantly less ($p = 0.001$). But there was no significant difference in mean age of patients ($p = 0.410$), sex distribution ($p = 0.170$) and thyroid dysfunction ($p = 0.530$). In propensity matched groups, use of energy-device use remained comparable (38.9% vs 45.2% $p = 0.22$). There was no significant difference in postoperative bleeding in two groups (1.1% vs 0%, $p = 0.154$) but mean hospital stay was significantly remained low in Group 1 (2.5 Vs 3.4 days; $p = < 0.001$). Seventy-three percent patients in Group 2 had hospital stays ≥ 3 days.

Thyroidectomy outcomes do not differ significantly with or without drains, while drain use significantly prolongs hospital stay.

P278

COMPARISON OF INTRAOPERATIVE PARATHYROID HORMONE AND INDOCYANINE GREEN ANGIOGRAPHY IN PREDICTING EARLY POSTOPERATIVE HYPOCALCEMIA AFTER TOTAL THYROIDECTOMY.

Anna Sviksa, Dmitrijs Aleksandrovs, Vladimirs Fokins

¹Riga East University Hospital, Latvia

Postoperative hypocalcemia is the most frequent complication after total thyroidectomy. Indocyanine green (ICG) angiography enables real-time assessment of parathyroid perfusion, whereas intraoperative parathyroid hormone (PTH_o) provides a rapid biochemical estimate of parathyroid function. This study compared the predictive accuracy of both methods.

A total of 53 patients undergoing total thyroidectomy in Riga East University Hospital were analyzed, including 33 with intraoperative ICG angiography and 20 had intraoperative PTH_o assessment. Parathyroid perfusion was scored (0--8), and serum calcium and PTH were measured preoperatively,

intraoperatively (PTH_o), and during early follow-up. Correlation and ROC analyses evaluated predictive accuracy and optimal cut-off thresholds.

ICG score correlated moderately with calcium decline ($r=-0.42$, $p=0.018$) and predicted hypocalcemia with an AUC of 0.64. An ICG score ≤ 5 was a sensitive indicator of postoperative hypocalcemia ($p=0.048$), yielding 89% sensitivity, 60% specificity, and 93% NPV.

PTH_o showed stronger correlation with postoperative calcium decline ($r=-0.50$, $p=0.008$). PTH_o demonstrated stronger predictive performance (AUC 0.82) for postoperative hypocalcemia. A PTH_o cut-off <12 pg/mL provided higher specificity for detecting patients who would develop hypocalcemia ($p=0.041$), with 40% sensitivity, 86% specificity, and 67% PPV.

ICG scoring and PTH_o provide complementary predictive information. Low perfusion scores reliably exclude clinically relevant hypocalcemia, whereas reduced PTH_o values more accurately identify high-risk patients. Combined use of both modalities may enable more precise postoperative management after total thyroidectomy

P279

MOLECULAR TESTING IN DIFFERENT TYPES THYROID TUMORS

Yuriy Tarashchenko¹, Mykhailo Bolgov², Oleksii Omelchuk², Ivan Yanchiy², Petro Zynych²

¹Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine, ²V.P. Komisarenko Institute of Endocrinology and Metabolism of the National Academy of Medical Sciences of Ukraine, Kyiv, Ukraine

Background. Molecular genetic testing is an additional factor in the preoperative diagnosis of thyroid cancer. However, different types and subtypes of thyroid cancer have different genetic profiles. BRAF V600E and RET/PTC mutations (grouped together as BRAF-like mutations) are highly specific for the classical variant of PTC. RAS-like mutations (RAS, PAX8/PPAR γ ,) often detected in follicular variant of PTC, FTC and in follicular adenomas. The aim of our study was to determine the types and number of mutations depending on the types of thyroid tumors.

Method. Fine-needle aspiration puncture biopsy was performed in patients with thyroid nodules. BRAFV600E, HRAS, NRAS, KRAS, RET/PTC1, RET/PTC3 and PAX8/PPAR γ mutations were studied by the polymerase chain reaction (PCR).

Results. In the classical variant PTC, 62.5% of mutation-positive cases were found. Of these, 90% had BRAF V600E mutations, 5% had RET/PTC1 mutations, and 5% had RAS mutations. In the follicular variant PTC, BRAF-like mutations were absent, and only RAS mutations were detected (100%). RAS-like mutations also predominated in the group of follicular thyroid tumors. In the follicular variant of papillary thyroid carcinoma, NRAS (18.7%) and PAX8/PPAR γ (6.2%) mutations were detected. In follicular thyroid cancer no mutations were detected.

Conclusion. Follicular variant PTC and FTC generally had fewer mutation-positive cases compared with classical PTC. In addition, mutations found in follicular tumors (RAS) have insufficient specificity for thyroid cancer.

P280

RETROSTERNAL GOITRE: DEFINITION AND REVIEW OF LITERATURE

Hasti Tarzban Nader¹, Joseph Lehmann¹, Patrick Klang¹, Assef Jawaada¹, Nada Bin Saleem¹, Meshal Almeshal¹, Gabriele Galata¹, Klaus-Martin Schulte¹

¹Kings College Hospital, London, United Kingdom

Retrosternal goitres (RSGs) represent a distinct clinical entity in thyroid surgery, yet no universally accepted definition exists. Variability in anatomical and radiological criteria across literature hampers comparison of surgical outcomes and development of a standardised risk-stratification tool. While most authors agree most RSGs can be managed via cervicotomy, a selected cohort carry higher risk for extra-cervical access. Studies agree greater goitre size and mediastinal descent are associated with increased operative complexity and complication. Several classifications have been proposed to risk-stratify this cohort, but none widely adopted.

A comprehensive literature search was undertaken using PubMed from 2007 to present. Overlapping papers excluded and six classification systems analysed. The most standardised transferable classification was selected for development of an operative coding tool.

No single definition or classification demonstrated universal acceptance and many centres demonstrated inconsistency in patient positioning on imaging. Based on our review, we propose a new definition for RSGs as "any goitre extending behind the sternum and below the sternal notch on CT imaging performed with the patient in a supine position, arms alongside the body, and the neck slightly hyperextended such that the sternum, thyroid cartilage and tip of the nose lie in the same plane."

We propose a clinically and radiologically standardised definition, against which we appraise current classifications to determine the most applicable to surgical practice. Using this we curated a coding framework to facilitate reliable documentation of operative complexity, appropriate funding, and safer management of cases carrying medico-legal risk.

P281

A CASE REPORT OF SKELETAL RECOVERY WITHOUT BIOCHEMICAL CURE IN GLUCAGON RECEPTOR-POSITIVE BMAH: IS UNILATERAL ADRENALECTOMY SUFFICIENT?

Recep Temel¹, Sarp Tunalı¹, Utku Erdem Soyaltın², Yiğit Türk¹, Özer Makay^{3,4}, Murat Özdemir¹

¹Ege University / Department of General Surgery / Division of Endocrine Surgery, Izmir, Turkey, ²Ege University / Department of Internal Medicine / Division of Endocrinology, Izmir, Turkey, ³Özel Sağlık Hospital / Centre of Endocrine Surgery, Izmir, Turkey, ⁴Aristotle University / School of Medicine, Thessaloniki, Greece

Bilateral Macronodular Adrenal Hyperplasia (BMAH) typically mandates bilateral adrenalectomy for cure, inevitably causing lifelong steroid dependency. While unilateral adrenalectomy (UA) has emerged as a cortisol-debulking strategy, its efficacy in reversing severe metabolic complications, particularly osteoporosis, in patients with Mild Autonomous Cortisol Secretion (MACS) remains debated. We evaluate UA's impact in a glucagon receptor-positive BMAH case.

A 70-year-old female presented with uncontrolled hypertension, diabetes, and severe osteoporosis (Lumbar T-score: -4.1). CT revealed bilateral giant adrenal masses (Left: 60mm, Right: 50mm). MACS was confirmed (DST: 9.3 µg/dL) without overt Cushingoid features. Genetic testing (ARMC5) was negative, but aberrant glucagon receptors were identified. After failed somatostatin analog therapy (aimed at suppressing glucagon), laparoscopic left adrenalectomy was performed. The postoperative course was uneventful; the patient was discharged on day 3 without complications. Biochemical cure was not achieved; the 1mg-DST remained non-suppressed (4.3 µg/dL) due to contralateral gland activity. However, clinical outcomes were striking. At the 56-month follow-up, the patient required no steroid replacement. Hypertension was regulated with reduced medication. Most notably, bone mineral density improved dramatically (T-score -4.1 to -1.6), indicating significant skeletal recovery despite persistent autonomous cortisol secretion.

This case challenges the dogma of strict biochemical normalization. UA-mediated "cortisol debulking" successfully reversed severe osteoporotic changes associated with MACS. In elderly BMAH patients, preserving endogenous function through UA offers a superior balance between metabolic control and quality of life compared to bilateral adrenalectomy.

P282

MICRO VS MACRO PAPILLARY THYROID CARCINOMA: WHY TOTAL THYROIDECTOMY STILL MATTERS IN THE ERA OF NEUROMONITORING.

Antonio Amalia Thanasa¹, Nikolaos Roukounakis¹, Evgenia Karveli¹, Aikaterini Polimerou¹, Ertzan Saitoglou¹, Nikolaos Dimitrokallis¹, Vasileios Vougas¹

¹1st Surgical Department and Transplant Unit, General Hospital Of Athens, Greece

Incidental papillary microcarcinomas are increasingly identified in pathological examinations. International guidelines recommend the option of lobectomy despite the limitations of preoperative radiologic diagnosis. This study aims to analyze micro- and macrocarcinomas in terms of capsular invasion, multifocality, and bilateral localization, looking for possible statistically significant differences.

We retrospectively studied 759 patients surgically treated for thyroid pathology from January 2015 to November 2025.

Out of 759 operated patients, 241 (31.8%) underwent surgery for benign thyroid disease, 512 (67.7%) for papillary carcinoma and 6 for medullary carcinoma. Among papillary carcinomas, microcarcinomas (≤1 cm) were identified in 236 (46.1%) cases and macrocarcinomas (>1 cm) in 276 (53.9%). Capsular infiltration was noted in 33/236 (13.98%) microcarcinomas and 82/276 (29.71%) macrocarcinomas

($p < 0.05$). Multifocality was observed in 148/236 (62.7%) microcarcinomas and 129/276 (46.7%) macrocarcinomas ($p < 0.05$). Bilateral localization was recorded in 61/236 (25.8%) microcarcinomas and 95/276 (34.4%) macrocarcinomas ($p < 0.05$). No statistically significant difference was found in the three parameters examined for micro- and macro- papillary carcinomas.

Both micro- and macro- papillary carcinomas exhibit a high incidence of multifocality bilateral localization and invasion of the thyroid capsule, necessitating more extensive surgery and/or administration of I131 and intensive follow-up. Total thyroidectomy is recommended as the surgical treatment regardless of the size of the cancer in preoperative diagnosis, except when neuromonitoring during lobectomy reveals a pathological signal.

There is no conflict of interest.

P283

THYROID GLAND CANCER AND INTERMEDIATE CYTOLOGICAL CATEGORIES III AND IV OF THE BETHESDA CLASSIFICATION: RESULTS FROM OUR CLINICAL SERIES OVER THE LAST THREE YEARS.

Antonio Amalia Thanasa¹, Nikolaos Roukounakis¹, Maria Christou¹, Aikaterini- Nafsika Papadogianni¹, Maria Rizou¹, Spyridon Dritsas¹, Vasileios Vougas¹

¹1st surgical Department and Transplant Unit, General Hospital Of Athens, ATHENS, Greece

The increasing use of thyroid ultrasound has expanded fine-needle aspiration (FNA) and Bethesda reporting, yet categories III and IV remain indeterminate, with malignancy risks of 5--15% and 15--30%.

We retrospectively reviewed all patients who underwent total thyroidectomy in our endocrine surgery unit from January 2023 to August 2025. Preoperative FNA and final histology were recorded, and patients with at least one nodule classified as Bethesda III or IV were analysed.

During the study period, 396 patients underwent total thyroidectomy; 142 had Bethesda III ($n = 54$) or IV ($n = 88$) cytology. In the Bethesda III group, 17 nodules (31.5%) were benign and 37 (68.5%) malignant, almost all papillary thyroid carcinoma (PTC; 36/37). In the Bethesda IV group, 18 nodules (20.5%) were benign and 70 (79.5%) malignant, predominantly PTC (67/70). Among PTCs, microcarcinomas were found in 21/36 (58.3%) Bethesda III and 32/67 (47.7%) Bethesda IV, while multifocal disease occurred in 23 (63%) and 41 (61.1%), respectively. Overall, 109 patients had differentiated carcinoma, giving a malignancy rate of 27.5% among all patients with preoperative Bethesda III/IV cytology.

Intermediate Bethesda categories III and IV are associated with a high rate of differentiated thyroid carcinoma, frequent multifocality and aggressive variants. Accurate preoperative risk stratification is essential for deciding between surgery and follow-up, while emerging molecular tests may further individualize management.

There is no conflict of interest.

P284

A RARE THYROID PARAGANGLIOMA MIMICKING A PARATHYROID ADENOMA

Alanna Tien¹, Alan Tien¹

¹Royal Perth Hospital; Endocrine Surgery, Perth, Australia

Thyroid paraganglioma (TPGL) is very rare and represents $< 0.5\%$ of paragangliomas. It can be found intrathyroidal or adjacent to thyroid gland and mimic parathyroid adenoma on imaging.

Patient is a 76-year-old woman presented with compressive multinodular goitre (MNG) and hyperparathyroidism. Ultrasound of neck and 4D-CT parathyroid is suggestive of right superior parathyroid adenoma. She underwent total thyroidectomy for her compressive MNG as well as neck exploration for possible parathyroid adenoma. Intra-operative, a normal looking right superior parathyroid was identified and separate 2cm nodule deep to the right superior pole of the thyroid was excised. Histopathology confirmed a 17mm paraganglioma.

While paragangliomas can occur anywhere from the base of the skull to the bladder, TPGL is extremely rare. On Doppler ultrasound, TPGL can show variable echogenicity from hypoechoic to hyperechoic. In a contrast CT scan, it shows a homogenous nodule with intense enhancement. In our case, it was hypoechoic and ovoid shape on ultrasound and 4D-CT showed hypoattenuation compared to thyroid in pre-contrast phase, hyperenhancement in arterial phase and rapid washout in venous phase. Both

imaging features are consistent with parathyroid adenoma.

Pre-operative diagnosis of TPGL can be challenging. The location of the TPGL in relation to thyroid and imaging characteristics on 4D-CT and ultrasound can lead to misdiagnosis as parathyroid adenoma. Definite diagnosis can only be achieved with further testing after resection.

P285

MINIMALLY INVASIVE RESECTION OF INTRATHORACIC ECTOPIC THYROID TISSUE CONCOMITANT WITH MULTINODULAR GOITER

Cosmin Lucian Giulea, Andrei Dobrea, Bîrcă Tiberiu, Mădălina Mihaela Tartalea, Raluca Elena Hanganu, Flavinia Țipă

¹*Elias Emergency University Hospital, Bucharest, Romania*

Ectopic mediastinal thyroid is an uncommon entity that may clinically and radiologically mimic plunging or retrosternal goiter. Comprehensive preoperative imaging and a multidisciplinary approach are critical in the management of such cases.

We report the case of a 45-year-old female patient with no significant comorbidities who presented with progressive dysphagia. Initial thyroid ultrasonography suggested a multinodular goiter extending into the mediastinum, a finding subsequently confirmed by computed tomography. CT further revealed a well-defined mediastinal mass measuring approximately 10 cm, adherent to the pericardium, posing challenges for differential diagnosis and surgical planning. The patient underwent surgical intervention via a standard cervical approach, with total thyroidectomy performed. Due to the deep location and pericardial adhesions of the mediastinal mass, intraoperative collaboration with a thoracic surgeon was undertaken. Uniportal thoracoscopy enabled complete and minimally invasive resection, avoiding a potentially debilitating sternotomy.

Postoperative recovery was uneventful, and the patient was discharged on postoperative day three. Histopathological examination confirmed mediastinal ectopic thyroid tissue without features of malignancy.

This case highlights the importance of comprehensive imaging in evaluating plunging or retrosternal thyroid pathology and underscores the necessity of a multidisciplinary approach when preoperative diagnosis is uncertain or when mediastinal lesions present complex anatomical characteristics. Integration of endocrine surgery with minimally invasive thoracic techniques can optimize therapeutic outcomes and reduce operative morbidity in rare cases of mediastinal ectopic thyroid.

P286

IDIOPATHIC ADRENAL HEMATOMA: CASE REPORT SERIES

Ester Tkacikova Retkovska¹, Iratxe Arrillaga Alcorta¹, Miguel Ángel Garcés Garmendia¹, Ernesto Martín Martín¹, Román Ducaille Sinues¹, Jorge Barros Ingerto¹, Maider Gómez Egaña¹, Josu Azaola Verón¹, Ana María Sancha Pérez¹

¹*Hospital Universitario de Álava, Vitoria, Spain*

Adrenal hemorrhage is an uncommon condition included in the differential diagnosis of adrenal masses, with a reported incidence of 0.14--1.1%. It is typically associated with trauma, stress, adrenal tumors, anticoagulation, bleeding disorders, or pregnancy. In the absence of these factors, the condition is considered an idiopathic adrenal hematoma.

We describe three cases of adrenal masses surgically treated in 2024.

Case 1: A 74-year-old man, asymptomatic and anticoagulated for atrial fibrillation, presented with an incidentally detected 8.6 × 7.7 × 8cm left adrenal mass. A left adrenalectomy was performed (laparoscopic converted to open), and pathology revealed an adrenal hematoma.

Case 2: A 43-year-old man with multiple comorbidities had a 10cm right adrenal mass and two hepatic lesions. While liver biopsy confirmed adenocarcinoma of uncertain origin, adrenal biopsies were negative for malignancy. Right adrenalectomy and liver metastasectomies were performed, showing adrenal hematoma and intrahepatic cholangiocarcinoma.

Case 3: A 75-year-old man undergoing evaluation for weight loss presented with a large left abdominal mass (18.6 × 21.5 × 19.5cm). Imaging also revealed left urothelial thickening, a bladder lesion, and a left renal tumor. Surgery included adrenal mass resection, nephrectomy, and ureterectomy. Pathology demonstrated papillary carcinoma of the left ureter and kidney, while the adrenal mass corresponded

to a hematoma.

Idiopathic adrenal hematoma is a rare and challenging diagnosis. Despite modern imaging techniques such as MRI and 11C-MTO PET/CT, ruling out malignancy preoperatively remains difficult. Surgical resection should be considered for adrenal incidentalomas larger than 4 cm when diagnosis is uncertain.

P287

THE GREAT MIMIC: GIANT CYSTIC ATYPICAL PARATHYROID ADENOMA MASQUERADING AS A THYROID CYST

Elena Adelina Toma¹, Adrian Miron¹, Octavian Enciu¹

¹Carol Davila University Of Medicine And Pharmacy, Elias Emergency University Hospital, Romania

Giant cystic parathyroid adenomas are an exceedingly rare cause of primary hyperparathyroidism (PHPT), comprising less than 1% of parathyroid lesions. These tumors present a significant diagnostic challenge as they are frequently misidentified as thyroid lesions due to anatomical overlap and discordant imaging features.

We report the case of a 59-year-old woman presenting with biochemical PHPT (serum Calcium: 11.6 mg/dL; PTH: 520 pg/mL). Preoperative Tc-99m Sestamibi scintigraphy demonstrated only a small, slightly positive focus area on the right side, while high-resolution ultrasound identified a large thyroid cyst in the right lobe and a separate 1.8x1x0.5 cm hypoechoic nodule posterior to it, suggestive of a parathyroid adenoma. Surgical exploration revealed that these were not distinct entities; the "thyroid cyst" and the "parathyroid nodule" were components of a single, giant 7x5x3 cm cystic mass arising from the right inferior parathyroid gland. En bloc resection of the mass weighing 43g was performed (serum iPTH 15 min post-excision: 24,93 pg/ml, iPTH in the cystic lesion: 4035 pg/ml). Final histopathology confirmed an atypical parathyroid adenoma with extensive cystic degeneration.

