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Oral Presentations

O-01 – Local Immunometabolic Intervention with Alanyl-Glutamine Resolves Peritoneal Dialysis-Induced Immune Cell Dysfunction

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OBJECTIVES

Chronic exposure to metabolically imbalanced high-glucose PD-fluids is associated with infectious complications and morphological changes limiting PD and patient survival. We hypothesized interactions among peritoneal cell immune function, inflammation and glucose metabolism in PD.

METHODS

We prospectively analysed effluents from 4-hours PETs during routine follow-up. Of 170 chronic PD patients treated exclusively with double-chamber PD-fluids between 2018 and 2023, 117 patients (207 PETs) were included. During 2890 patient-months, 61 patients underwent repeated PETs, and 30 patients experienced 51 peritonitis episodes. PD-effluent concentrations of IL-6, glucose absorption, and metabolites were assessed as indices of local inflammation and peritoneal metabolism. Peritoneal immune cell function evaluated by Toll-like receptor stimulated cytokine release from PD-effluent cells was analysed as a marker of host defence. PD-effluent proteome and metabolome were analysed with mass spectrometry approaches.

RESULTS

Peritoneal inflammation (effluent IL-6) correlated positively with peritoneal glucose absorption and increased risk of subsequent peritonitis (HR 3.8), but correlated negatively with peritoneal cell immune function, particularly in patients with histories of peritonitis. The results were validated in an independent multi-center cohort (n=37). Proteomics and metabolomics analyses of PD-effluents showed an overrepresentation of apoptosis and neutrophil degranulation pathways in patients with high peritoneal inflammation and reduced defence mechanisms. Patients with higher peritoneal inflammation had an altered peritoneal metabolomic profile, with significant perturbation of glucose and amino acid metabolism. Alanyl-glutamine supplementation of PD-fluid restored immune cell function specifically in effluents of patients with high peritoneal inflammation in heterologous cell-stimulation experiments. These results were validated in a post-hoc analysis of a RCT testing alanyl-glutamine in PD-fluid.

CONCLUSIONS

These results provide the first longitudinal evidence linking immunometabolism with peritoneal glucose exposure, local inflammation, impaired peritoneal cell function and infection in a PD cohort. Metabolic intervention designed to restore adequate peritoneal cell immune function represents a novel therapeutic approach with promise for improved clinical outcomes.

O-02 – XyloCore Can Reverse Peritoneal Fibrosis Caused by Glucose-Based Peritoneal Dialysis (PD) Solutions

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OBJECTIVES

The effectiveness of peritoneal dialysis (PD) is often compromised by a decrease in ultrafiltration capacity. Over time, high glucose levels in conventional dialysates can cause severe damage, including peritoneal fibrosis, angiogenesis, and epithelial-mesenchymal transition (EMT), leading to an inability to clear waste. To address this, exploring novel glucose-sparing PD solutions is crucial for potentially restoring peritoneal filtration.

METHODS

To assess XyloCore's effects, mesothelial cells were initially exposed to conventional PD solution for two days, then treated with XyloCore (an iso-osmolar, glucose-sparing solution using L-carnitine and xylitol) for three days, alongside controls. In parallel, rats underwent 15 days of conventional glucose-based PD, followed by 15 days of XyloCore or controls. Multi-photon microscopy (MPM) was used to evaluate blood flow, fibrosis, and vessel spreading, while gene and protein expression of TGF- β , VEGF, EMT, and inflammatory markers were analyzed in both cell and animal models.

RESULTS

Our findings consistently demonstrate that XyloCore can reverse the damage caused by conventional peritoneal dialysis (PD) fluids. Across both cell and animal models, XyloCore treatment significantly reduced the elevated expression of TGF- β , VEGF, EMT-related markers, and inflammatory markers. In rats specifically, XyloCore led to a notable decrease in sub-mesothelial collagen deposition and made the collagen fibers less compact. Furthermore, it reduced both the density and branching of vessels.

CONCLUSIONS

XyloCore demonstrates the potential to reverse peritoneal fibrosis induced by conventional PD fluids, offering a pathway for functional recovery and potentially extending the peritoneal membrane's lifespan in long-term dialysis patients.