This case illustrates the "double lesion" artifact, where a giant cystic parathyroid tumor is radiologically misinterpreted as a non-functional thyroid cyst with a separate adjacent adenoma. The discordance between the massive anatomical size and the small Sestamibi signal is characteristic, as the fluid component lacks the mitochondria required for radiotracer uptake. Clinicians must maintain a high index of suspicion for parathyroid origin patients presenting with large cystic masses to ensure appropriate surgical management.

P288

BIOLOGICAL MODULATION OF THYROIDECTOMY SCARS VIA SERIAL PLATELET-RICH PLASMA (PRP) THERAPY: A PROSPECTIVE PILOT STUDY

Elena Adelina Toma¹, Octavian Enciu¹

¹Carol Davila University Of Medicine And Pharmacy, Elias Emergency University Hospital, Bucharest, Romania

Post-thyroidectomy visible anterior neck scars can lead to significant patient dissatisfaction and psychosocial distress. While Platelet-Rich Plasma (PRP) is recognized for enhancing wound healing through growth factor release, the optimal administration protocol remains debated. This study evaluates the efficacy of a serial PRP injection protocol targeting the inflammatory, proliferative, and remodeling phases versus standard postoperative care.

A prospective comparative study was conducted with 20 patients undergoing thyroidectomy. The cohort was divided into two groups: a study group (SG, n=10) receiving intradermal injections of autologous PRP along the incision line at 7, 14, and 28 days postoperatively, and a control group (CG, n=10) receiving standard wound care. Scar quality was evaluated using the Patient and Observer Scar Assessment Scale (POSAS) at discharge, 14 days, one, three and six months.

Baseline POSAS scores at discharge were comparable between groups. At the 14-day interval, the SG reported significantly lower scores for pain, numbness and pruritus compared to the CG. At 6 months, the SG demonstrated statistically significant superiority in overall scar quality. Total Patient Scale and Observer Scale scores average were higher for the PRP group across the board ($p < 0.01$). The SG had improved vascularity and pigmentation, suggesting accelerated maturation and reduced post-inflammatory hyperpigmentation.

Serial PRP administration at 7, 14, and 28 days significantly improves the long-term aesthetic and functional outcomes of thyroidectomy scars compared to standard care. By providing sustained

biological modulation through critical healing phases, this protocol offers a safe and effective strategy for minimizing scar visibility and patient discomfort.

P289

LEFT LAPAROSCOPIC ADRENALECTOMY FOR CUSHING SYNDROME IN A PATIENT WITH SITUS INVERSUS TOTALIS

Elena Adelina Toma^{1,2}, Octavian Enciu^{1,2}

¹Carol Davila University Of Medicine And Pharmacy, Bucharest, Romania, ²Elias Emergency University Hospital, Bucharest, Romania

Situs inversus totalis (SIT) is a rare congenital condition characterized by the mirror-image transposition of thoracic and abdominal organs. While individuals with SIT typically exhibit normal organ function, anatomical variations pose unique challenges during surgical interventions. We present a case of laparoscopic left adrenalectomy performed for Cushing's syndrome in a patient with SIT.

A 37-year-old female with a history of SIT diagnosed with overt Cushing's syndrome was referred for surgery. Biochemical evaluation confirmed elevated cortisol levels and inadequate dexamethasone suppression test. Computed tomography confirmed a left adrenal adenoma.

The standard position for left transperitoneal laparoscopic adrenalectomy was used. Trocar placement was altered to adjust to the peculiar anatomy and an extra working trocar was needed for exposure. The left main adrenal vein was identified and had a typical left sided disposition draining in the renal vein. The procedure was completed laparoscopically without complications, with an operative time of 100 minutes and minimal blood loss. The patient had an uneventful recovery and was discharged on postoperative day three. Final pathology confirmed a left adrenal adenoma.

Performing laparoscopic adrenalectomy in patients with SIT requires meticulous preoperative planning and an understanding of the reversed anatomical structures. This case underscores the feasibility and safety of laparoscopic adrenalectomy in SIT when approached with appropriate modifications.

Laparoscopic left adrenalectomy in patients with SIT is feasible and can be performed safely with careful preoperative planning and intraoperative adaptations. Surgeons should be cognizant of the anatomical variations and adjust their techniques accordingly to ensure optimal patient outcomes.

P290

PARATHYROID LIPOADENOMA WITH A LIMITED INTRAOPERATIVE PTH DECLINE: A CASE REPORT

Safa Toprak¹, Sevcan Koc¹, Defne Yigci¹, Orhun Cig Taskin², Serdar Tezelman^{1,3}, Orhan Agcaoglu¹

¹Koç University School of Medicine; Department of General Surgery, Istanbul, Türkiye, ²Koç University School of Medicine; Department of Pathology, Istanbul, Türkiye, ³American Hospital; Department of Endocrine Surgery, Istanbul, Türkiye

Parathyroid lipoadenomas are rare variants of parathyroid adenoma and infrequent cause of primary hyperparathyroidism. Their high adipose content, deep or ectopic localization, and disproportionate size may complicate preoperative localization. Additionally, intraoperative parathyroid hormone (ioPTH) interpretation in lipoadenoma can be misleading.

We report the case of a 68-year-old woman evaluated for osteoporosis and vertebral fractures and diagnosed with primary hyperparathyroidism. Serum calcium (10.3mg/dL) and PTH (86.2pg/mL) levels were mildly elevated. Initial ultrasonography examinations were inconclusive for parathyroid localization. Tc-99m sestamibi scintigraphy demonstrated focal uptake below the right thyroid lobe. The multidisciplinary endocrine board decided on surgical treatment. Targeted preoperative ultrasonography showed a deeply located hyperechoic lesion, correlating with scintigraphy findings. Focused parathyroid exploration was planned. Intraoperative frozen section and ioPTH testing were used.

Surgical exploration disclosed an unusually large right inferior parathyroid lesion located adjacent to the recurrent laryngeal nerve. The gland was excised en bloc. Frozen section confirmed parathyroid tissue. Rapid ioPTH testing showed minimal decline (from 86.2 to 76.3pg/mL), not fulfilling Miami criteria for parathyroidectomy. Four-gland exploration was done, excluding a double-adenoma. Postoperative serum calcium (8.6mg/dL) and PTH levels (67.8pg/mL) returned to normal on the first postoperative day. Final histopathological examination confirmed a parathyroid lipoadenoma.

characterized by significant amount of mature fat tissue mixed with parathyroid cells.

Disproportionately large parathyroid lesions should raise suspicion for lipoadenoma. Adipose-rich content and lower density of functional-cells may limit ioPTH decline despite proper excision. ioPTH monitoring should be interpreted carefully alongside operative findings and postoperative biochemical outcomes.

P291

SUBMANDIBULAR METASTASIS OF A MICROPAPILLARY THYROID CARCINOMA

Miguel Trigo Silvestre¹, Dra Rita Roque¹, Cesar Simões¹

¹Unidade Local de Saúde de Lisboa Ocidental, Lisboa, Portugal

Papillary thyroid microcarcinoma (PTMC), defined as ≤ 10 mm, is typically an indolent tumor with excellent prognosis. PTMC can exhibit biologically aggressive features in a minority of cases, including lymph node metastasis (10--30%) and very rare distant metastasis.

Clinical data, radiologic and histopathology reports.

An 81-year-old woman presented with a firm, non-tender 2 cm left submandibular nodule evolving over one year. Ultrasonography showed a 25x15mm hypoechoic intraglandular nodule in the left submandibular gland. Submandibular nodule CAAF biopsy revealed papillary thyroid carcinoma, suggesting either ectopic thyroid tissue or metastatic PTC. Thyroid ultrasound demonstrated three solid hypoechoic EU-TIRADS 4 nodules (<15 mm) on the left lobe, and FNAB of these nodules was compatible with colloid nodular goiter. Cervical CT identified no additional suspicious lesions. The patient underwent total thyroidectomy, selective central and lateral (levels I--VI) neck dissection, and excision of the submandibular gland. Histopathology revealed normal submandibular tissue containing ectopic thyroid tissue with PTC, and an R1 papillary thyroid microcarcinoma in the thyroid with questionable extrathyroidal extension. All 28 dissected lymph nodes were negative. After multidisciplinary team discussion and external histopathology review, the diagnosis of classic infiltrative PTC with lymphatic invasion was assumed (pT1aR1-N1b/M1?), and the submandibular lesion was interpreted as metastatic PTC. The patient subsequently received radioiodine (¹³¹I) therapy. She remains disease-free with undetectable thyroglobulin (<0.2 ng/mL).

This case highlights the diagnostic challenge of distinguishing metastatic PTC from ectopic thyroid carcinoma in the submandibular gland and underscores the importance of multimodality assessment and expert pathology review.

P292

A PREOPERATIVELY UNPREDICTABLE ANATOMICAL FACTOR AFFECTING ELECTROPHYSIOLOGICAL FINDINGS OF THE RECURRENT LARYNGEAL NERVE IN THYROIDECTOMY: BERRY ENTRAPMENT

Mehmet Taner Unlu¹, Ceylan Yanar Danaci², Isik Cetinoglu¹, Ozan Caliskan¹, Ahmet Faruk Yener¹, Nurcihan Aygun¹, Mehmet Uludag¹

¹University of Health Sciences; Sisli Hamidiye Etfal Training And Research Hospital; General Surgery Department; Endocrine Surgery Section, Istanbul, Turkey, ²Mamak State Hospital, Ankara, Turkey

Berry entrapment(BE) of the recurrent laryngeal nerve(RLN) is an anatomical feature described in the international RLN classification system published in 2016. The aim of this study was to assess the influence of BE on the electrophysiological behavior of the RLN in patients undergoing thyroidectomy.

The data of patients who underwent thyroidectomy with Continuous Intraoperative Neural Monitorization(cIONM) were retrospectively analyzed at the General Surgery Clinic of Sisli Hamidiye Etfal Training and Research Hospital between January 2018 and September 2023. Nerves at risk were categorized into two groups: those with RLN entrapment in the Berry ligament region(Group1) and those without entrapment(Group2).

A total of 630 nerves from 386 patients were assessed. BE was detected in 203 RLNs(32.2%)(Group1), while 427 nerves showed no entrapment(Group2). Entrapment resulted from Berry ligament fibers(63.6%), vascular compression(31%), or a combination of both(5.4%).

Group1 exhibited significantly higher rates of combined electrophysiological abnormalities(42.6%vs.28.7%; $p<0.001$) and a greater mean number of combined

findings(1.06vs.0.57;p<0.001). LOS was also more frequent in Group 1(19.2%vs.3.3%;p<0.001).

The etiological factors for LOS were similar between groups: traction injury(79.5%vs.71.4%), thermal injury(12.8%vs.14.3%), clamping(2.6%vs.0), and nerve transection(5.1%vs.14.3%)(p=0.658).

Rates of total vocal cord paralysis(VCP)(14.3%vs.2.6%;p<0.001) and temporary VCP(12.8%vs.2.1%;p<0.001) were significantly higher in Group 1, while permanent VCP rates were similar(1.5%vs.0.5%;p=0.393).

To our knowledge, this is the first study to evaluate the electrophysiological consequences of BE using cIONM. Traction injury remains predominant etiological factor for LOS in both groups. Preoperatively unpredictable BE is associated with significantly higher rates of adverse electrophysiological findings and temporary VCP.

P293

CUSHING'S SYNDROME: CLINICAL, BIOCHEMICAL AND SURGICAL OUTCOMES IN A TERTIARY HOSPITAL COHORT (2008--2024)

Patricia Urbón¹, Sofía Sánchez de Toca, Félix Mañes, Raúl Díaz, Diego Córdova, Ricardo Alvarado, Pablo Barat, Alejandra López-Marsellá, María Mejías, Rubén Jiménez, Juan Arrieta, Elena Pérez, Luis Miguel Gómez, Rosario San Román, Enrique Ovejero, Pilar Laguna, Sonia Soto, Marta Bru, Tomás Ratia, Alberto Gutiérrez

¹Hospital Príncipe De Asturias, Madrid, Spain

Cushing's syndrome (CS) is a rare disorder characterized by chronic hypercortisolism, leading to significant cardiovascular and metabolic morbidity. Adrenalectomy is the treatment of choice for ACTH-independent CS.

Retrospective study including patients undergoing adrenalectomy between 2008-2024. Demographic, clinical and perioperative data were collected. Biochemical remission was defined as normalization of serum cortisol and urinary free cortisol (UFC), with/without perioperative glucocorticoid replacement. Long-term outcomes included recurrence and metabolic improvement.

Of 148 adrenalectomies, 33.8% had confirmed CS (mean age was 60.2 years; 60% were female). Comorbidities included hypertension (72%), obesity (66%), type 2 diabetes mellitus (44%), and dyslipidemia (36%).

All adrenalectomies were laparoscopic; one conversion. Median operative time was 118 minutes with mean hospital stay of 3.4 days. Lesions were left-sided in 60% and bilateral in 28%, with a mean size of 57 mm. Histopathology showed adenoma (n=35), hyperplasia (n=13), myelolipoma (n=1), and adrenal carcinoma (n=1).

Complete biochemical remission was achieved in 84%, partial in 4%, and persistent disease in 12%. Postoperative glucocorticoid replacement was required in 64% for a median of 30 days. At 18 months, 74% had complete clinical recovery, 21% partial, and 5% no improvement. Recurrence occurred in 4% at a mean of 24 months, predominantly in patients with bilateral hyperplasia. Persistent hypercortisolism was managed medically (ketoconazole n=4, mitotane n=1).

Adrenalectomy for ACTH-independent CS achieved high biochemical remission rates and significant clinical improvement. Postoperative adrenal insufficiency is common, necessitating careful management, and long-term follow-up is essential to detect recurrence and optimize metabolic outcomes

P294

ADRENAL METASTASES: EXPERIENCE OF A TERTIARY HOSPITAL (2008-20254). INSTITUTIONAL SERIES AND LITERATURE REVIEW,

Patricia Urbón¹, Sofía Eugenia Sánchez de Toca, Félix Mañes, Raúl Díaz, Diego Córdova, Ricardo Alvarado, Pablo Barat, María Mejías, Alejandra López-Marsellá, Rubén Jiménez, Juan Arrieta, Elena Pérez, Luis Miguel Gómez, Enrique Ovejero, Rosario San Román, Sonia Soto, Yousef Allaoua, Pilar Laguna, Marta Bru, Carlos Medina, Tomás Ratia, Alberto Gutiérrez

¹Hospital Príncipe De Asturias, Alcalá de Henares, Spain

Adrenal metastases represent a significant but rare site of metastatic spread detected due to modern imaging. Common primary tumors include non-small cell lung cancer, renal cell carcinoma, melanoma, and colorectal cancer. In selected patients, adrenalectomy may provide meaningful local control and

survival benefit.

We retrospectively reviewed all patients undergoing adrenalectomy for metastatic adrenal disease at a tertiary hospital from 2008 to 2024. Data collected included demographics, primary tumor type, timing (synchronous/metachronous), imaging, surgical approach and perioperative outcomes.

Among 148 adrenalectomies, 10 patients (6.8%) underwent metastasectomy (median age 67.6 years; 70% male). Primary tumors included colorectal carcinoma (n=4), lung cancer (n=3), melanoma (n=1), breast cancer (n=1), and hepatocellular carcinoma (n=1). Most patients (70%) had oligometastatic disease. Metachronous adrenal metastases occurred in 80% of cases, with a mean interval of 53.5 months. Two patients subsequently developed contralateral adrenal metastases at 8 and 28 months, respectively.

Laparoscopic adrenalectomy was performed in 90% of cases, with a low complication rate and no perioperative mortality. Complete (R0) resection was achieved in all patients. The presence of extra-adrenal disease was significantly associated with reduced overall survival.

Adrenalectomy for metastatic adrenal disease is safe and effective in selected patients. These findings align with current literature and reinforce the importance of careful patient selection for optimal prognosis.

P295

PRIMARY ALDOSTERONISM: CLINICAL CHARACTERISTICS AND SURGICAL OUTCOMES IN A COHORT OF PATIENTS UNDERGOING SURGERY (2008-2024)

Patricia Urbón¹, Diego Córdova, Félix Mañes, Sofía Sánchez de Toca, Ricardo Alvarado, Pablo Barat, Raúl Díaz, Alejandra López-Marsellá, María Mejías, Tomás Ratia, Juan Arrieta, Alberto Gutiérrez, Rubén Jiménez

¹Hospital Príncipe De Asturias, Madrid, Spain

Primary aldosteronism (PA) is the most common cause of secondary hypertension and is associated with increased cardiovascular morbidity. Adrenalectomy is the treatment of choice for unilateral disease. This study evaluates clinical, biochemical, and surgical outcomes according to PASO criteria in a tertiary hospital.

A retrospective analysis was conducted of all adrenalectomies performed between 2008-2024. Demographic, clinical, and biochemical data, including aldosterone--renin ratio (ARR ≥ 30), were reviewed. Complications were classified using Clavien--Dindo.

Among 148 adrenalectomies, 31 patients (20.9%) had confirmed PA. Mean age was 57.7 ± 11.8 years, and 71% were female. ASA class was II in 64.5% and III in 35.5%. Comorbidities included obesity (45.2%) and type 2 diabetes (25.8%). Hypertension duration averaged 15 ± 9.5 years, requiring 3.3 ± 1.6 drugs. Hypokalemia occurred in 45.2%, and mean ARR was 259.2 (43--533).

All procedures were laparoscopic. Median operative time was 100 minutes. Minor complications occurred in 6.5%, and mean hospital stay was 3.5 days.

Lesions were left-sided in 61.3%, and 9.7% were bilateral. Mean lesion size was 21.4 mm. Histopathology confirmed adenoma in 28 patients and hyperplasia in 3.

Postoperatively, potassium normalized in all patients. Complete biochemical cure occurred in 90.3%, and partial in 3.2%. At 18 months, complete clinical success was observed in 35.5%, partial in 61.3%, and no improvement in 3.2%. Antihypertensive use decreased by 51% (from 3.3 to 1.2 drugs/day).

Adrenalectomy in appropriately selected PA patients achieves high biochemical cure rates and meaningful clinical improvement. Early identification and multidisciplinary management is essential.

P296

PREVALENCE OF ADRENAL LESIONS AND THEIR RADIOLOGICAL CORRELATION (2000--2020)

Patricia Urbón¹, Pilar Laguna, Félix Mañes, Sofía Eugenia Sánchez de Toca, Raúl Díaz, Diego Martín Córdova, Pablo Barat, Ricardo Alvarado, Alejandra López-Marsellá, María Mejías, Juan Arrieta, Rubén Jiménez, Luis Miguel Gómez, Elena Pérez, Enrique Ovejero, Rosario San Román, Tomás Ratia, Alberto Gutiérrez

¹Hospital Príncipe De Asturias, Madrid, Spain

To determine the prevalence and correlation between findings from Computed Axial Tomography (CT) and anatomopathological results, as well as to describe the management of adrenal lesions diagnosed in our hospital between 2000 and 2020.

A retrospective, descriptive, and observational review of 86 diagnosed cases was conducted. Epidemiological, radiological, and anatomopathological variables were analyzed.

Among the 86 cases of adrenal lesions, 55.81% were female and 44.18% male.

The most common adrenal lesion was adenoma (40 cases), of which 30 were diagnosed by CT (75%). Four percent were pheochromocytomas, 4% metastases, and 4% adrenal hyperplasia.

Fifty percent of the hyperplasias diagnosed by CT were confirmed histologically. Eleven cases were identified as myelolipomas by imaging, but only seven were confirmed pathologically (63%). All (100%) of the pheochromocytomas and metastases detected by CT correlated with anatomopathological findings. Two adrenal lesions were radiologically suspected to be primary tumors; one was confirmed as tumoral, while the other corresponded to a pheochromocytoma. Other lesions identified by imaging were cystic or indeterminate (22% of total).

Preoperative diagnosis of adrenal lesions remains a challenge for radiologists, endocrinologists, and surgeons, due to the difficulty of differentiating lesion types and determining appropriate management.

Adenoma was the most frequent adrenal lesion detected by CT and histopathology, consistent with findings in the literature. Although incidental adrenal lesions require a broad differential diagnosis, an accurate preoperative assessment can aid in surgical planning and help reduce comorbidities.

P297

ADRENALECTOMY FOR HEPATOCELLULAR CARCINOMA METASTASIS: EXPERIENCE AND CASE REVIEW

Patricia Urbón¹, Félix Mañes, Diego Córdova, Sofía Eugenia Sánchez de Toca, Raúl Díaz, Ricardo Alvarado, Pablo Barat, Alejandra López-Marsellá, María Mejías, Rubén Jiménez, Juan Arrieta, Elena Pérez, Luis Miguel Gómez, Enrique Ovejero, Rosario San Román, Marta Bru, Pilar Laguna, Sonia Soto, Carlos Medina, Tomás Ratia, Alberto Gutiérrez

¹*Hospital Príncipe De Asturias, Alcalá de Henares, Spain*

Adrenal metastases from hepatocellular carcinoma (HCC) are uncommon, reported in 8--19% of autopsy series, often occurring years after primary tumor treatment. The right adrenal gland is most frequently involved due to its proximity to the liver. Surgical resection should be considered for isolated lesions in patients with controlled primary disease.

A retrospective review of adrenalectomies for metastatic disease at a tertiary center (2008--2024) was performed.

Among 148 adrenalectomies, 10 patients (6.8%) underwent surgery for adrenal metastases (median age 67.6 years; 70% male).

We report a 71-year-old male with previously undiagnosed HCC, who presented with hemorrhagic shock due to a ruptured hepatic mass, managed with urgent segment II resection (pT4). Eight months later, follow-up CT identified a growing right adrenal mass suggestive of metastasis in MRI. Multidisciplinary evaluation recommended laparoscopic adrenalectomy due to the isolated nature of the lesion. Histopathology confirmed moderately differentiated metastatic HCC with negative margins (R0). Postoperative recovery was uneventful, and the patient remains disease-free at nine months.

Adrenalectomy for solitary HCC metastases is feasible, safe, and can achieve favorable oncologic outcomes. Individualized patient selection and multidisciplinary planning are essential. This case highlights the role of surgery in isolated adrenal metastasis, even when the primary HCC was initially undiagnosed and presented acutely.

P298**COEXISTANCE OF PAPILLARY THYROID CANCER IN PATIENTS WITH GRAVES DISEASE -- A REFERENCE CENTER EXPERIENCE**

Christos Christoforides¹, Stefanos Stefanou¹, Ilias Zorbas¹, Ioannis Papandrikos¹, Dimitrios Vlachodimitropoulos², Georgios Misichronis³, Konstantina Rekouna¹, Anastasia Karampa¹, Kyriakos Vamvakidis¹

¹Department Of Endocrine Surgery, Henry Dunant Hospital, Athens, Greece, ²Department of Forensic and Toxicology, Athens University, ³Department of Endocrinology, Central Clinic of Athens

Recent studies have indicated an increasing incidence of papillary thyroid carcinoma (PTC) among patients with Graves' disease. The purpose of this retrospective review was to evaluate the frequency of PTC in Graves' disease patients.

We conducted a retrospective analysis of all patients with Graves' disease who underwent thyroid surgery in our department between 2009 and 2023. A total of 207 patients met the inclusion criteria, with the indication for surgery determined by their referring endocrinologist. The cohort consisted of 172 women and 35 men, with a mean age of 44.9 years (range 14--75). The average thyroid gland weight was 45.73 grams, ranging from 6 to 300 grams. Pathology reports were reviewed to identify cases with coexisting PTC. In addition, preoperative imaging studies were examined to determine the presence of thyroid nodules prior to surgery.

Among the 207 patients, 62 (29.95%) were found to have PTC in conjunction with Graves' disease. Of these, 14 patients (22.5%) also presented with lymph node metastases. Sex-specific analysis showed that 9 of 35 men (25.7%) had coexisting PTC, compared with 53 of 172 women (30.8%). Preoperative imaging revealed thyroid nodules in 120 patients (57.9%), and half of these (60/120) were ultimately diagnosed with PTC on final pathology.

The coexistence of Graves' disease and PTC is relatively common, particularly among patients with thyroid nodules. The fact that 50% of nodular Graves' patients were diagnosed with PTC underscores the need for heightened clinical vigilance and careful preoperative evaluation in this population.

P299**FOCAL PAPILLARY THYROID CARCINOMAS ARISING WITHIN BENIGN THYROID NODULES: A RETROSPECTIVE REFERENCE CENTER STUDY**

Dimitrios Goutas¹, Kyriakos Vamvakidis², Konstantina Rekouna², Ilias Zorbas², Anastasia Karampa², Maria Markou³, Nikolaos Goutas⁴, Ioannis Papandrikos², Christos Christoforides², Dimitrios Vlachodimitropoulos⁴

¹Department of Pathology, NKUA, Athens Medical School, Greece, ²Department of Endocrine Surgery, Henry Dunant Hospital Center, Athens, ³Department of Endocrinology, Henry Dunant Hospital Center, Athens, ⁴Forensic Medicine and Toxicology, National and Kapodistrian University of Athens School of Medicine

Focal Papillary Thyroid Carcinomas (PTCs) arising within benign thyroid nodules are rare lesions generally considered to have low malignant potential, as tumor cells must breach both the nodule pseudocapsule and the thyroid capsule to spread beyond the gland. This study aimed to evaluate their incidence and clinical significance in a high-volume reference center.

We performed a retrospective review of all patients who underwent thyroidectomy---with or without central neck dissection---for papillary thyroid carcinoma between September 2017 and November 2025. Final pathology reports were examined to identify PTC foci originating within benign, predominantly hyperplastic nodules. Demographic data, histological features, and lymph-node involvement were recorded.

A total of 2,239 patients were included. Among them, 41 patients (1.83%) exhibited focal PTCs arising within benign thyroid nodules. Of these, 31 were women and 10 were men. All focal lesions were located within hyperplastic nodules. Three patients from the cohort demonstrated central neck lymph-node metastases.

Focal PTCs arising within benign nodules represent an uncommon yet distinct pathological entity, accounting for 1.83% of patients in this cohort. Although generally indolent, a small subset may present with nodal involvement, underscoring the limitations of preoperative imaging and fine-needle aspiration. Identifying this pattern---referred to as Focal PTC within a Benign Thyroid Nodule (FPTC-BTN)---may enhance diagnostic accuracy and help guide clinical management.

P300

SPORADIC PRIMARY PIGMENTED NODULAR ADRENOCORTICAL DISEASE (PPNAD): A CASE REPORT AND REVIEW OF LITERATURE.

Lisa Steenssens¹, Klaas Van Den Heede¹, Sam Van Slycke¹

¹AZORG Hospital, Aalst, Belgium

Primary Pigmented Nodular Adrenocortical Disease (PPNAD) is a rare cause of ACTH-independent Cushing's syndrome, characterized by multiple pigmented adrenal micronodules producing excess cortisol. It is commonly associated with Carney Complex. The isolated form of PPNAD (i-PPNAD) is diagnostically challenging due to nonspecific symptoms and often normal imaging.

We describe the case of a 26-years-old previously healthy male athlete who presented with insomnia, palpitations, progressive weight gain, and arterial hypertension. Additionally, we conducted a scoping review (MEDLINE® PubMed, November 2025) focusing on i- PPNAD.

The patient showed both biochemical and clinical signs of Cushing's syndrome, including unsuppressed cortisol on low- and high-dose dexamethasone suppression tests and undetectable ACTH. Computed tomography (CT) imaging showed normal adrenal morphology. Bilateral laparoscopic adrenalectomy was performed, and histology confirmed nodular adrenocortical hyperplasia with pigmented cells.

Our literature review identified 33 case reports describing 38 patients with PPNAD (1986-2025). The mean age was 24 years and 60.5% were women. Weight gain and hypertension were the most common presenting features. Imaging varied widely: six reports described completely normal CT or MRI scans, while others showed a 'string-of-beads' pattern of small nodules with cortical atrophy. Most patients underwent bilateral adrenalectomy.

Isolated PPNAD is a rare but important cause of ACTH-independent Cushing's syndrome in young patients. Diagnosis requires clinical suspicion, hormonal evaluation, and histological confirmation. Bilateral adrenalectomy remains the mainstay of treatment.

P301

CLINICAL AND BIOCHEMICAL CORRELATES OF PARATHYROID GLAND WEIGHT IN SINGLE-GLAND PRIMARY HYPERPARATHYROIDISM SURGERY

Laura Veinberga^{1,2}, Rita Niciporuka^{1,3}, Arturs Ozolins^{1,3}, Zenons Narbutis^{1,3}

¹Department of Surgery, Pauls Stradins Clinical University Hospital, Riga, Latvia, ²University of Latvia, Riga, Latvia,

³Riga Stradins University, Riga, Latvia

Parathyroid gland weight may influence biochemical severity and surgical complexity in single-gland primary hyperparathyroidism (pHPT), highlighting its potential clinical importance. This study evaluates differences among parathyroid gland weight groups in patients undergoing primary surgery for single-gland pHPT.

We analyzed 275 patients who underwent focused or unilateral neck exploration with excision of a single parathyroid gland and confirmed intraoperative PTH decline. Glands were grouped by weight: <1.0 g, $1.0\text{--}2.0$ g, and >2.0 g. Variables included age, sex, serum calcium before surgery (Ca PRE), after surgery (Ca POST), and at first follow-up (Ca F1), operation time, preoperative imaging (ultrasound and sestamibi scan), bone involvement (osteopenia/osteoporosis), kidney stone history, and adenoma type. Statistical analyses used Kruskal-Wallis and Chi-square tests.

Operation time and calcium levels correlated significantly with gland weight. Mean operation time increased from 39.7min (1.0 g) to 51.5min (>2.0 g; $p=0.004$). Ca PRE rose with gland weight (2.78 vs 3.14 mmol/L; $p<0.001$), and overall calcium drop (PRE→F1) was greatest in >2.0 g glands (0.79 mmol/L; $p<0.0001$). Age and sex distributions were similar across groups. Osteopenia/osteoporosis was more frequent in smaller glands (55.6% in <1.0 g vs 29.6% in >2.0 g; $p=0.039$). Kidney stone prevalence and imaging success did not differ significantly. Atypical adenomas were more common in heavier glands ($p<0.001$).

Parathyroid gland weight influences operation time and calcium dynamics in single-gland pHPT surgery. Smaller glands link to greater bone involvement, while heavier glands more often harbor atypical adenomas. These findings support individualized surgical planning and highlight the prognostic value of gland weight.

P302**SURVIVAL OUTCOMES OF PATIENTS WITH ANAPLASTIC THYROID CANCER -- A 10-YEAR EXPERIENCE IN CEBU DOCTORS' UNIVERSITY HOSPITAL**

Mikella Bettina Veloso¹, Janelle Ceniza¹, Thea Cellan¹, Dawn Guardiario¹, Ralph Yap¹, Dan Cortes¹

¹Cebu Doctors' University Hospital, Cebu, Philippines

Anaplastic thyroid cancer (ATC) is one of the most aggressive solid tumors with a median survival of 3-7 months. Multimodal therapy combining surgery, radiation, and chemotherapy, have shown improved outcomes. Local data of ATC in the Philippines is limited. The study aims to evaluate the clinical characteristics, treatment approaches, and overall survival of patients with ATC at our institution over a 10-year period.

A retrospective cohort analysis of patients with ATC, with or without undergoing any treatment modality between the years 2010 and 2019 at a tertiary referral hospital.

A total of 17 patients were identified, with a median age at diagnosis of 63 years, predominantly female. Tumors were at least 7 cm in size upon diagnosis with no previous thyroid surgeries. 16 (94.12%) patients presented with lymphadenopathies, whereas 11 (64.71%) had distant metastases, the lungs being the most common site. Only 2 (11.76%) patients were treated using curative surgery; the majority received palliative and supportive forms of treatment. In addition, 3 (17.64%) patients underwent chemotherapy and radiotherapy. Only 2 (11.76%) patients were confirmed to be alive during the study period. The median survival time for the other patients was 4 months; the remaining 15 (88.24%) patients died within the first year following diagnosis.

Those diagnosed with lymphadenopathies and distant metastases showed no difference in survival. Tumor size, age at diagnosis, and patient comorbidities did not affect survival. Patients treated with curative surgery combined with radiotherapy and chemotherapy shows a promising treatment strategy prolonging survival.

P303**EARLY INTRAOPERATIVE PTH DECAY, ACCORDING TO THE ROME CRITERIA, ALLOWS SAFE OMISSION OF SUBSEQUENT PTH MEASUREMENTS.**

Nikolaos Voloudakis¹, Anestis Basios¹, Stefanos Atmatzidis¹, Eleni Lazaridou¹, Maria Velikoudi¹, Evangelia Bellou¹, Basileios Papaziogas¹, Ioannis Koutelidakis¹

¹Second Surgical Department, Aristotle University of Thessaloniki, Thessaloniki, Greece

Intraoperative parathyroid hormone (ioPTH) monitoring is routinely used during parathyroidectomy to confirm removal of hyperfunctioning tissue. Most protocols require multiple post-excision measurements, often including a 20-minute sample, increasing operative time and cost. This study aimed to investigate whether cessation of operation could be applied following a single post-excision PTH measurement.

A retrospective analysis was performed on all patients who underwent surgery for primary hyperparathyroidism between 1/7/2023 and 31/10/2025. Pre-incision, pre-excision, intraoperative, and first post-op PTH values were recorded. The Rome criteria were used to assess operative success. Patients were categorized according to early ioPTH kinetics as follows: early (pre-excision) PTH decay fulfilling the Rome criteria, PTH spike, or patients requiring subsequent measurements.

Of the 111 patients, 40 (36.0%) demonstrated an early PTH decay fulfilling the Rome criteria, 16 (14.4%) exhibited a PTH spike, and 55 (49.6%) required a second 20-minute sampling. None of the 40 patients who met the Rome criteria at the first measurement showed an increase in PTH at the 20-minute or first post-op-day measurement. Patients with multiple gland disease either exhibited a PTH spike (1 patient) or did not meet the criteria in the first measurement (3 patients). One case of persistent hyperparathyroidism was observed in this series, belonging to the third subgroup.

Early ioPTH decline according to the Rome criteria reliably predicted successful parathyroidectomy in this series. In over one-third of patients, routine subsequent PTH sampling could be safely omitted, improving surgical efficiency and reducing costs.

P304**THYROID CARTILAGE ELECTRODES ROLE IN TROUBLESHOOTING TYPE II LOSS OF SIGNAL DURING THYROID SURGERY**

Nikolaos Voloudakis¹, Evangelia Bellou¹, Stefanos Atmatzidis¹, Maria Velikoudi¹, Anestis Basios¹, Dimitra Chatzopoulou¹, Basileios Papaziogas¹, Ioannis Koutelidakis¹

¹Second Surgical Department, Aristotle University of Thessaloniki, Thessaloniki, Greece

To date, endotracheal neuromonitoring electrodes are the gold standard during thyroid surgery. A type II loss of signal (LOS) may lead to an arduous troubleshooting algorithm to avoid false positive results and consequently a two-staged thyroidectomy. By introducing transcartilaginous needle electrodes (TCN) into the algorithm, the most time-consuming step of adjusting or replacing the endotracheal tube can be avoided. This study aimed to investigate whether TCN placement was time-efficient and safe during LOS troubleshooting.

From 01/03/2025 to 30/09/2025, all patients scheduled for bilateral procedures had TCN electrodes on stand-by. Following a type II LOS, the troubleshooting algorithm included checking for laryngeal twitch and cable connections, followed by placement of TCN electrodes. Contralateral vagus nerve stimulation and potential tube readjustment were saved as a last measure.

Of 193 patients scheduled for bilateral procedures, 21 presented with intraoperative type II LOS. One case was resolved after cable reconfiguration. In the remaining 20 cases, 11 signals recovered following TCN electrode placement. None of the remaining nine nerves recovered EMG signal after tube readjustment/replacement, and the contralateral side had normal EMG signals. Of the nine remaining nerves, two recovered the signal after a 20' pause. In the 11 cases where the EMG signal recovered after TCN placement, nine patients had a palpable laryngeal twitch. The TCN application time was 97 ± 23 seconds, while no related adverse events were noted.

Although this is a small series, TCN electrodes provided a safe and efficient means to avoid false-positive type II LOS.

P305**UNUSUAL CLINICAL PRESENTATION OF PARATHYROID CARCINOMA: TWO CASES HIGHLIGHTING DIAGNOSTIC CHALLENGES AND LONG-TERM OUTCOMES**

Ana Voogd¹, Maria Alvarez Jurado¹, Alejandro Begueri¹, Sofia Rapp¹, Alejandrina Castañeda¹, Maria Matsuda¹, Guillermo Puchulo¹, Pedro Valdez¹

¹Hospital universitario Austral, Pilar, Argentina

Parathyroid carcinoma (PC) is a rare endocrine malignancy (1% in sporadic primary hyperparathyroidism and 15% hereditary hyperparathyroidism). It is indolent but locally aggressive, frequently causes hypercalcemia, renal complications and diagnostic challenges due the overlap with benign adenomas. We report two cases with unusual clinical presentations.

Cases presentation:

Case 1: A 66-year-old patient presented with progressive dysphagia. Endoscopic ultrasonography revealed a 54.6-mm heterogeneous solid--cystic tumor located 23 cm from the upper dental arch, without cleavage plane from the esophageal wall. Fine-needle aspiration: parathyroid tissue, with a PTH washout level of 5000 pg/mL. Serum calcium level: 12.3 mg/dL, PTH level: 488 pg/mL. En bloc resection of the right parathyroid mass was performed. Histopathological examination revealed an angioinvasive parathyroid carcinoma with invasion of the surrounding tissues. At 3-months follow-up, calcium and PTH levels normalized. No adjuvant therapy was indicated.

Case 2: A 54-year-old woman with acute renal failure and severe hypercalcemia (serum calcium: 13.5 mg/dL), and elevated PTH (1036 pg/mL). Ultrasound showed a 17 mm right thyroid lobe mass. En bloc parathyroidectomy with ipsilateral hemithyroidectomy confirmed PC, leading to resolution hypercalcemia and renal dysfunction. The patient remains disease free for 10 years.

These cases demonstrate the broad clinical spectrum of PC ranging from isolated dysphagia to life threatening systemic complications. High clinical suspicion, advances localization studies, PTH washout measurement are crucial for diagnosis. Radical surgery remains the only curative approach, offering excellent biochemical control and favorable long-term survival. Lifelong surveillance is mandatory due to recurrence risk.

P306

FOLLICULAR THYROID CARCINOMA: WHEN "LOW-RISK" ENDS UP IN TOTAL LARYNGECTOMY AND HIGH-RISK NEEDS NO FURTHER TREATMENT

Ana Voogd¹, Maria Alvarez Jurado¹, Gerardo Russier¹, Sofia Rapp¹, Alejandrina Castañeda¹, Maria Matsusa¹, Maria Negueruela¹

¹Hospital Universitario Austral, Pilar, Argentina

Follicular thyroid carcinoma (FTC) is considered predictable: minimally invasive forms are low-risk with excellent prognosis, whereas extensive angioinvasion defines high-risk disease. We present two cases that dramatically contradict this paradigm and question current risk stratification systems.

Case 1 ("low-risk"): 55-year-old male underwent thyroid lobectomy in 2011 for a 3-cm nodule revealing minimally invasive FTC with focal vascular invasion (pT2N0M0). The patient underwent completion thyroidectomy and 100 mCi radioiodine. There was a loss to follow-up due to COVID-19 pandemic. In 2021, life-threatening dyspnea revealed bilateral endolaryngeal metastases (Tg 220 ng/mL). Total laryngectomy with bilateral neck dissection (0/15 nodes) and 150 mCi radioiodine with complete remission (Tg 1.7 ng/mL at 4 years, no evidence of disease).

Case 2 ("high-risk"): Widely invasive angioinvasive FTC diagnosed in 2016, treated by thyroid lobectomy. Patient was lost to follow-up due to the pandemic. 9 years post-surgery (2025) without completion thyroidectomy or radioiodine showed no clinical, radiological or biochemical evidence of disease (undetectable Tg, negative anti-Tg antibodies).

Histologically "low-risk" FTC may lead to devastating, airway-compromising metastases requiring mutilating surgery, whereas high-risk disease can lead long-term cure with minimal intervention. Traditional risk stratification fails to predict individual behaviour. Lifelong, rigorous surveillance with serial thyroglobulin and imaging is mandatory in all FTC patients, regardless of initial risk category, to prevent catastrophic outcomes.

P307

PRIMARY HYPERPARATHYROIDISM SECONDARY TO AN AUTOTRANSPLANTED PARATHYROID ADENOMA: FIRST REPORTED CASE TREATED WITH RADIOFREQUENCY ABLATION

Ana Voogd¹, Maria Alvarez Jurado¹, Alejandrina Castañeda¹, Sofia Rapp¹, Maria Matsuda¹, Alejandro Begueri¹

¹Hospital Universitario Austral, Pilar, Argentina

Autotransplantation of parathyroid tissue during thyroid or parathyroid surgery prevents hypoparathyroidism. The development of a parathyroid adenoma in an autotransplanted tissue followed by thyroidectomy is extremely rare, with limited literature. Surgical excision is the standard treatment, but minimally invasive options like radiofrequency ablation (RFA) or ethanol ablation are emerging.

A 68-year-old male with medical history of cervical lymph node biopsy (diagnosed lymphoma), cervical radiotherapy, renal lithiasis, and total thyroidectomy for papillary thyroid carcinoma. One parathyroid gland was autografted in the right sternocleidomastoid muscle (SCM). No post-op calcium supplementation was required. 22 years later the patient presented with symptomatic primary hyperparathyroidism. Choline PET/CT showed hypermetabolic tissue near SCM (12.9x19.2 mm, SUV 29.5). Ultrasound revealed two hypoechoic vascularized nodules in right SCM (27x8 mm and 3x3 mm). Fine-needle aspiration confirmed parathyroid chief cells (PTH washout: 4202 pg/mL). The patient refused surgery; RFA was performed (pre-ablation volume: 2.12 and 0.02 cm³) using 15 watts power with a 5 mm electrode for 1 minute 47 seconds. Post-RFA ultrasound showed avascularity. Calcium and PTH levels normalized immediately. At 3 months, ultrasound revealed a 13x9 mm hypoechoic non-vascularized nodule.

The incidence of hyperparathyroidism after autotransplantation of presumed normal parathyroid tissue is unknown, though rare cases suggest graft hyperplasia or adenoma formation. While surgery is the standard treatment for ectopic adenomas, minimally invasive options provide effective alternatives for high-risk or surgery-averse patients. In this case, RFA normalized calcium and PTH levels without complications. This is the first autotransplanted adenoma treated with RFA.

P308

IMPORTANCE OF OPERATOR-SPECIFIC FOLLOW-UP ULTRASOUND AFTER RADIOFREQUENCY ABLATION FOR LOW-RISK PAPILLARY THYROID CARCINOMA: INSIGHTS FROM A PROSPECTIVE CASE SERIES

Ana Voogd¹, Maria Negueruela¹, Javier Guerrieri¹, Maria Alvarez Jurado¹, Jorgelina Guerra¹, Sofia Rapp¹, Alejandrina Castañeda¹, Alejandro Begueri Buquet¹

¹Hospital Universitario Austral, Pilar, Argentina

Radiofrequency ablation (RFA) is a minimally invasive de-escalation option for low-risk papillary thyroid carcinoma (PTC), providing outpatient local control with reduced morbidity compared to surgery. However, initial post-procedural volumetric increases can mimic tumor growth on ultrasound, potentially causing unnecessary alarm.

This descriptive, prospective cases series, enrolled 9 patients with PTC treated with RFA from October 2022 to May 2025. Inclusion criteria included tumors T1a/b, N0, absence of contralateral lobe nodules, and normal thyroid function. The cohort was 56% female, mean age ~42 years. RFA incorporated a 2 mm safety margin around the lesion. To optimize interpretation, all follow-up ultrasounds were exclusively performed by the treating surgeon, enabling systematic volumetric assessments at baseline, 1 month, 3 months, 6 months, and yearly thereafter using ultrasound measurements.

Baseline tumor volume was $0.896 \pm 1.3 \text{ cm}^3$. In 100% of cases, an initial post-RFA increase---duplication or tripling---was noted, attributable to the intentional perilesional ablation margin. Operator-specific ultrasounds confirmed this as a predictable, benign phenomenon, with volumes normalizing to baseline by the 3rd month, followed by progressive reduction to a significant 93% decrease ($p < 0.001$) at $0.152 \pm 0.10 \text{ cm}^3$ on latest follow-up. Complete resolution occurred in all patients by 24 months. TSH stability was maintained.

Our series affirms RFA's efficacy for low-risk PTC, with transient volumetric expansion resolving by month 3 and sustained nodule reduction. Mandating follow-up ultrasounds by the performing surgeon ensures accurate recognition of these normal changes, averting misinterpretation as progression and enhancing patient reassurance.

P309

TRANSORAL ENDOSCOPIC THYROIDECTOMY VESTIBULAR APPROACH (TOETVA): REVOLUTIONIZING SCARLESS SURGERY IN ARGENTINA -- A SIX-YEAR HIGH-VOLUME CENTER EXPERIENCE

Ana Voogd¹, Maria Alvarez Jurado¹, Alejandro Begueri Buquet¹, Gerardo Russier¹, Maria Matsuda¹, Alejandrina Castañeda¹, Sofia Rapp¹, Jorgelina Guerra¹

¹Hospital Universitario Austral, Pilar, Argentina

For aesthetic demands, remote-access thyroid surgery offers safe, effective alternatives to conventional approaches, with superior cosmetic outcomes and comparable oncologic results in experienced hands. Techniques like gasless transaxillary, bilateral axillo-breast, and retroauricular provide distinct advantages but may involve visible incisions or limitations in bilateral access. TOETVA as a real scarless method, enabling bilateral lobe resection and central lymphadenectomy, while maintaining low morbidity in high-volume centers.

This study retrospectively review of all TOETVA procedures from May 2019 to October 2025 in an Argentine high-volume center. Inclusion: adults >18 years, thyroid volume $\leq 45 \text{ mL}$, nodule $\leq 6 \text{ cm}$ (benign), $\leq 4 \text{ cm}$ (indeterminate), $\leq 2 \text{ cm}$ (papillary carcinoma), cosmetic motivation or scarring history.

A total of 89 procedures were performed in 88 patients (93% female), with a mean age of 44 years. Seventy-five lobectomies and 14 total thyroidectomies were completed, with central lymphadenectomy performed in four cases. The mean operative time was 214 minutes. The conversion rate was 1.2%, and a submental incision was required in two patients (2%). The most frequent complication was chin ecchymosis (20%). Transient vocal cord palsy occurred in three patients (4%), and transient hypocalcemia in one patient (1%). No permanent complications were observed. Malignancy was present in 62% of cases (98% papillary carcinoma), with T1a tumors accounting for 71%. Cosmetic satisfaction was 100%.

TOETVA delivers safety, feasibility, and aesthetics, with outcomes rivaling traditional surgery. Ideal for selected patients, it empowers scarless bilateral interventions and central lymphadenectomy,

P310

PREOPERATIVE TSH PREDICTS LEVOTHYROXINE SUPPLEMENTATION AFTER HEMITHYROIDECTOMY FOR LOW-RISK DIFFERENTIATED THYROID CANCER

Ana Voogd¹, alejandro begueri buquet¹, jorgelina guerra¹, maria gracia alvarez jurado¹, sofia rapp¹, alejandrina castañeda¹

¹Hospital universitario Austral, pilar, Argentina

Hemithyroidectomy (HT) is the preferred approach for patients with low-risk differentiated thyroid cancer (low-risk DTC). Our goal was to correlate the pre-operative (pre-op) thyroid-stimulating hormone (TSH) with the post-operative (post-op) TSH level and levothyroxine (LT4) supplementation after HT, to identify patients who may not require LT4.

We prospectively enrolled 114 patients with DTC who underwent HT from 2015 to 2023 at a single institution. Post-op TSH was measured, and patients were prescribed LT4 if the TSH was ≥ 2.0 $\mu\text{UI/ml}$. A multiple linear regression model was conducted to determine variables associated with post-op TSH elevation following HT. To find the pre-op TSH cut-off point, post-op TSH levels were categorized as < 2 or ≥ 2 and a multiple logistic regression model was carried out. Model performance and AUC were calculated, and the optimal cut-off was selected using the Youden method.

Of 79 patients, age, sex, thyroiditis or the volume of the remaining lobe were not found to be associated with elevated post-op TSH. Pre-op TSH was the only significant variable in the ANOVA model. For every 1 $\mu\text{UI/ml}$ that pre-surgical TSH increases, post-op TSH increases by 0.87 $\mu\text{UI/ml}$ (95% CI 0.72 -- 1.02 $\mu\text{UI/ml}$, p-value < 0.0001). Overall, the TSH AUROC was 0.816 (95% CI: 0.6247 -- 1), threshold was found between 1.29 and 1.73 $\mu\text{UI/ml}$ and with 71 % sensitivity and 86% specificity for pre-op TSH.

45 patients (57 %) were prescribed with LT4. The pre-op TSH emerged as an independently significant variable for predicting LT4 supplementation.

P311

RADIOFREQUENCY ABLATION FOR AUTONOMOUS FUNCTIONING THYROID NODULES: 100% FUNCTIONAL CURE WITH COMPLETE SYMPTOM CONTROL -- SINGLE-CENTER SERIES

Ana Voogd¹, Maria Anselmi¹, Maria Alvarez Jurado¹, Alejandro Begueri Buquet¹, Maria Matsuda¹, Alejandrina Castañeda¹, Sofia Rapp¹, maria Negueruela¹

¹Hospital Universitario Austral, Pilar, Argentina

Autonomous functioning thyroid nodules (AFTN) represents the main cause of hyperthyroidism worldwide. Radiofrequency ablation (RFA) provides groundbreaking minimally invasive alternative to surgery for hyperfunctioning nodules in a fully outpatient procedure. This procedure allows effective control of hormonal imbalance, taking cosmetical concerns into account, preserving surrounding normal thyroid parenchyma.

We present a descriptive study of 8 patients treated with RFA from 2022 to November 2025. Inclusion required suppressed TSH, confirmatory scintigraphy, and benign cytology. RFA was performed using ultrasound-guided trans-isthmus moving-shot technique in an outpatient setting.

100% were female with a mean age of 41 years (range 24--73). Two patients presented with multifocal autonomous disease (≥ 2 hot nodules). The mean initial volume was 11.3 cc (range 0.68--47 cc). RFA was performed 45-55 Watts power with a 7-10 mm electrode for a mean of 8.5 minutes. At 12-month follow-up, nodules demonstrated a robust mean volume reduction ratio of 80% (range 65--92%). Every patient achieved full TSH normalization within 3 months (baseline 0.08 $\rightarrow$ 1.1 mUI/L), with complete resolution of hyperthyroidism symptoms. No complications occurred across the series. Although one large 47 cc nodule needed a second session for peak efficacy. Multifocal cases were managed in a single procedure. Notably, no patient required antithyroid drugs, radioiodine, or surgical intervention post-RFA.

RFA achieves definitive functional cure for hyperthyroidism from AFTN---including the multifocal variants---with 100% hormonal normalization, total symptom relief, substantial volume reduction, and zero morbidity in an outpatient context. RFA could be a first line therapeutic option for AFTN.

P312

TRANSFORMING THE MANAGEMENT OF BENIGN THYROID NODULES: SINGLE-SESSION RADIOFREQUENCY ABLATION ACHIEVES HIGH EFFICACY WITH MINIMAL RISK

Ana Voogd¹, Maria Gracia Alvarez Jurado¹, Alejandro Begueri¹, Sofia Rapp¹, Javier Guerrieri¹, Alejandrina Castañeda¹, Martina Klingler¹, Maria Mazza¹, Maria Eugemia Anselmi¹, Jorgelina Guerra¹

¹Hospital Universitario Austral, Pilar, Argentina

For endocrine surgeons, benign thyroid nodules pose a challenge: balancing patient desires for scar-free aesthetics and preserved thyroid function against surgery's risks, including hypothyroidism and prolonged recovery. Radiofrequency ablation (RFA) represents a transformative, minimally invasive option. It precisely targets nodular tissue, avoids incisions, and minimizes endocrine complication.

This retrospective study analyzed 141 RFA treatments for cytologically benign thyroid nodules (>1 cm, symptomatic or cosmetically impairing) between January 2021 and November 2025. Pre-procedure evaluations included ultrasound volumetry and fine-needle aspiration. RFA employed a monopolar system under local anesthesia with the moving-shot technique for homogeneous ablation. Laryngoscopy ensured vocal cord integrity intraoperatively. Follow-up comprised ultrasound assessments at 3, 6, and 12 months, extending to 40 months.

Patients (n=141; 83% female; mean age 50 years) had mean baseline nodule volumes of 14.3 mL (range: 0.7--177 mL). Procedures averaged 8.6 minutes (1.5--23.4 min), with 3-hour mean stays. Complications totaled 17%: 9% major (1 rupture, 5 transient and 1 permanent dystonia, 5 transient Horner syndromes and 8% minor like ecchymoses, cough, or dysphagia. No mortalities; no levothyroxine required. Volume reductions: 63% at 3 months, 69% at 6 months, 75% at 1 year (98% efficacy ≥50%). Long-term (mean 12 months): 71% reduction (28--94%), 4 regrowths (2 re-RFA), 2% re RFA.

Single-session RFA have 98% efficacious, low-risk tool that surpasses thyroidectomy in preserving function and aesthetics while alleviating demands. This approach fosters informed choices, streamlines workflows, elevates satisfaction---redefining benign nodule paradigms through targeted ablation over surgery.

P313

BUILDING SKILLS IN THERMAL ABLATION FOR ENDOCRINE SURGERY WITH TRAINING AND 224 SAFE CASES.

Ana Voogd¹, maria alvarez jurado¹, alejandro begueri buquet¹, sofia rapp¹, alejandrina castañeda¹, anselmi maria¹

¹Hospital universitario Austral, pilar, Argentina

From June 2021 to date, our surgery team implemented radiofrequency (RFA) and microwave (MWA) ablation. During this period, 224 cases were treated. Our goal was to acquire the skills to perform safe and effective ablations through theoretical and hands-on training. Once our team achieved the learning curve, we developed a training program to introduce these techniques to others centers.

Program included:

- Clinical decisions: based on international guidelines
- Infrastructure development, including high-frequency ultrasound and RFA/MWA equipment
- Multidisciplinary team training
- Development of our own institutional protocols
- Educational outreach to other centers

Patient selection included benign thyroid nodule (BTN) regardless the functionality, papillary thyroid carcinoma (PTC) until T1BN0, parathyroid adenomas (with adequate ultrasound visualization) and recurrent lymph nodes.

The procedure was performed in an operating room and was ultrasound guided with hydrodissection and moving shot technique.

During this period 15 training workshops were conducted and for over 150 physicians from latinamerica.

In our training program we performed: 170 RFA/MWA for BTN, 60-80% volume reduction at 12 months, > 90% symptom improvement; 9 RFA for PTC (90% median reduction); 43 RFA for parathyroid adenomas (87% normal calcium and PTH levels at 12 months) and 2 RFA for neck nodes (both fully cleared). Side effects were minor and temporary.

Workshop reported 95% positive feedback, and 10 centers adopted these techniques.

A structured training program, combined with standardized guidelines and multidisciplinary collaboration, enabled the successful implementation of these techniques, allowing their expansion to multiple centers.

P314

RADIOLOGICAL FEATURES OF ADRENAL GANGLIONEUROMAS: A MULTI-CENTRE CASE SERIES

Anh Vu¹, Dimitra Christodoulou¹, Hasan Aljawder¹, Gabriele Galata², Johnathan Hubbard

¹Guy's And St Thomas' NHS Foundation Trust, United Kingdom, ²King's College Hospital NHS Foundation Trust, United Kingdom

Adrenal ganglioneuromas are rare, benign, neural crest-derived tumours that are often detected incidentally or present with non-specific symptoms. Their imaging features frequently overlap with other adrenal lesions, creating diagnostic uncertainty. Greater familiarity with characteristic radiological patterns may support earlier consideration of ganglioneuroma in the differential diagnosis.

A retrospective review was performed across two tertiary endocrine surgical units. Clinical presentation, biochemical findings and cross-sectional imaging (CT, MRI and FDG-PET where available) were collected and analysed.

Eight patients ranging from 21 to 76 years of age were included. All patients underwent surgical resection, except one who underwent diagnostic biopsy. Lesions measured 2.8--12 cm, with several showing slow interval growth on serial imaging. Common radiological findings included moderate pre-contrast CT attenuation (20--40 HU), progressive post-contrast enhancement and absence of contrast washout at delayed imaging. Margins varied from well-circumscribed lesions to irregular and ill-defined. Calcifications were occasionally present. MRI consistently demonstrated low T1 and heterogeneously high T2 signal without intracellular lipid. FDG-PET showed low-to-moderate uptake (SUV max 3--7.5).

Adrenal ganglioneuroma should be considered in slowly enlarging, heterogeneous, and calcified adrenal masses that lack features of benign lipid-rich adenomas on unenhanced CT, and demonstrate delayed enhancement on contrast CT. However, despite suggestive imaging features, overlap with other benign and malignant adrenal lesions remains significant. Therefore, careful evaluation within a specialist adrenal multidisciplinary review is essential, in particular to exclude adrenocortical carcinoma and pheochromocytoma. Histopathology remains the cornerstone for establishing a definitive diagnosis.

P316

REASSESSING NORMAL PTH IN SEVERE HYPERCALCAEMIA: A THREE-YEAR RETROSPECTIVE COHORT STUDY

Angus White¹, Timia Raven-Gregg¹, Vlad Micu¹, Yousuf Sabah², David Scott-Coombes¹, Michael Stechman², Neil Patel², Richard Egan¹

¹Morriston Hospital, Swansea Bay University Healthboard, Swansea, United Kingdom, ²University Hospital of Wales, Cardiff and Vale University Healthboard, Cardiff, United Kingdom

Severe hypercalcaemia (≥ 3.0 mmol/L) requires urgent evaluation. Traditional teaching holds that an "inappropriately normal" parathyroid hormone (PTH) level in hypercalcaemia suggests primary hyperparathyroidism (PHPT). This study examined the diagnostic spectrum and outcomes of patients presenting with severe hypercalcaemia and normal-range PTH.

We performed a three-year retrospective study across a regional health board (2021--2023). Adult patients with calcium ≥ 3.0 mmol/L were identified; among these, those with a concurrent PTH measurement were included. PTH was categorised as suppressed, normal-range, or elevated. Diagnoses were obtained through clinical record review. The primary outcome was the diagnosis among patients with normal-range PTH; secondary outcomes included 6-month mortality.

A total of 584 patients had calcium ≥ 3.0 mmol/L. 355 (61%) had a concurrent PTH. PTH was normal in 88 patients (25%), elevated in 131 (37%), and suppressed in 136 (38%). In the normal-PTH cohort, median calcium was 3.13 mmol/L (range 3.00--4.11). PHPT accounted for 22 cases (25%) but was the sole diagnosis in 17 (19%), with 5 having dual pathology. Non-PHPT causes predominated, including solid-organ malignancy (28/88, 32%), haematological malignancy (8/88, 9%), and calcium-related hypercalcaemia from supplementation or likely milk-alkali syndrome (21/88, 24%). Six-month mortality in the normal-PTH group was 51% (45/88). Each patient referred to surgery underwent parathyroidectomy with ≥ 6 -month biochemical cure.

In severe hypercalcaemia with normal-range PTH, PHPT is uncommon and rarely the sole diagnosis. Malignancy and calcium-loading states are far more frequent, and short-term mortality is high. Clinicians should not assume PHPT in the presence severe hypercalcaemia and normal PTH.

P317

ORGAN-PRESERVING OPERATIONS IN THE SURGICAL TREATMENT OF PAPILLARY THYROID CARCINOMA DURING A 30-YEAR PERIOD AFTER THE CHORNOBYL ACCIDENT.

Ivan Yanchii¹, Mychailo Bolgov, Oleksii Omelchuk, Yuriy Tarashchenko, Petro Zynych

¹SI «V.P. Komisarenko Institute Of Endocrinology And Metabolism Of The National Academy Of Medical Sciences Of Ukraine», Kyiv, Ukraine

Introduction. After the Chernobyl accident, the incidence of papillary thyroid carcinoma (PTC) significantly increased in the radiation-affected territories of Ukraine and neighboring states, especially among patients who were children and adolescents at the time of the accident. According to existing data, the onset of the increase in incidence occurred in the 1990s.

Methods. The medical data of patients who underwent surgical treatment for PTC in 1990--2019 at the surgical clinic of the Institute of Endocrinology in Kyiv were analyzed. Cases of combined or intermediate pathology (such as NIFTP) were not included in this study. In total, there were 8060 patients with exclusive PTC. In 10 cases, interventions of a palliative scope were performed. These were also excluded from the final calculations.

Results. Of the 8050 patients, primary thyroidectomy was performed in 6869 cases, and primary organ-preserving surgery (OPS) was performed in 1181 patients, which accounted for 14.7%. In 213 cases, final thyroidectomy was performed after OPS. Thus, the percentage of patients who underwent OPS was 12%. When distributed by decade, from 1990 to 1999, the percentage of OPS was 27.9%; from 2000 to 2009 -- 9.1%; and from 2010 to 2019 -- 10.7%.

Conclusions. In the first decade, the percentage of OPS performance was significantly higher than in the subsequent two decades, which can be explained by the adoption of more radical approaches to the surgical treatment of PTC.

P318

INITIAL EXPERIENCE OF FLUOBEAM-LX NEAR-INFRARED AUTOFLUORESCENCE FOR PARATHYROID IDENTIFICATION AND FUNCTIONAL PRESERVATION DURING THYROIDECTOMY IN A SINGLE-CENTER

Jin Wook Yi¹

¹Ain Hospital, South Korea

Preserving parathyroid gland (PG) function is essential for preventing postoperative hypocalcemia after thyroidectomy. Near-infrared autofluorescence (NIRAF) technology enables real-time identification of PGs without contrast agents, yet clinical data from routine, consecutive use remain limited. This study reports an early single-center experience using FLUOBEAM® LX for PG identification and postoperative functional outcomes.

A consecutive cohort of patients undergoing thyroid surgery between September and November 2025 was retrospectively analyzed. FLUOBEAM-LX was applied in all cases. PG identification was recorded across four quadrants, and the total number of glands identified intraoperatively was documented. Serum calcium, ionized calcium (iCa), and parathyroid hormone (PTH) were measured preoperatively, on postoperative days (POD) 1--2, and at outpatient follow-up (OPD). Biochemical hypocalcemia was

defined as serum calcium ≤ 8.4 mg/dL. Outcomes were analyzed with particular focus on patients undergoing total or completion thyroidectomy.

Twenty-three patients were included. The median number of PGs identified intraoperatively was 2 (range 1–4). Autofluorescence-guided visualization allowed reliable gland confirmation, with selective autotransplantation performed when indicated. Among total/completion thyroidectomy cases ($n=6$), transient biochemical hypocalcemia occurred on POD1; however, all patients demonstrated normalization of calcium and maintained or recovered PTH levels by discharge or OPD. No cases of persistent hypoparathyroidism were observed.

This early experience demonstrates that routine use of FLUOBEAM LX facilitates consistent intraoperative PG identification and supports preservation of postoperative PG function. Even in total or completion thyroidectomy, no sustained hypocalcemia occurred, suggesting that NIRAF guidance may help reduce the risk of postoperative parathyroid insufficiency.

P319

SERUM CALCIUM LEVELS ARE INSUFFICIENT TO DIFFERENTIATE PARATHYROID CARCINOMA FROM BENIGN PRIMARY HYPERPARATHYROIDISM IN KOREAN PATIENTS

Hyeok Jun Yun¹, Nam Kyung Kim¹, Jun Sung Lee¹, Seok-Mo Kim¹, Yong Sang Lee¹, Hang-Seok Chang¹

¹Gangnam Severance Hospital, SEOUL, South Korea

Parathyroid carcinoma (PC) is a rare cause of primary hyperparathyroidism (PHPT), but requires distinct surgical management. This study compares clinical and biochemical features of PC and benign PHPT in a Korean cohort and evaluates the utility of traditional indicators, including the " $>3 + >3$ rule" (serum calcium >12 mg/dL and tumor size >3 cm) and elevated parathyroid hormone (PTH) levels, for preoperative suspicion of PC.

A retrospective analysis was conducted on 233 PHPT patients who underwent surgery at Gangnam Severance Hospital between 2005 and 2022, including 13 PC cases and 220 benign PHPT cases. Clinical, biochemical, intraoperative, and pathological findings and recurrence outcomes were compared.

PC patients had significantly higher PTH levels and larger tumors than benign PHPT patients. Serum calcium was higher in PC (12.3 vs. 10.9 mg/dL) but not statistically significant; only 4 (30.8%) of the PC patients exceeded 12 mg/dL, and 3 (23.1%) exceeded 14 mg/dL. Ionized calcium was also significantly higher in PC patients (1.6 vs. 1.4 mmol/L), though the absolute difference was small. Only 3 (23.1%) of the PC patients met both criteria of the " $>3 + >3$ rule", and several benign cases also did, limiting specificity. Intraoperative features suggestive of malignancy were observed in 80% of PC patients lacking biochemical thresholds.

Western-derived biochemical thresholds, particularly serum calcium, appear insufficient to differentiate PC in Korean patients. Diagnostic strategies tailored for East Asian populations, integrating biochemical markers with intraoperative findings, are needed to enhance diagnostic accuracy and guide optimal surgical management.

P320

TRANSORAL ROBOTIC AND ENDOSCOPIC THYROID AND PARATHYROID SURGERY IN THE NHS: THE LARGEST UK SERIES ADVANCING TRULY SCARLESS THYROID SURGERY

Enyinnaya Ofo¹, Zoi Zachou¹, Maria Kiakou¹, Gayani Pitiyage¹, Kee Howe Wong², Georgios Oikonomou¹

¹St Georges University Hospital, London, United Kingdom, ²The Royal Marsden, London, United Kingdom

Robotic (TORTVA) and endoscopic (TOETVA) transoral approaches offer truly scarless alternatives to conventional transcervical thyroid and parathyroid surgery. This study evaluates the largest UK NHS series to date, assessing safety, feasibility and early oncological outcomes.

A prospective observational study included all TOETVA and TORTVA procedures performed at St George's Hospital between January 2024 and November 2025. Demographics, indications, operative details, oncological adequacy and complications were recorded. All cases were undertaken by two experienced head and neck surgeons following governance-approved service introduction.

Forty patients were included (mean age 39; 34 female). TORTVA was performed in 21 cases and TOETVA in 19. Procedures included hemithyroidectomy (n=24), completion thyroidectomy (n=7), total thyroidectomy (n=3), parathyroidectomy (n=4) and isthmusectomy (n=2). Most patients were otherwise healthy (n=27) and euthyroid (n=32). Indications were diagnostic (n=15), therapeutic (n=9) and symptomatic (n=5). Malignancy was present in 23 cases, including papillary, follicular and oncocytic carcinoma. Oncological outcomes were favourable, with microscopic positive margins identified in a small number of cases (n=4). No major complications occurred. Minor complications were limited to surgical emphysema (n=1), intraoperative bleeding (n=2), transient vocal cord palsy (n=2) and transient hypocalcaemia (n=2). Mean operative time was 225 minutes (118--397), decreasing from 247 minutes in early cases to 212 minutes in later ones.

Transoral robotic and endoscopic thyroid and parathyroid surgery is safe, feasible and oncologically effective within an NHS setting. The absence of major complications, low minor-complication rates and improved operative efficiency support wider adoption of truly scarless transoral approaches in endocrine surgery.

P321

INCIDENTAL DETECTION OF ATYPICAL INTRATHYROIDAL PARATHYROID NEOPLASM: A CASE REPORT

Winnie Zhang²

¹University Of Western Australia, Crawley, Australia, ²St John of God Murdoch Hospital, Murdoch, Australia

Incidental Detection of Atypical Intrathyroidal Parathyroid Neoplasm: A Case Report

Parathyroid carcinoma is a rare pathology, representing approximately 0.5% to 5% of all parathyroid tumours. In very minute cases, it may develop within an intrathyroidal parathyroid gland, a rare developmental anomaly. Differentiating between a thyroid nodule and an intrathyroidal parathyroid lesion using preoperative imaging and cytology can be particularly challenging as thyroid follicular cells share similar cytomorphological features with parathyroid.

We present the case of male patient in his 80s with a history of cutaneous melanoma and severe fatty liver disease who underwent evaluation for a suspicious hepatic lesion. Ultrasound guided FNA and ultimately right hemithyroidectomy uncovered an atypical intrathyroidal parathyroid neoplasm.

Given that the PET-avid nature of the nodule and indeterminate cytology, the patient underwent a right hemithyroidectomy and parathyroidectomy with central neck dissection. The decision was based on the indeterminate cytology, FDG-avid nature of the nodule, and patient preference following MDT review. Histopathology revealed thyroid nodule consistent with an atypical intrathyroidal parathyroid neoplasm, arising within the parathyroid gland, with some features raising concern for atypia but without definitive evidence of carcinoma.

This case underscores the diagnostic value and complexity of incidental findings on PET-CT in cancer surveillance. It also demonstrates the rare occurrence of an atypical intrathyroidal parathyroid neoplasm, discovered through the workup of a presumed thyroid lesion. A multidisciplinary approach remains crucial in evaluating indeterminate nodules, especially in patients with a background of previous skin cancer and severe liver problems.

P322

RAPID NON-INVASIVE DIFFERENTIATION OF MALIGNANT AND HEALTHY THYROID TISSUE USING FLUORESCENCE SPECTROSCOPY AND MULTIVARIATE ANALYSIS

Goran Zoric¹, Jovan Ilic¹, Ksenija Radotic^{2,3}, Sladjana Spasic², Dunja Bandjur², Dragana Bartolic^{2,3}, Mira Stankovic^{2,3}

¹*Clinic For Endocrine Surgery, University Clinical Center Of Serbia, Belgrade, Serbia,* ²*University of Belgrade -- Institute for Multidisciplinary Research, National Institute of the Republic of Serbia, (IMSI), Belgrade, Serbia,*

³*University of Belgrade, Institute for Multidisciplinary Research (IMSI), Center for Green Technologies, Belgrade, Serbia*

Accurate and timely diagnosis of thyroid disorders is essential for effective treatment; however, conventional diagnostic methods are often limited by invasiveness, sensitivity, specificity, and cost. Advances in fluorescence spectroscopy enable a sensitive, rapid, and minimally invasive approach for tissue characterization. The aim of this study was to evaluate the potential of fluorescence spectroscopy for distinguishing malignant thyroid tissue from healthy tissue.

Fluorescence emission spectra were recorded from thyroid tissue samples collected intraoperatively from 30 patients. From each patient, malignant and healthy tissue samples were obtained; however, histopathological analysis later confirmed that three samples initially classified as healthy were malignant. In total, 30 malignant and 27 healthy samples were analyzed. Spectra were recorded following excitation at 287 nm and 340 nm using optical fiber probes. Linear Discriminant Analysis (LDA) was applied to evaluate discrimination between healthy and malignant tissues.

Characteristic emission peaks were observed at 405--410 nm and 440--450 nm for both excitation wavelengths. Using LDA, excitation at 287 nm achieved 100% classification accuracy for the original dataset and 80.7% in cross-validation. Excitation at 340 nm yielded 98.2% original classification accuracy and 84.2% in cross-validation.

Characteristic emission peaks were observed at 405--410 nm and 440--450 nm for both excitation wavelengths. Using LDA, excitation at 287 nm achieved 100% classification accuracy for the original dataset and 80.7% in cross-validation. Excitation at 340 nm yielded 98.2% original classification accuracy and 84.2% in cross-validation.

Author Index

Author Index

A

Abaigar, Paula Bengoechea - P217
Abdel-Aziz, T - FP-12
Abdel-Aziz, Tarek - FP-05, FP-14, FP-18, P010
Abdelsalam, Alaa - FP-14, P010
Abdullah, Noor Hisham - P058
Abecia, Mikel Rojo - P050, P172
Abellán, Miriam - P096, P097, P248
Abid, Ammad - P013
Abramov, Roi - P003
Adamek, Svatopluk - P167
Agarwal, Gaurav - P025, P150, P277
Agcaoglu, Orhan - P052, P290
AGGELI, CHRYSANTHI - P004, P005, P006
Aghayeva, Aytan - P007
Aghayeva, Nazrin - P007
Agrawal, Vinita - P126
Aguilar, Laura Rambla - P043, P044
Ahmed, Nada Mabrouk - FP-05
Aiello, Paolo Salvatore Lorenzo - P238
Ainsworth, Gemma - FP-16
Aisawa, Rubens Kenji - P071
Aissaoui, Ikram El Baraka - P066
Ajдини, Suela - P224
Akbulut, Sezer - P051, P052, P053, P054, P055
Akbulut, Yalçın Ural Turhan - P008
Aksakal, Nihat - FP-22, P135, P136, P137, P138
Al-Mishal, Meshal - P130
Alagol, Kemal - FP-43
Alakbarova, Shahla - P251
Albertario, Simone - P040
Albino, Claudio - P260
Alcalá, Elena Serrano - P064
Alcorta, Iratxe Arrillaga - P021, P286
Aldoori, Joanna - FP-25, P068
Aleksandrovs, Dmitrijs - P009, P278
Alesina, Pier Francesco - FP-23, FP-30, P144
Alfonso, Raquel - FP-13, P049
Alhazzaa, Norah - FP-14, FP-18, P010
Aljawder, Hasan - P314
Allaoua, Yousef - P294
Allen, Miguel - P097, P266
Allgrove, J - FP-12
Almeida, Carlos E. Costa - P186
Almeida, M Andrade de - FP-37
Almeida, Miguel Andrade de - P018, P244, P265
Almeshal, Meshal - P011, P031, P166, P280
ALMISHAAL, Mishaal - P030, P032
Almquist, Martin - FP-07, FP-17
Alonso, Sofia Martinez - P172
Alsarrani, Faisal - FP-14, FP-18, P010
Altaba, Daniel Pastor - P256
Alvarado, Ricardo - P293, P294, P295, P296, P297
Alvarado-Hurtado, Ricardo - FP-34, P173, P174
Álvarez, Elena Crespo - P066
Ambrosini, Carlo Enrico - FP-44, P072, P110, P111, P225
Amendolagine, Martina - P233, P234
Amin, Fahad - P013
Anand, Akshay - P106
Anca, Alvaro Valdés de - P205

Andrasi, Mónica - P014, P115
Andreani, Sara - P238
Andrés, Marina Pérez - P247
Andreu, Marta Gutiérrez - P256
Anđelković, Biljana - P200
Ansaldo, Gian Luca - P201
Anselmi, Maria - P311
Anselmi, Maria Eugemia - P312
Antonio, David Gómez de - P042
Antunes, A Araújo - FP-37
Antunes, Alexandra - P017, P268, P269, P270
Antunes, Alexandra Araújo - P244, P265
Antunes, Alexandre Araujo - P018
Aparício, D - FP-37
Aparício, David - P244, P265
Aparício, David João - P018
Apostolou, Konstantinos - P019
Aramburu, Julian Fernandez - P194
Arapaki, Ageliki - P183, P184
Arcas, Guzman Franch - P045, P046
Ardid-Brito, Jordi - P100
Arenas, Beatriz Alarcón - P043, P044
ARENAS, MARI FE CANDEL - P258, P259
Arenas, MariFe Candel - P221
Arnaiz, Asier Mañaricua - P172
Arnaiz, Asier Mañarikua - P050
Aroca, Alfonso Camacho - P043, P044
Arocena, Maria Isabel Bollo - P214, P215, P216, P217
Arrieta, Albert Gil - P222
Arrieta, Juan - P293, P294, P295, P296, P297
Artigot, Paula Díaz - P077
Aslan, Ismet - P086
Asya, Orhan - P152
Athanasίου, Anargiros - P180, P181
Atmatzidis, Stefanos - P303, P304
Atondeh, Cédric - P192, P194
Avenia, Nicola - P190
Aycicek, Bercem - P086
Aydin, Husnu - P047, P052
Aydoğan, Mehmet - P086
Aygun, Nurcihan - P292
Aylaz, Gokce - P052

B

Bach-Ngohou, Kalyane - P102
Bagbudar, Sidar - P138
Baghawi, Anita - P058
Bähr, Marcel - FP-15, P024
Baillly, Clément - P237
Bakkar, Sohail - FP-10, P022, P048, P061, P083
Balasubramanian, Saba P - FP-16
Balasubramanian, Sabapathy - P231, P232
Balderrama-Brondani, Vania - P114
Balsalobre, María - P097
Bandjur, Dunja - P322
Barandiaran, Ane Erausquin - P217
Bart, Pablo - P293, P294, P295, P296, P297
Barczynski, Marcin - P185
Bargueiras, Alejandro Moreno - P256
Barna, Sandor - P115
Barrasa, Arantxa Garcia - FP-14, P010

Bartolic, Dragana – P322
 Basios, Anestis – P303, P304
 Batista, Ana Briones – P035, P036
 Baud, Grégory – FP-39, P073, P074, P153
 Bayadsi, Haytham – P116
 Bayrakdar, Sena – FP-22
 Beatson, Kevin – FP-05
 Becucci, Chiara – FP-04, P023, P072, P225
 Becucci, ssa Chiara – P110, P111
 Begueri, Alejandro – P305, P307, P312
 Begum, Nehara – FP-15, P024
 Behanova, Magdalena Matejkova – P167
 Behera, Dibya Priyadarsini – P025, P026
 Beiras, Carolina – P097
 Belemets, Natalia – P209
 Bellou, Evangelia – P303, P304
 Benedet, Andréa Lessa – P101
 Benítez, Paula García de Vinuesa – P063
 Berg, T.J. van den – FP-19, P117
 Bergenfelz, Anders – FP-07, FP-35, P211
 Bergmeister-Bergho!, Anna – FP-20
 Berlet, Maximilian – P027, P199
 Bernal, Marc Vallve – P063, P064
 Bernardi, Stella – P082
 Bersellini, Francesca – FP-42
 Bertrand, MArtA – P108
 Bervini, Sandrina – P253
 Bescós, María Ramírez – P043, P044
 Biffoni, Marco – FP-24, P195, P196
 Binsaleem, Nada – P030, P031, P032, P104
 Binter, Teresa – FP-20
 Bisceglie, Michele – P233
 Bitzén, Ulrika – FP-17
 Blanc, Itziar Larrañaga – FP-14, P010
 Blasi, Martí Manyalich – P035, P036
 Bodnar, Mykola – P060
 Boi, Francesco – FP-27, P048
 Bolgov, Mykhailo – P317
 Bolgov, Mykhailo – P033, P279
 Bolomiti, Maria – FP-02
 Bomanji, Jamshed – FP-18
 Bonati, Dott. Elena – P190
 Bonati, Elena – P034, P082, P168
 Boniardi, Marco – P238
 Bonifazi, Claudia – P075, P076
 Boninu, Dott. Elisa – FP-41
 Bononi, Marco – P082
 Borella, Valentina – P235
 Borges, E – FP-37
 Borges, Eva – P265
 Borggreffe, Jan – FP-15, P024
 Bortolato, Cecilia – P121
 Bosch, Karen – P228
 Bosch, Karen D – FP-12
 Brain, C – FP-12
 Brebu, Dan – P177
 Bregoli, Nicola – P204
 Bregolli, Nicola – P203
 Briones, Ana – P100
 Brito, Jordi Ardid – P035, P036
 Brrasa, Arantxa Garcia – P205
 Bru, Marta – P293, P294, P297
 Bruandet, Amelie – P073
 Brun, Vegard – P145

Brun, Vegard Heimly – FP-02
 Brunaud, Laurent – P185
 Buendía, Javier Jesús Barambio – P043, P044
 Buffet, Camille – FP-03, P059
 Bullaro, Maria Aurora – P262
 Bümring, Per – P067
 Buquet, Alejandro Begueri – P308, P309, P310, P311, P313
 Burhan, Sebnem – P055
 Burman, Joel Per – FP-02
 Buta, Marko – P239
 Butler, C – FP-12
 Butz, Frederike – P037, P038
 Buzejic, Matija – FP-36, P039, P122, P123, P124, P125, P213, P226
 Bystrom, Elvira Bengtsson – P116

C

Caballero, Eugenia – P097
 Cabañas, Luis Jacobo – P133
 Caiazzo, Robert – FP-39, P073, P074, P153
 Calais, Luísa – P112
 Caldeira, Carla – P012
 Cali', Benedetto – P040
 Caliskan, Ozan – P292
 Callegari, Fabiano Mesquita – P087, P089
 Calleja, Rodrigo – P092
 Calò, Pietro Giorgio – FP-27, FP-41, P048, P076, P082, P190
 Calvo, Alberto Gutierrez – P243
 Campbell, Matthew T. – P114
 Campizano, Teresa Caruano – P043
 Campo, Constantino Fondevila – P069, P070, P103, P276
 Campo, Marta León Del – P043, P044
 Campuzano, Teresa Caruana – P044
 Candeias, Henrique – P097
 Candel, Mª Fé – P097
 Candel, María Fe – P206, P207
 Candita, Gianvito – P072
 Caño, Maria Luisa – P203
 Canoz, Ozden – P047
 Canu, Dott. Gian Luigi – FP-41, P190
 Canu, Gian Luigi – FP-27, P048, P076
 Canu, Glian Luigi – P082
 Capela, Joao – P097
 Capitan, Mikel Osorio – P214, P215, P216, P217
 Cappellacci, Dott. Federico – FP-41, P190
 Cappellacci, Federico – FP-27, P048, P082
 Cappellaci, Federico – P076
 Cardona, Marcos Solà – P254, P273
 Carlo, Eugenio De – P229, P230
 Carnassale, Giulia – FP-43
 Caroccia, Brasilina – P263
 Carratalá, Carla P. – P221
 CARRATALÁ, CARLA PLANA – P258, P259
 Cartier, César – P266
 Caselles, Mariano Artés – P041, P274
 Cassinello, Norberto – FP-13, P049, P097
 castañeda, alejandrina – P305, P306, P307, P308, P309, P310, P311, P312, P313
 Castinetti, Frédéric – P193
 Castro, Luís – P268, P269, P270

Castro, Luís Miguel - FP-37, P017, P018, P244, P265
 Caulier, Joanna Januszkiewicz - - P157, P158, P159
 Cavadas, Ana Sofia - P017
 Cebrián, Anabel Mateo - P002
 Celik, Aykut - P051, P052, P053, P054, P055
 Cellan, Thea - P302
 Ceniza, Janelle - P302
 Cerviere, Milena Pia - FP-43
 Cetinoglu, Isik - P292
 Ceylan, Emel - P086
 Chadwich, David - FP-16
 Chala, Sofia - P245
 Chand, Gyan - P025, P150, P277
 Chandolias, Miltiadis - P149
 Chang, Hang-Seok - P142, P143, P319
 Chang, Young Woo - P056
 CHATZIKYRIAKIDOU, Associate Professor ANTHOULA
 - P107
 Chatzopoulou, Despoina - P057, P223
 Chatzopoulou, Dimitra - P304
 Cheah, Wei Keat - P105
 Chebly, Alain - P171
 Cheng, Mao Li - P058
 Chereau, Nathalie - FP-03, P059
 Cherenko, Sergii - P060
 Chesover, AD - FP-12
 Chetboun, Michael - P153
 Chetboun, Mikael - FP-39, P073, P074
 Cheung, Reno - P065
 Chiapponi, Costanza - P027, P199
 Chiari, Gabriella Carolina Scalice - P260
 Chiofalo, Maria Grazia - P082
 Chorão, Martinha - P169
 Chorti, Angeliki - FP-27, P022, P048, P061, P076,
 P107
 Christodoulou, Dimitra - P314
 Christoforides, Christos - P298, P299
 Christou, Maria - P283
 Chvala, Jan - P020
 Chytiris, Spyridon - P040
 Cicco, Rafael de - P260
 Cidoncha, Enrique Mercader - P257
 Cidoncha, Lucia Gil - P041
 Cikot, Associate Professor Murat - P047
 Cimarras, Eugenia Campo - P021
 Ciscar, Ana - P062
 Claesson, Martin - P116
 Clapp, Lucie - FP-05
 Claro, Luís - P012
 Clerici, Thomas - P185
 Clos, Montserrat - P062
 Colet, Ana Megia - P063
 Coll, Maria Magdalena Llompарт - P035, P036
 Collantes, Cristina Sevillano - P043, P044
 Collins, Emma - P068
 Company, Judith Luquin - P029
 Consorti, Fabrizio - P195, P196
 Constant, Maxime - P252
 Contino, Luciana - P063, P064, P222
 Conway, Fintan - P065
 Córdova, Diego - P293, P294, P295, P297
 Córdova, Diego Martín - P296
 Cordova-Garcia, Diego - FP-34, P174
 Corrigan, Neil - FP-16

Corsello, Andrea - FP-43
 Cortes, Dan - P302
 Cortet, Bernard - P074
 Crea, Carmela De - FP-42, FP-43, P082, P161
 Crespo, Gloria Paseiro - P043, P044
 Croce, Laura - P040
 Crocetti, Laura - P072
 Croft, Julie - FP-16
 Cruz, D - FP-37
 Cruz, Diogo - P018, P244, P265
 Csonka, Tamas - P115
 Cubedo, Elena Jiménez - P041, P042, P274
 Cubero, Maria Saladich - P254, P273
 Cuesta, Carmen - P133
 Cuiñas, Ana Alvarez - P172
 Cvetkovic, Andjelija - P239

D

Dahlberg, Jakob - P067
 Dahmouni, Hajar - P206, P207
 DAHMOUNI, HAJAR DAHMOUNI - P258, P259
 D'Amore, Annamaria - FP-42
 Danaci, Ceylan Yanar - P292
 Danebrock, Raihanatou Diallo- - FP-15
 Dar, Shahidul Haq - P139
 David, Alina - P230
 Dedecjus, Marek - FP-08, P155, P156, P157, P158,
 P159
 Dekova, Klaudiya - P048
 Dekova, ssa Klaudiya - P111
 Deloche, Guillaume - P073
 Demarchi, Marco Stefano - P082
 Demir, Ali Aslan - P086
 Demirel, Elif Eda Soykut - P275
 Demory, Charles - FP-39, P074
 Deniz, Emrecan - P051, P055
 Dette, Kai - P144
 Devarbhavi, Praveen - P175, P176
 Dhar, Anita - P139
 Diallo-Danebrock, Raihanatou - P024
 Diaz, Eva Campana - P045, P046
 Diaz, Rafael - FP-13, P049
 Díaz, Raúl - P293, P294, P295, P296, P297
 Díaz, Tamara - P097
 Díaz, Verónica Pino - P247
 Diaz-Pedrero, RAUL - FP-34, P173, P174
 Díaz-Roldán, Jorge - P078, P079, P080
 Dijkum, E.J.M. Nieveen van - FP-19, P117
 Dimasis, Periklis - P149
 Dimitrokallis, Nikolaos - P282
 Dinets, Andrii - P081
 Dioszegi-Szabo, Bence - P115
 DiRienzo, Ricardo - P088
 Djoudjou, Imane - P098
 Dobrea, Andrei - P285
 Dobrescu, Amadeus - P177
 Dobrinja, Chiara - FP-27, P048, P082
 Docimo, Giovanni - P082
 Dolidze, David J. - P160
 Domato, Nancy - P194
 Dominguez, Josefina Lopez - P205
 Dominguez, Maria Dolores - P203, P204
 Donatini, Gianluca - FP-10, FP-24, P022, P083, P190

Dorado, Mercedes Rubio Manzanares – P247
 Dorji, Tshering – P040
 Douane, Frederic – P102
 Doylu, Aylin – P138
 Dreijerink, K.M.A. – FP-19, P117
 Dritsas, Spyridon – P283
 Druil, Delphine – P102
 Dryha, Kateryna – P209
 Duarte, Diana – P269
 Dubuis, Jean-Baptiste – FP-03
 Dughiero, Silvia – FP-06, P084, P085, P120, P121
 Długosińska, Joanna – P157, P158, P159
 Dukaczewska, Agata – FP-36, FP-38, P038
 Dundjerovic, Dusko – P125
 Dural, Ahmet Cem – P047, P052, P086
 Durán, Manuel – P097, P266
 Durante, Cosimo – FP-24, P195, P196
 Durdik, MPH Stefan – P020
 Duta, Ciprian – P177
 Dutenhefner, Simone – P071, P087, P088, P089
 Dworzyńska, Agnieszka – FP-29, P095
 Dworzyńska, Ph D MD Agnieszka – P212

E

Eddama, Mohammad Mahmoud Rajab – FP-05
 Egan, Richard – FP-01, P316
 Egaña, Maider Gómez – P286
 Egido, Iris Sánchez – P043, P044
 Ekenel, Hazim Kemal – FP-22
 Elf, Anna-Karin – FP-33, P090
 Elhannani, Mounia – P102
 Elisei, Rossella – FP-04, FP-44, P072
 Ellboudy, Mohammed A. – P147
 Elsherif, Ahmed Ahmed – P147
 Elwerr, Malik – P091, P187
 Emmanouilidou, Angeliki – P197, P198
 Enciu, Octavian – P287, P288, P289
 Engelsman, A.F. – FP-19, P117
 Enríquez, Beatriz – P092
 Enriquez, Lola – P042
 Erce, Cristina – P093
 Erdogan, Nilsen – P053
 Erturk, Mehmet Sukru – P138
 Escanciano, Manuel Escanciano – P246
 Escavy, Natalia – P248
 Escudero, Beatriz Fernández – P043, P044
 Esinosa, Oirelvis Antonio Serra – P196
 Esnal, Elena Castro – P214, P215, P216, P217
 Essamet, Wassim – P192
 Eweida, Ahmad – P147

F

Fagarasan, Giorgia – P094
 Fantina, Lisa – FP-27, P048
 Farag, Moustafa – P147
 Farres, Ramon – P108
 Farrés-Coll, Ramon – P029
 Fassan, Matteo – P229, P230
 Fata, Yasmina El – FP-28
 Fattahzadeh, Amirhossein – FP-29, P095
 Faur, Flaviu-Ionut – P177
 Favero, Emerson – P260
 Febrero, Beatriz – P096, P097, P248

Fedor, Roland – P014, P115
 Felgueras, María Dolores Cancelas – P050, P172
 Feliachi, Sofiane – P098
 Felices, Manuel – P097
 Fernandes, José Pedro – P112
 Fernandes, M – FP-37
 Fernandes, Sara – P017
 Fernández, Jose Luis – P202, P203, P204
 Fernandez, Maria Delgado – P172
 Ferrari, Carlo Giovanni – P238
 Ferrer, Mercedes – P096
 Ferrero, Eduardo – P097
 Fiedler, Adriana – FP-26
 Filho, Antonio Cavaleiro de Macedo – P087, P089
 Filippo, Giacomo Di – FP-27, P048, P075, P076, P082
 Fisher, Sarah B. – P114
 Flores, Benito – P097
 Flores, Diego – P035
 Flores-Ortega, Diego – P100
 Fokins, Vladimirs – P009, P278
 Fonseca, Bernardo – P260
 Fosa, Doina – P271
 Frampas, Eric – P102
 França, Felipe Otávio Saraiva – P260
 Franch, Guzmán – P097
 Franco, Javier – FP-32
 Fraser, Sheila – FP-25, P068
 Freidenfelt, Sara – P101
 Frey, Samuel – P102
 Friess, Helmut – P027, P199
 Frustaci, Gianluca – FP-44
 Fuentes, Carlos Montes – P045, P046
 Furtado, Catarina Moura – P018, P244

G

Gałczyński, Jacek – FP-08, P155, P156, P157, P158, P159
 Galata, Gabriele – P011, P030, P031, P032, P104, P130, P166, P280, P314
 Gallardo, Ana – P092
 Gallego, Elena – P203
 Gallucci, Pierpaolo – FP-42, FP-43, P161
 Galyfos, George – P181
 Gambale, Carla – FP-44
 Gan, Tiffany Rui Xuan – P105
 Garbounof, Panagiotis – P179, P180, P182, P184
 García, Carmen Sánchez – P255, P256
 GARCÍA, CELIA MORENO – P221, P258, P259
 García, Claudia Santamaria – P255
 García, Esther Colmenarejo – P043, P044
 García, Guillermo Gómez – P041
 GARCÍA, MARÍA MELLADO – P258, P259
 García, Pablo Rodríguez – P066
 García, Paula Soto – P043, P044
 García, Pedro Navarro – P077
 García, Pedro Yuste – P255, P256
 Garcia, Rosa Maria Serrano – P172
 García, Soledad Alonso – P043, P044
 Garcia, V Rozalen – FP-12
 Garcimartín, Teresa Laloumet – P043, P044
 Gardovskis, Jānis – P236
 Garmendia, Miguel Ángel Garcés – P286
 Garrido, Estefania Berge – P064

Garrido, Lourdes – P202
 Garza, Carmen – P133
 Gasparini, Daniele – P082
 Gaujoux, Sébastien – FP-03, P059, P237
 Gaurav, Kushagra – P106
 Gay, Stefano – P201
 Gaze, Mark – FP-18
 Gebauer, Cara – P037
 Gerdes, Berthold – FP-15, P024
 Gervasi, Rita – P082
 Gharios, Joseph – P171
 Ghirri, Arianna – FP-04, P072
 Giacomelli, Laura – FP-24, P195, P196
 Gil, Lorena Brandariz – P043, P044
 Gilde, Patrícia – P186
 Ginhoven, T.M. van – FP-19, P117
 GIONGA, PERSEFONI – P107
 Giotas, Amyntas – P149
 Gironés-Vila, Jordi – P029
 Gisonni, Paolo – P109
 Giulea, Cosmin Lucian – P285
 Gjeloši, Benard – FP-04, FP-27, P023, P072, P110, P111, P225
 Gkiatas, Nikolaos – P149
 Gkogkos, Christos – P149
 Glenister, Liz – FP-16
 Gobbo, Giulia – P075, P076
 Gobert, Mathilde – FP-39, P073, P074, P153
 Goldman, Andrea – P185
 Goldmann, Andrea – FP-09, FP-32, P264
 Gomes, Raquel – P112
 Gómez, Adela Valdazo – P043, P044
 Gómez, Álvaro De Mora – P069, P070, P103
 Gomez, Anna Molist – P216
 Gomez, Jesús Cañete – P078, P079, P080, P131, P132
 Gómez, Joaquín – P097
 Gómez, Lara Fuentes – P069, P070, P103, P276
 Gómez, Luis Miguel – P293, P294, P296, P297
 Gómez, Ricardo Soto – P274
 Gomez, Sofia Sanchez de Toca – FP-34
 Gonfa, Kebebe Bekele – P002
 Gonça, Veronica – P271
 Gonzales, Gabriela – P113
 González, Francisco Javier Guadarrama – P255, P256
 Gonzalez, Jose Antonio – P062
 González, José Manuel Rodríguez – P002
 González, José Manuel Rodríguez González. Rodríguez – P001
 González, Juan González – P042, P274
 González, M Mar García – P044
 González, Melanie Morote – P043, P044
 González, M.Mar García – P043
 Góralski, Piotr – FP-08, P155, P156, P157, P158, P159
 Goran, Merima – P239
 Gordon, Kathryn – FP-16
 Goretzki, Peter – FP-38, P144
 Gorobeiko, Maksym – P081
 Goutas, Dimitrios – P299
 Goutas, Nikolaos – P299
 Graceffa, Giuseppa – P082
 Graham, Paul H. – P114
 Grani, Giorgio – FP-24, P195, P196
 Gregori, Dario – P082

Guardarrama, Javier – P097
 Guardario, Dawn – P302
 Guda, Sci. (Medicine) Bohdan – P218
 Guérin, Carole – P192, P193, P194
 Guerra, Jorgelina – P308, P309, P310, P312
 Guerreiro, Judit Gonzalez – P172
 Guerrieri, Javier – P308, P312
 Guglielmetti, Laura – FP-09, FP-32
 Gul, Nurdan – P136
 Gumusoglu, Associate Professor Alpen Yahya – P047
 Gupta, Sushil – P126, P188
 Gur, Ozlem – FP-11
 Gurrado, Angela – P082, P233, P234
 Gutiérrez, Alberto – P293, P294, P295, P296, P297
 Gutierrez-Calvo, Alberto – FP-34, P173, P174
 Guzey, Deniz – P047, P052
 Györy, Ferenc – P014, P115

H

Habra, Mouhammed Amir – P114
 Hacısahinogullari, Hulya – P137
 Hacıyanli, Mehmet – FP-11
 Hacıyanli, Selda Gucek – FP-11
 Hajjar, Rami – P177
 Hammarström, Anders – P067
 Hammouamri, Ilyass – FP-23
 Hamroun, Aghiles – P073
 Hamzaoui, Yanis – FP-03
 Hanganu, Raluca Elena – P285
 Hansen, Marit – P185
 Hargitai, Lindsay – P185
 Harpain, Felix – FP-20
 Harsch, Dott. Simone – P190
 Hatzicharalambous, Areti – P179, P180
 Hatzitheodorou, Theodoros – P183, P184
 He, Jinkun – FP-18
 Hedeer, Fredrik – FP-17
 Hedenström, Per – FP-33, P090
 Heede, Klaas Van Den – FP-06, P084, P300
 Heede, Klass van den – P185
 Hellemo, Lars – P145
 Heller, Gerwin – FP-20
 Hennings, Joakim – P116
 Hermosa, Jose Ignacio Rodríguez – P108
 Hernández, Francisco Javier López – P001
 Hernández, Natalia Casanueva – P274
 Hernandez, Pilar Laguna – P243
 Herrero, Eduardo Ferrero – P255, P256
 Herrmann, Ken – FP-30
 Hillary, Sarah – P068
 Hollmann, M.W. – FP-19, P117
 Holscher, Isabelle – FP-19, P117
 Horst, J. van der – FP-19, P117
 Hubbard, Johnathan – P130, P314
 Huber, Roman – P162
 Huda, Bohdan – P118, P119
 Hurtado, Andrea María – P206, P207
 Huseynov, Rasim – P251
 Hutchins, Gordon – FP-25

I

Iacobone, Mauricio – P185

Iacobone, Maurizio – P082, P085, P120, P121, P190, P263
 IAKOVOU, IOANNIS – P107
 Iannuzzi, Eva – FP-24, P196
 Icli, Tevhide Betul – P047
 İçöz, Gökhan – P008, P275
 Icoz, Recep Gökhan – P148, P220, P250
 Iervolino, Eduardo Marcelo – P082
 Ilic, Jovan – P039, P122, P123, P124, P125, P226, P322
 Ilić, Vladimir – P200
 Imant, Theodora – P057
 Inan, Mehmet Arda – P086
 Ingerto, Jordi Barros – P021
 Ingerto, Jorge Barros – P286
 Innaro, Nadia – P082
 Intzes, Nikolaos – P180, P182
 Isaic, Alexandru – P177
 Iscan, Yalin – FP-22, FP-43, P135, P136, P137, P138
 Isik, Emine Goknur – P137, P138
 Ismail, Siti Maisarah – P058
 Ivanis, Sara – P039, P122, P123, P124, P125, P226

J

J, Spandana – P188
 Jacquemin, Geoffrey – FP-39, P074
 Jagannath, Spandana – P126, P127
 Jakovels, Dainis – P009
 Jansson, Malin – P116
 Jawaada, Assef – P011, P030, P031, P032, P104, P130, P166, P280
 Jayne, David – FP-16
 Jeftic, Nikola – P239
 Jell, Alissa – P027
 Jeon, Jaewan – P146
 Jeong, Ho Jung – P141
 Jeong, Hojung – P165
 Jezkova, Jana – P167
 Jimenez, Camilo – P114
 Jimenez, Felix Mañes – P243
 Jiménez, Raquel Arranz – P069, P070, P103, P276
 Jiménez, Rosario Jurado – P078, P079, P080
 Jiménez, Rosario María Jurado – P131, P132
 Jiménez, Rubén – P293, P294, P295, P296, P297
 Jiménez-Mascuñán, M. Isabel – P248
 Jivegård, Lennart – P067
 Joelsson, Marie – FP-17
 Jong, Mechteld De – FP-25, P068
 Jonsson, Emily – P116
 Jorna, Francisca – P067
 Jovanovic, Milan – P122, P123, P124, P125, P190, P226
 Jovanovic, Teaching ass Milan – P039, P213
 Jurado, Maria Alvarez – P305, P306, P307, P309, P311, P313
 Jurado, Maria Alvarrez – P308
 Jurado, maria gracia alvarez – P310, P312
 Juste, Carlota – P133

K

Kafiri, Georgia – P181, P182
 Kahn, Jahangir – P067
 Kalamatianou, Margarita – P179, P180

Kamalakkannan, Nithilan – P232
 Kanellopoulou, Vasiliki – P057
 Kapnias, Dimitrios – P004, P005, P006
 Kapoutsis, Maria Christina – P179, P180, P181, P182
 Karaisli, Serkan – FP-11
 Karakoc, Zehra Cagla – P086
 Karamarković, Nemanja – P124
 Karampa, Anastasia – P298, P299
 Karanikas, Michael – P197, P198
 Karantzikos, Georgios Anargyros – P057
 Karantzikos, Georgios-Anargyros – P223
 Karatas, Irem – FP-43, P135, P136, P137, P138
 Karatay, Huseyin – P052
 Kardaras, Nikolaos – P223
 Karveli, Evgenia – P282
 Kataria, Kamal – P139
 Kauffels-Sprenger, Anne – P208
 Kaut, Michal – P145
 Kaya, Melek Ezgi – P137
 Kechagias, Aristotelis – P140
 Kekis, Panagiotis B – P183, P184
 Kesrouani, Carole – P171
 Khan, Shad – P227, P228
 Khelifi, Nadia – P098
 Kiakou, Maria – P320
 Kießler, Maximilian – P199
 Kiesewetter, DrDr. Barbara – FP-20
 Kikas, Nektarios – P004, P005, P006
 Kim, Hyeung Kyoo – P141, P165
 Kim, Junu – P142
 Kim, Nam Kyung – P142, P319
 Kim, Namkyung – P143
 Kim, Seok-Mo – P142, P143, P319
 Kim, Soo Young – P141, P165
 Kim-Fuchs, phil Corina – FP-28
 Kitsou, Eleni – P180, P182
 Klang, Patrick – P011, P030, P031, P032, P104, P130, P166, P280
 Klingler, Martina – P312
 Klockenbring, Dimitri – FP-23
 Knyazeva, Polina – P144
 Kobrynska, Natalia – P118
 Koc, Sevcan – P290
 Koch, Felicitas – FP-09, FP-32
 Koch, Mª João – P112
 Koetje, J.H. – FP-19, P117
 Koman, Anna – P101
 Komisarenko, Ihor – P118, P119, P218
 Konst, Solveig – P145
 Koo, Dohoon – P146
 Koor, Lucas Shafiee – FP-10, P083
 Koraitim, Tarek – P147
 Korucuk, Ebubekir – P148
 Kosak, Mikulas – P167
 Koulouris, Charilaos – P197, P198
 Kounnamas, Aristodemos – FP-30
 Kountouri, Ismini – P149
 Koutelidakis, Ioannis – FP-36, P303, P304
 Kovács, Dávid Ágoston – P014, P115
 Kozachuk, Yelyzaveta – P209
 Krishna, Abhishek – P150
 Krishnatrey, Prachi – P150
 Kritikos, Neoklis – P140
 Kruij!, S. – FP-19

Kruijff, S. - P117
 Ku, Dohoe - P056
 Küçükateş, Büşra - P151
 Kunze, Catarina - P038
 Kurzawinski, Tomasz - FP-14, P010
 Kurzawinski, TR - FP-12, FP-18
 Kusiński, Michał - FP-29, P095
 Kusiński, Ph D MD Michał - P212
 Kuyumcu, Omer Faruk - P152
 Kuzmova, Miroslava - P153
 Kvitka, Dmytro - P154, P209
 Kwapisz, Magdalena - FP-08, P155, P156, P157, P158, P159

L

Laboyan, Suren G. - P160
 Laforgia, Rita - P082
 Laguna, Pilar - P293, P294, P296, P297
 Lam, Joseph - FP-23
 Lamers, D.W.A. - FP-19, P117
 Landaberea, Juan Tubia - P215
 Lang, Hauke - FP-26, P162
 Langenhuisen, J.F. - FP-19, P117
 Lanzolla, Giulia - FP-27, P048
 Lapeña, María - FP-13, P049
 Lara, Ricardo Jesús Castro - P050, P172
 Larrañaga, Itziar - P205
 Lau, Joel Wen Liang - P105
 Laurino, Antonio - FP-42, FP-43, P161
 Lawati, Ammar - P130
 Lazaridou, Eleni - P303
 Lazzari, Giovanni - FP-27, P048, P075, P076, P082
 Lederer, Ann-Kathrin - FP-26, P162
 Lee, Hye Yoon - P056
 Lee, Jin Seok - P141
 Lee, Jinseok - P165
 Lee, Jun sung - P142, P143, P163, P164, P319
 Lee, Kichun - P146
 Lee, Suhyun - P146
 Lee, Yong Sang - P142, P143, P163, P164, P319
 Lehmann, Joe - P130
 Lehmann, Joseph - P011, P030, P031, P032, P104, P166, P280
 Lenne, Xavier - P073
 Leon, Anabel Garcia - P247
 LEÓN, VICTORIA LUCAS - P221, P258, P259
 Li, Qiang - FP-21
 Libansky, Petr - P167
 Lifante, Jean-Christophe - P252
 Linares, Carla Vanesa Merma - P063
 Lindgren, Ola - FP-17
 Livi, Stefano - P195
 Lizarazo, José Luis Carrillo - FP-10, FP-24, P083
 Llompert-Coll, Maria - P100
 Llorente, Pablo Moreno - FP-14, P010, P205
 Loderer, Tommaso - P034, P168
 Lodewijk, L. - FP-19, P117
 Lopez, Asier Martin - P214
 Lopez, Felipe Gomez-Caminero - P045, P046
 López, María Aránzazu García - P066
 López-Marsellá, Alejandra - P293, P294, P295, P296, P297
 Lorente, Leyre - P097

Lorenz, Kerstin - P091, P187, P266
 Lostik, Yulia - P154
 Lozan, Oana - FP-26, P162
 Lubbers, T. - FP-19, P117
 Lubbers, W.D. - FP-19, P117
 LUCAS, JOSE MARÍA RODRÍGUEZ - P258, P259
 Lucas, Miriam Abellan - P001, P002
 Lucas, Victoria - P206, P207
 Luengo, Patricia - P133
 Luján, Delia María - P207
 Lurin, Igor - P081
 Lv, Rui - FP-21

M

M, Sabaretnam - P025
 Maanaoui, Mehdi - FP-39
 Maggioni, Gabriele - FP-39
 Magri, Flavia - P040
 Mahamad, Sathana - P058
 Maillard, Laure - P252
 Maistri, Ilaria - P075
 Majdalani, Oliver - P171
 Majdpour, Caveh - FP-32
 Makay, Özer - FP-31, FP-36, P151, P185, P191, P220, P250, P275, P281
 Makovac, Petra - P082
 Malerba, Silvia - P233
 Mañes, Félix - P293, P294, P295, P296, P297
 Manes-jimenez, Felix - FP-34, P173, P174
 Mangialasche, Francesca - P101
 Manjunath, Shreyamsa - P175, P176
 Manolakaki, Dimitra - P149
 Manouras, Ioannis - P179, P181, P183
 Mansire, Alexandre - FP-23
 Manso, Fernando - P269, P270
 Mantalovas, Stylianos - P149
 Manyalich, Marti - P097
 Manyalich-Blasi, Martí - P100
 Manzini, Nicolò de - FP-27, P048, P082
 Marcianò, Marco - P262
 Marciniak, Camille - FP-39, P073, P074, P153
 Marco, Patricia - P062
 Marcos, Alonso Sastre - P042, P274
 maria, anselmi - P313
 Marian, Marco - P177
 Marie-Christin, Weber - P027
 Marín, Cristian Grillo - P041
 Marín, Jesús Sandoval - P221, P258, P259
 Marinkovic, Milan - P039, P122, P123, P124, P226
 Marinoni, Ilaria - FP-28
 Markogiannakis, Haridimos - P179, P180, P181, P182, P183, P184
 Markou, Maria - P299
 Markovic, Filip - P125
 Markovic, Ivan - P239
 Marlasca, Lucía Latorre - P043, P044
 Marques, Ines J - FP-28
 Marques, Marta Antunes - P015, P016
 Marques, Marta - P268
 Martellani, Fulvia - P082
 Martí, Rosa - FP-13, P049
 Martignoni, Marc - P027, P199
 Martín, Ernesto Martín - P286

Martín, Icár – P043, P044
 Martín, Juan Carlos Flores – P063
 Martín, Marta Defez – P064
 Martín, Rosa Jorba – P222
 Martín, Rosa Maria Jorba – P063, P064
 Martínez, Celia Fidalgo – P041, P042
 Martínez, Cristina Pardo – P043, P044
 MARTÍNEZ, DELIA MARÍA LUJÁN – P258, P259
 Martínez, Elena Viejo – P043, P044
 Martínez, Juan Manuel Martos – P247
 Martínez, María Fernández – P257
 Martínez-Janzen, Alberto – P200
 Martínez-Santos, Cristina – P097, P185
 Martins, Ana – P186
 Martins, F Madeira – FP-37
 Martins, Filipe Madeira – P018, P244, P265
 Martos, Noemi – P202
 Martullo, Annamaria – FP-27, FP-43, P161
 Marx, Joanna Naemi – P187
 Maskara, Namrata – P188
 Massare, Antonio Becerra – P077
 Mastronardi, Manuela – P082
 Materazzi, Gabriele – FP-04, FP-27, FP-44, P023, P048, P072, P076, P082, P110, P111, P190, P224, P225
 Matos, Carolina – P112
 Matrone, Antonio – FP-04, FP-44, P072
 Matsuda, Maria – P305, P307, P309, P311
 Matsusa, Maria – P306
 Mattia, Amelia – FP-43
 Matton, Anna – P101
 Mavri, Maria – P004, P005, P006
 Mayilvaganan, Sabaretnam – P126, P127, P150, P188, P189, P277
 Mazal, Peter – FP-20
 Maze, Haggi – P003
 Mazza, Maria – P312
 Mazzau, Chiara – P224
 Medas, Fabio – FP-27, FP-41, P048, P076, P082, P190
 Medhat, Ahmed – P147
 (Medicine), Sci. – P218, P219
 Medina, Carlos – P294, P297
 Mehanna, Hisham – FP-16
 Mehmeti, Megi – P191, P192, P193, P194
 Mejías, María – P293, P294, P295, P296, P297
 Mekel, Michal – P003
 Mel, S De – FP-12
 Melcarne, Rossella – FP-24, P195, P196
 Melfa, Giuseppina – P262
 Mellado, María – P206, P207
 Melús, Sara Neira – P050, P172
 Menchón, Mónica Pujante – P066
 Menegaux, Fabrice – FP-03, P059, P237
 Menéndez, Pablo Fernández – P002
 Menezes, Paulo – P186
 Menz, Moritz – FP-09, FP-32
 Meo, Giovanna Di – P234
 Mercader, Enrique – P097, P185
 Mercader, Nadia – FP-28
 Merino, Enrique Ovejero – P243
 Merlo, Ana Belén Bustos – P077
 Meshal, Meshal Al – P104
 Mesquita, Pedro – P186
 Messias, Paula – P186
 Metz, Marie Oliver – FP-26
 Meurer, Natalie – P144
 Meyer, Anke – FP-38, P144
 Miccoli, Monica – P234
 Miccoli, Paolo – P022
 Michalopoulos, Nikolaos – P197, P198
 Michalopoulou, Viktoria – P183, P184
 Michel, Michelle – P162
 Micu, Vlad – P316
 Miguel, Paloma García-Talavera San – P045, P046
 Mihai, R – FP-12
 Mihai, Radu – P228
 Mikalsen, Karl Øyvind – FP-02
 Mikl, Anna – P027, P199
 Milanetto, Anna Caterina – P229, P230
 Milinkovic, Marija – P123, P125
 Milosavljevic, Ivica – P200
 Minuto, Michele – P190, P201
 Mirallie, Eric – P102
 Miron, Adrian – P287
 Mishra, Anjali – P025, P026, P150, P277
 Misichronis, Georgios – P298
 Mogl, Martina T. – P037, P038
 Molina, Maria Luisa Sanchez de – P246
 Molinaro, Eleonora – FP-04, P023, P072
 Monje, Cristina – P202, P203, P204
 Montané, Bernat – P108
 Monteiro, Cristina – P112
 Moraes, Mariana Teixeira – FP-10, FP-24, P083
 Moral, Antonio Del – P097
 Moral, Antonio – P062
 Moral, Jesús María Villar del – P077
 Moral, Jesús Villar del – P002, P097
 Morales, Dieter – P202, P203, P204
 Morelli, Eleonora – FP-27, P048, P075, P076, P082
 Moreno, Celia – P206, P207
 Moreno, Inmaculada – P043, P044
 Moreno, Isabel Huguet – P043, P044
 Moreno, Maria Isabel Inchaurredo – P215
 Moret, Rebeca Abad – P069, P070, P276
 Moustakaki, Vasiliki – P004, P005, P006
 Moysidis, Moysis – P061, P076
 Muller, Olivier – FP-39, P074
 Müller-Debus, Charlotte Friederike – P038
 Mullineris, Barbara – P082
 Muñoz, José Luis – P097
 Muñoz, Myriam Partida – P255, P256
 Muoio, Valéria – P088
 Murad, Himam – FP-17
 Muradbegovic, Mirza – P252, P253
 Muradov, Nizami – P251
 Musholt, Thomas J. – FP-26, P162
 Musholt, Thomas – P185
 Musso, Laura – P201
 Mutlu, Ummu – P135, P137
 Mutter, Didier – FP-23

N
 nabawi, Ayman – P147
 Naddaf, Ali – P208
 Nader, Hasti Tarzban – P280
 Nagy, Endre V – P115
 Najah, Haythem – P083

Nanni, Luca – P201
 Napoli, Luigi De – FP-04, P110
 Narbutis, Zenons – FP-38, P210, P236, P301
 Nastos, Kostas – P185
 Nechai, Oleksandr – P209
 Nechay, Oleksandr – P154, P272
 Negro, Ester Martínez – P043, P044
 Negueruela, Maria – P306, P308, P311
 Nelson, T – P139
 Nemeth, Erzsebet – P115
 Nestola, Mariangela – P234
 Neves, Miguel Lopes Das – P169
 Neymark, Mariya – P003
 Nichetti, Sonia – P201
 Niciporuka, Rita – FP-38, P210, P301
 Nicolás, David – P100
 Nieho!, Julius Henning – FP-15
 Niehoff, Julius Henning – P024
 Nigro, Casimiro – P109, P235
 NiOiporuka, Rita – FP-36
 Nilsson, Inga-Lena – P101
 Nilsson, Martin – FP-17
 Noblet, Vincent – FP-23
 Nordenström, Erik – FP-07, FP-17, FP-35, P185, P211
 Norén, Erik – FP-35, P211
 Norlen, Olov – P185
 Nova, Losé Luis Muñoz de – P205
 Nowak, Natalia – P212
 Ntotsika, Asimina – P223
 Nunez, Jordi – P091
 Nuñez, Miguel Angel Ortega – FP-34
 Nylén, Carolina – P101

O

Öberg, Sofia Björnsdotter – P101
 Obrador, Leire Zarain – P257
 Ocaña, Luis – P097, P204
 Ocaña, Luis Tomas – P202, P203
 Ochagavía, Santiago – P092
 Odalovic, Bozidar – P039, P122, P123, P213, P226
 Oddstig, Jenny – FP-17
 Ofo, Enyinnaya – P320
 Oh, Han Boon – P105
 Oh, HHB – FP-12
 Oikonomou, Georgios – P320
 Olivares, Laura Martin-Pérez – P255
 Olivares, Laura Pérez-Martin – P256
 Oliveira, Andrei Felix de – P260
 Oliveira, Miriane de – P260
 Omar-López, Irati – P093
 Omelchuk, Oleksii – P033, P279, P317
 Omokawa, Mauricio – P071, P087, P089
 Onder, Semen – P136, P138
 Orellana, Miguel Cañas – P080
 Orlando, Giuseppina – P262
 Ormazábal, Pablo Collera – P254, P273
 Ortea, Joaquin – FP-13, P049
 Ortega, Diego Flores – P036
 Ortega, Maria Victoria – P203
 Ortega-Nuñez, Miguel Angel – P174
 Ortuño, Ramón Rull – P035
 Ostafiichuk, Marian – P118, P119, P218, P219
 Otaegui, Lander Gallego – P214, P215, P216, P217

Oteros, Mercedes Díaz – P078, P079, P080, P131, P132
 Ottemöller, Jonas – FP-15, P024
 Ovejero, Enrique – P293, P294, P296, P297
 Özdemir, Murat – FP-31, P008, P148, P151, P220, P250, P275, P281
 Ozel, Tugba Matlim – P051, P052, P053, P054, P055
 Ozkan, Gozde – P135
 Ozkilic, Aykut – P250
 Özkılıç, Aykut – P220
 Ozoliņš, Artūrs – FP-38, P210, P236, P301

P

Pahis, Christos – P004, P005, P006
 Paladino, Nunzia Cinzia – P192, P193, P194
 Palamarchuk, Volodymyr – P154, P209, P272
 Palao, María Teresa Soriano – P001
 Palazón, María Dolores Hernández – P002
 Palazzo, Fausto – P185
 Palma, Andrea De – FP-44, P023, P072, P111, P224
 Palyvou, Theodora – P057, P223
 Pani, Fabiana – P059
 Papadogianni, Aikaterini- Nafsika – P283
 Papadopoulos, Konstantinos – P149
 Papandrikos, Ioannis – P298, P299
 Papavramidis, Theodosios – FP-27, P048, P076, P107
 Papavramidis, Theodosios – P022
 Papavramidis, Theodosios – P061
 Papaziogas, Basileios – P303, P304
 Papini, Piermarco – FP-04, P023, P072, P076, P082, P111, P224, P225
 Paragliola, Rosa Maria – P109
 PARAMYTHIOTIS, DANIEL – P107
 Parezanovic, Milan – P039, P122, P123, P124, P226
 Parikh, Roneil – P227, P228
 Park, Jonas – P266
 Pasculli, Alessandro – P234
 Pasquale, Loredana De – P082
 Pasquali, Claudio – P229, P230
 Pateas, Konstantinos – P004, P005, P006
 Patel, Jigisha – FP-05
 Patel, Neil – FP-01, P316
 Paternoster, Marinunzia – P076, P225
 Pattou, François – FP-39, P073, P074, P153
 Pauna, Iuliana – P238
 Pavārs, Māris – P236
 Pavlovic, Saska – P239
 Pazaitou-Panayiotou, Kalliopi – P197, P198
 Pechtold, Lisa – P266
 Pecorella, Ilaria – P231
 Pedrero, Raul Diaz – P243
 Pedro, Felipe Acedo Fernández de – P043, P044
 Peinado, Paula Pastor – P246
 Peiró, Natalia Salvador – P043, P044
 Pennestri, Dott. Francesco – P190
 Pennestri, Francesco – FP-27, FP-42, FP-43, P082, P161
 Perea, Inés – P133
 Pereira, Ricardo – P017
 Pérez, Ana María Sancha – P021, P286
 Pérez, Doctora Nuria Victoria Muñoz – P077
 Pérez, Elena – P293, P294, P296, P297
 Perez, J. Manuel Alvarez – P045, P046

Pérez, José Ignacio – P062
 Perez, Lidia – P204
 Pérez, Nuria María Torregrosa – P066
 Pérez, Nuria Torregrosa – P002
 Pérez, Óscar Vidal – P035, P036
 Pérez, Rodrigo Tovar – P043, P044
 Pérez, Santiago Servando Álvarez – P043, P044
 Perren, Aurel – FP-28
 Perrier, Nancy D. – P114
 Perris, Frans – P116
 Perry, Anna – FP-16
 Petakov, Ana – P124
 Peters, C – FP-12
 Pezzolla, Angela – P082
 Pezzotti, Matteo – P224
 Piazzola, Cecilia – P193
 Picardo, Antonio – P097
 Pineda, Elisa York – P069, P070, P103, P276
 Pinna, Dott. Alessandro – FP-41
 Pioro, Alberto García – P043, P044
 Pita, Olalla Meizoso – P043, P044
 Pitiyage, Gayani – P320
 Plana, Carla – P206, P207
 Plata, Guillermo – P203, P204
 Pliakos, Ioannis – FP-27, P048, P061, P076
 Poli, Elisabetta – P233
 Polimerou, Aikaterini – P282
 Pontaque, Javier Callau – P041, P042
 Pontecorvi, Alfredo – FP-43
 Ponthaud, Charles De – P237
 Porrero, Belén – P133
 Poyanli, Arzu – P137
 Pozuelo, Almudena Martínez – P255, P256
 prakash, varun – P232
 Prats, Iñaki Amunategui – P257
 Pratschke, Johann – P038
 Prentice, P – FP-12
 Princi, Pietro – P109, P235
 Prioli, Francesca – FP-42, FP-43, P161
 Procopio, Priscilla Francesca – FP-42, FP-43, P161
 Professor, Associate – FP-07
 Puccini, Marco – P072, P111
 Puchulo, Guillermo – P305
 Puglisi, Giuliana – P233
 Puriņš, Ritvars – P236
 Puygrenier, Pierre – P237

Q

Quagli, Oscar – P238
 Quintana, Aitor De la – P097

R

Rabelo, Bruna – P260
 Raderer, Markus – FP-20
 Radiya, Keyur – FP-02
 Radotic, Ksenija – P322
 Rafael, Ana Alves – P012, P169
 Rafael, Ana – P097
 Raffa, Stefano – P201
 Raffaelli, Marco – FP-27, FP-42, FP-43, P082, P161, P185, P190
 Ragnarsson, Oskar – FP-33, P090
 Raketic, Jovan – P239

Ramírez, Joaquin Gómez – P069, P070, P103, P276
 Ramírez, Paola Parra – P069, P070, P103
 Ramírez-Cervera, José Luis – P093
 Ramiro, Javier Martín – P050, P172
 Ramishvili, Rati – P191
 Ramos, Ana Sánchez – P041
 Ramos, Esperanza – P202
 Ramos, Ricard – P036
 Ranea, Alejandro – P108
 Rao, Jagan Nath – P231
 Rapp, Sofia – P305, P306, P307, P308, P309, P310, P311, P312, P313
 Ratia, Tomás – P243, P293, P294, P295, P296, P297
 Ratia-Gimenez, Tomas – FP-34, P173, P174
 Raven-Gregg, Timia – P316
 Redondo-Expósito, Aitor – P093
 Regi, Aurora Navarro – P172
 Rego, Licínio – P112
 Reichert, Martin – P208
 Reinoso, Carlos Medina – P243
 Reis, Mário – P017, P268, P269, P270
 Rekouna, Konstantina – P298, P299
 Renaudin, Karine – P102
 Renier, Mencía Moreno de Barreda – P043, P044
 Resta, Ioanna – P004
 Retkovska, Ester Tkacikova – P286
 Rey, María Esther Alba – P064
 Ricciato, Maria Pia – FP-43
 Richiusa, Pierina – P262
 Riga, Dimitra – P182
 Rio, Paolo Del – P034, P082, P168, P190
 Ríos, Patricia Díaz – P077
 Riss, Philipp – FP-20
 Riss, Phillip – P185
 Rizou, Maria – P283
 Rizzello, Francesca – P234
 Robas, Alicia Moreno – P050, P172
 Roblot, Suzanne – P059
 Rocha, A – FP-37
 Rocha, Artur – P018, P244, P265
 Rodolico, Vito – P262
 Rodriges, Manuel Fernandez – P042
 Rodrigo, María del Pilar Martín – P274
 Rodrigues, Jéssica – P268
 Rodrigues, Mariana – P169
 Rodríguez, Federico Álvarez – P043, P044
 Rodríguez, JM – P097
 Rodríguez, José M. – P248
 Rodríguez, José Manuel – P096
 Rodríguez, Jose María – P206, P207
 Rodríguez, Laura Carballo – P214, P215, P216, P217
 Rodríguez, Luis Miguel Arciniegas – P020
 Rodríguez, Manuel Fernández – P274
 Rodríguez, María Sánchez – P091, P257
 Rodríguez-Hermosa, José Ignacio – P029
 Roienko, Yurii – P245
 Roldán, Jorge Diaz – P131, P132
 Román, Carla Ferrero San – P043, P044
 Román, Rosario San – P243, P293, P294, P296, P297
 Roman-Romanillos, MªRosario San – FP-34, P174
 Romanenco, Richarda – P271
 Romano, Serena – P224
 Roque, Mafalda – P268, P270
 Roque, Rita – P291

Ros-Madrid, Inmaculada – P096, P248
 Rose, Steffen – P214, P215, P216, P217
 Rossi, Dott. Leonardo – P190
 Rossi, Esther Diana – FP-43, P082
 Rossi, Gian Paolo – P263
 Rossi, Leonardo – FP-04, FP-27, FP-44, P023, P048, P072, P076, P082, P110, P111, P224, P225
 Rotondi, Mario – P040
 Rouatbi, Malik – P082
 Roukounakis, Nikolaos – P282
 Roukounakis, Nikolaos Roukounakis – P283
 Roulia, Panagiota – P149
 Rovcanin, Branislav – P122, P123, P226
 Rovcanin, Teaching ass Branislav – P039, P213
 Rozalen-Garcia, Virginia – FP-14, FP-18, P010
 Ruano, Adriana – P092
 Rubio-Manzanares, Mercedes – P097
 Ruggiero, Rubina – P040
 Ruiz, Javier Padillo – P247
 Ruiz, Juan – P202
 Ruiz-Manzanera, Juan José – P001, P096, P097, P248
 Rull-Ortuño, Ramon – P100
 Russier, Gerardo – P306, P309
 Russo, Leonardo – P224
 Ruzzenente, Andrea – P075, P076
 Rzabeyli, Khayyam – P136

S

Saba, Luca – FP-41
 Sabah, Yousuf – P316
 Sabol, FICS Martin – P020
 Sacco, Luisa – P048
 Sadik, Riadh – FP-33, P090
 Sagar, Cansu – P250
 Sah, Rajni Kumari – P189
 Sah, Rajni – P188
 Sahakian, Nicolas – P193
 Sahbaz, Nuri Alper – P047, P052
 Sahin, Muge Yurdacan – P047, P052
 Sähn, Marwin-Jonathan – FP-15, P024
 Saidova, Farida – P251
 Saison, Nathanaël – P252, P253
 Saitoglou, Ertzan – P282
 Salas, Maria Marqueta de – P172
 Saleem, Nada Bin – P011, P130, P166, P280
 Saleh, Ahmed – P147
 Saliaris, Konstantinos – P179, P181, P182, P183
 Salmaslioglu, Arthur – P135
 Salmerón, María D. Balsalobre – P066
 Salvador-Egea, Pilar – P093
 Salvi, Giulia – P109, P235
 Sánchez, Beatriz Febrero – P001
 Sánchez, Cristina – P092
 Sanchez, Daniel – FP-28
 Sanchez, M.Carmen Gonzalez – P045, P046
 Sanchez, Patricia Urbón – P243
 Sánchez, Raúl Valverde – P002
 Sanchez-Jimenez, Raquel – P108
 Sandoval, Jesús – P206, P207
 Sanli, Yasemin – P136
 Sanmugachandran, Visalini – P058
 Santos, Alana Sueli dos – P260
 Santos, Francisco De – P097

Santos, Marcos – P260
 Santos, V Rebelo dos – FP-37
 Santos, Vanessa Rebelo dos – P018, P244, P265
 Santrac, Nada – P239
 Sanz, Eva Gutierro – P043, P044
 Šapovālovs, Sergejs – P236
 Saraiva, Letícia Fernandes – P260
 Sari, Serkan – P051, P052, P053, P054, P055
 Satioglu, Ilker – P187
 Saunderson, Krystle – P261
 Savkovic, Nevena – P239
 Scerrino, Gregorio – P082, P262
 Schabram, Jochen – P208
 Scheuba, Christian – FP-20
 Schiavone, Donatella – P263
 Schick, Tobias – FP-39, P074
 Schiffer, Katharina – FP-14, P010
 Schläppi, Michel – FP-09, FP-32
 Schmidt, Sina – FP-09, FP-32, P264
 Schneider, Martin – P208
 Schneider, Rick – P091, P187
 Scholl, Ute I. – P037
 Schorn, Stephan – P027
 Schulte, Klaus Martin – P130
 Schulte, Klaus – P011
 Schulte, Klaus-Martin – P031, P032, P104, P166, P280
 Schulte, Klause-Martin – P030
 Scott-Coobs, David – P185
 Scott-Coombes, David – FP-01, P316
 Seabra, J – FP-37
 Seabra, Joana – P018, P244, P265
 Sebag, Frédéric – P192, P193, P194, P266
 Seeliger, Barbara – FP-23
 Seferin, Marco – P260
 Seferli, Stavroula – P057
 Seffino, Nicolás – P205
 Segura, Pedro – P096
 Selcukbiricik, Ozlem Soyluk – P138
 Sengun, Berke – FP-22
 Senyurek, Yasemin Giles – FP-22, P135, P136, P137, P138
 Serbusca, Dorin – P075, P076
 Serra, Carlos – P097
 Serrano, Miguel Juan García-Oria – P274
 Serrano, Rosa María García – P050
 Serrano, Santiago – FP-13, P049
 Sessa, Luca – P082, P109
 Sevva, Christina – P149
 Sfakaki, Aspasia – P179, P180
 Sgaramella, Lucia Ilaria – P233
 Shahsuarov, Oruc – P251
 Sharma, Neil – FP-16
 Shetty, Meghana – P267
 Sibajas, Lucía Pérez – P063
 Sicart, Sergi Vidal – P035, P036
 Silla, Irene Osorio – P246
 Silva, M Alexandre – FP-37
 Silva, Marta Alexandre – FP-36, P017, P018, P244, P265, P268, P269, P270
 Silva, Priy – P227
 Silvestre, Miguel – P012
 Silvestre, Miguel Trigo – P291
 Simões, Cesar – P291

Sinn, Lotta Wilhelmine – P038
 Sinues, Román Ducaille – P286
 Şipitco, Natalia – P271
 Sjögren, Petteri – P067
 Slijepcevic, Nikola – FP-36, P039, P122, P123, P213, P226
 Slycke, Sam Van – FP-06, P084, P300
 Smaxvill, Dott. Constantin – P190
 Smaxwil, Constantin – FP-14, P010
 Smayra, Tarek – P171
 Smolovyk, Nadia – P272
 Solans, Mireia – P062
 Soler, Rocio – P202, P203, P204
 Son, Gil Soo – P056
 Song, Jongwon – P143
 Sonkar, Abhinav Arun – P106
 Soriano, M. Teresa – P248
 Sormaz, Ismail Cem – FP-22, P135, P136, P137, P138
 Soto, Sonia – P293, P294, P297
 Sousa, Ana – P268
 Soyaltın, Utku Erdem – FP-31, P281
 Soytaş, Yigit – P187
 Spasic, Sladjana – P322
 Stamati, Athina – P198
 Stankovic, Mira – P322
 Staubitz-Vernazza, Julia I. – FP-26
 Stechman, Michael – FP-01, P316
 Steck, José Higino – P260
 Steenssens, Lisa – P300
 Stefanou, Stefanos – P298
 Stenlöf, Kaj – P067
 Stepanovic, Boban – P122, P123, P125, P226
 Stergios, Vasilis – P149
 Stocken, Deborah – FP-16
 Stoian, Dana – P177
 Stölting, Gabriel – P037
 Stoupi, Eleni – P182
 Strachan, Mark – FP-16
 Stratigakos, Dimitrios – P004, P005, P006
 Suárez, Luz Ardo – P043, P044
 Subías, Marta Recasens – FP-14, P010, P205
 Sudol, Sylwia Bilas – P103
 Suhalka, Meenakshi – P277
 Surek, Associate Professor Ahmet – P047
 Surov, Alexey – FP-15, P024
 Sviksa, Anna – P009, P278
 Symeonidi, Danai – P004, P005, P006
 Syrmopoulou, Athanasia – P004, P005, P006
 Szabo, Laszlo Sasi – P115
 Szöllösi, Attila Gábor – P014

T

Taïeb, David – P192, P193, P194
 Tandon, Ambica – P126
 Tandon, Ambika – P188
 Tang, Man Hon – P105
 Tarashchenko, Yuriy – P033, P279, P317
 Tartalea, Mădălina Mihaela – P285
 Tarzban, Hasti – P011, P031, P032, P104, P166
 Taskin, Orhun Cig – P290
 Tausanovic, Katarina – P039, P122, P123, P124, P213, P226
 Temel, Recep – FP-31, P275, P281

Tempera, Elisa Serena – P235
 Tempera, Serena Elisa – P109
 Testini, Mario – P082, P233, P234
 Tezelman, Serdar – P290
 Thakur, Uttam – P139
 Thanasa, Antonio Amalia – P282, P283
 Theis, Didier – P073
 Theocharidis, Vasileios – P004, P005, P006
 Theodorou, Andreas – P179, P181
 Theodorou, Dimitrios – P179, P180, P181, P182, P183, P184
 Theodorou, Panagiotis – P181, P184
 Thermou, Dionysia – P057, P223
 Theurer, Sarah – FP-30
 Thier, Mark – FP-07, FP-17
 Tiberiu, Bîrcă – P285
 Tien, Alan – P284
 Tien, Alanna – P284
 Țipă, Flavinia – P285
 Tirapo, Julia Bernal – P255, P256
 Toca, Sofía Eugenia Sánchez de – P294, P296, P297
 Toca, Sofía Sánchez de – P293, P295
 Toca-Gomez, Sofia Sanchez de – P173, P174
 Toma, Elena Adelina – P287, P288, P289
 Tomasich, Erwin – FP-20
 Toprak, Safa – P052, P290
 Torné, Natàlia Guàrdia – P254, P273
 Torregrossa, Liborio – FP-04, FP-44, P023, P110
 Torres, Marta Bertrand – P029
 Torres, Sonia Vega – P002
 Torresan, Dott. Francesca – P190
 Torresan, Francesca – P085, P120, P121, P263
 Torrubiano, Alejandro Ducos – P041
 Tóth, Dezső – P014, P115
 Toth, Laszlo – P115
 Toutouzas, Konstantinos G – P183, P184
 Tovkai, Andrii – P154, P209
 Tovkai, Oleksandr – P154, P209, P272
 Traini, Emanuela – FP-43, P082
 Trazban, Hasti – P130
 Treichler, Gina – P264
 Triana, Diego Romero – P246
 Trimpou, Penelope – FP-33, P090
 Tronko, Mykola – P218
 Trupka, Arnold – P185
 Tsybaliuk, Roman – P245
 Tunali, Sarp – P008, P281
 Tunali, Sarp – FP-31
 Tunca, Fatih – FP-22, FP-43, P135, P136, P137, P138
 Turgut, Seda – P086
 Türk, Yiğit – P008, P148, P151, P185, P220, P250, P275, P281
 Türk, Yi/it – FP-31, FP-36
 Turmus, Kaan – FP-11
 Twiddy, Maureen – FP-16
 Tymkiv, Andriy – P118, P119, P218

U

Ucar, Adem – P086
 Ugarte, Ainoa – P100
 Ugolini, Clara – FP-04, FP-44
 Ukinc, Kubilay – P086
 Uludag, Mehmet – P292

Unlu, Mehmet Taner – P292
 Ünver, Mutlu – P275
 Urbán, Julia García – P066
 Urbón, Patricia – P293, P294, P295, P296, P297
 Urbon-Sanchez, Patricia – FP-34, P173, P174
 Ureña, Anna – P036
 Uría, Paloma Gadea – P043, P044
 Uzum, Ayse Kubat – P136
 Uzunkulaoglu, Mert – P054

V

Vaculova, Marketa – P167
 Vafias, Vangelis – P223
 Val, Jose Felix Fernandez – P214
 Valdez, Pedro – P305
 Valero, María Llaveró – P043, P044
 Valladares, Luis Díez – P092
 Vallvè-Bernal, Marc – P222
 Vamvakidis, Kyriakos – FP-36, P298, P299
 Varaldo, Emanuela – P201
 Vargas, Marcos Lahera – P205
 Varghese, Jeena – P114
 VÁZQUEZ, ANDREA MARÍA HURTADO – P258, P259
 Veiga, Carlos – P269
 Veinberga, Laura – P210, P301
 Vela, Alberto Gallego – P078
 Velasco, Leire Pino – P172
 Velikoudi, Maria – P303, P304
 Veloso, Mikella Bettina – P302
 Vera, Blanca Monje – P276
 Vera, Lara – P201
 Vergez, Sébastien – P266
 Verón, Josu Azaola – P286
 Vicari, Bianca – P262
 Vicente-López, Marta – P100
 Vidal, Òscar – P097, P100
 Viehl, Carsten – P252, P253
 Viëtor, C.L. – FP-19, P117
 Vila, Jordi Gironès – P108
 Virga, Attila – P115
 Vix, Michel – FP-23
 Vlachodimitropoulos, Dimitrios – P298, P299
 Voitenko, Volodymyr – P272
 Voloudakis, Nikolaos – FP-36, FP-38, P303, P304
 Volpi, Erivelto – P071, P088, P260
 Volpi, Leonardo de Moura – P071
 Volpi, Leonardo Moura – P087, P089
 Volpi, Leonardo – P088
 Voogd, Ana – P305, P306, P307, P308, P309, P310, P311, P312, P313
 Vougas, Vasileios – P282, P283
 Vriens, Meno – P185
 Vriens, M.R. – FP-19, P117
 Vu, Anh – P314
 Vucen, Duska – P122, P123, P226

W

Wadsley, Jon – FP-16
 Waguespack, Steven G. – P114
 Wallén, Sebastian – P067
 Waltermann, Simon – FP-15, P024
 Walz, h.c Martin – FP-30
 Wcislo, Katarzyna Maria – P062
 Weixler, Benjamin – FP-09
 White, Angus – FP-01, P316
 Wilhelm, Dirk – P027
 Wong, Kee Howe – P320

Y

Yalin, Gulsah Yenidünya – P138
 Yanchii, Ivan – P317
 Yanchiy, Ivan – P033, P279
 Yannuzzi, Vanessa Triviño – P043, P044
 Yap, Ralph – P302
 Yazici, Ziya Ata – FP-22
 Yegen, Gulcin – P136, P137
 Yener, Ahmet Faruk – P292
 Yetkin, Demet Ozgil – P086
 Yi, Jin Wook – FP-40, P318
 Yigci, Defne – P290
 Yildirim, Mehmet Iskender – P135
 Yildiz, Gorkem – P051, P052, P053, P054, P055
 Yilmaz, Mine – P053
 You, Myunghan – P146
 Yu, Da Young – P056
 Yun, Hyeok Jun – P142, P143, P319
 Yusifov, Sabuhi – P007
 Yuzvenko, Tetyana – P154, P272

Z

Zachou, Zoi – P320
 Zalewska, Elwira Baku&a - - FP-08, P155, P156, P157, P158, P159
 Zamanov, Ramiz – P007
 Zampopoulou, Ariadni Sotiria – P183, P184
 Zavaliani, Marie – P167
 Zeberio, Eunáte Martínez de Rituerto – P216
 Zegarra, Erlinda Daniela Padilla – P063, P222
 Zegarra, Erlinda Padilla – P064
 Zelinska, Hanna – P218
 Zetterberg, Henrik – P101
 Zhang, Luyi Zeng – P043, P044
 Zhang, Winnie – P321
 Zhen, Linlin – FP-21
 Zielke, Andreas – FP-14, P010
 Zikan, Vit – P167
 Zinych, Petro – P033, P279, P317
 Zivaljevic, Vladan – P039, P122, P123, P124, P125, P213, P226
 Zografos, Georgios – P004, P005, P006
 Zorbas, Ilias – P298, P299
 Zoric, Goran – P213, P226, P322
 Zoric, Prim. Goran – P122, P123, P124
 Zulaica, Uxue Iparraguirre – P215



eses2026.org

SWISS  ENDOCRINE SURGEONS

 HUG
Hôpitaux
Universitaires
Genève