O-03 – The Landscape of PD Catheter Programs in the Nordics: A Descriptive Mapping of 75 PD Clinics

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OBJECTIVES

High-quality and timely PD catheter access is essential for effective PD and is determined by multiple factors at patient, unit and organizational levels. In the Nordics, despite the availability of national guidelines for advanced kidney care, a variation of PD utilization prevails across regions and countries. Here we aim to depict the commonality and heterogeneity of PD catheter programs that may potentially explain the variations and barriers of PD across the Nordics.

METHODS

Data (as of April 2025) of PD catheter program were collected from representative clinics in Sweden, Denmark, Finland and Norway through interviews, including 1) predominant insertion techniques, 2) insertion by medical professionals and 3) challenges of PD catheter programs.

RESULTS

Among 75 included PD clinics, 66% used surgical laparoscopic insertion as the predominant technique (55%-90% across countries), 20% used percutaneous and 14% used laparotomy open surgery (Figure 1). PD catheters in 65% of the clinics were placed by surgeons, 21% by interventional urologists/radiologists and 14% by nephrologists (Figure 2). Nephrologist-led percutaneous insertion was prevalent at one clinic in Finland, 3 in Sweden, 6 in Denmark and not available in Norway (Figure 2). A clear regional difference was observed in Denmark, with a universal nephrologist-led program in the east vs surgical laparoscopic program in western region. Common issues of surgical insertion include long waiting time, lack of experience and priority among surgeons, and a gap of collaboration between interdisciplinary teams.

CONCLUSIONS

Laparoscopic insertion is the predominant technique across the Nordics with common challenges of long waiting time, catheter function variations and ineffective communication. Nephrologist-led percutaneous insertion is underutilized, the possibility of its adoption and the impact on local PD programs is worth exploring. The regional disparity of nephrologist-led programs in eastern Denmark offers an opportunity to identify the factors and advantages of its utilization.

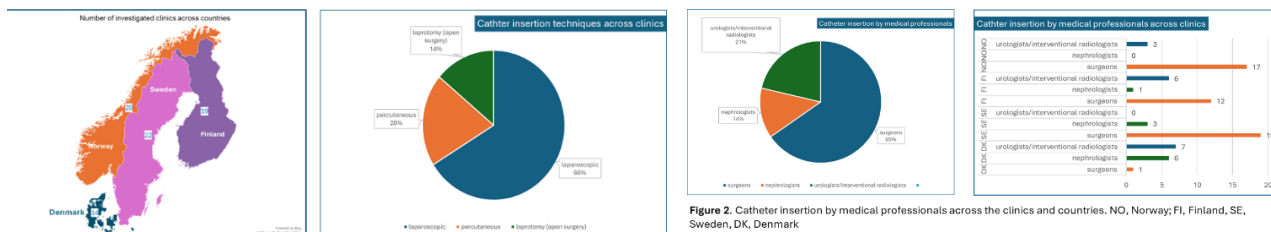


Figure 1. No. of clinics from Sweden, Denmark, Finland and Norway and the predominant catheter insertion techniques across the clinics

Figure 2. Catheter insertion by medical professionals across the clinics and countries. NO, Norway; FI, Finland; SE, Sweden; DK, Denmark

O-04 – Oleoylethanolamide as a Novel Diagnostic Biomarker and Anti-Fibrotic Agent in Peritoneal Dialysis: Targeting TGF- β -Smad2/3 Signaling via Metabolomics-Driven Discovery

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OBJECTIVES

This study aimed to investigate the role of oleoylethanolamine (OEA), a lipid metabolite, in alleviating peritoneal fibrosis and ultrafiltration failure (UFF) associated with long-term peritoneal dialysis (PD), and to elucidate its underlying molecular mechanisms.

METHODS

Untargeted metabolomics (UPLC-MS/MS) was performed on peritoneal dialysis effluent (PDE) and serum from PD patients (n=20) to identify differential metabolites. Clinical validation included 86 PD patients stratified by dialysis duration. OEA levels were quantified via HPLC, and fibrosis markers (TGF- β 1) were measured by ELISA. A rat model of peritoneal fibrosis (adenine/high-glucose induction) and human peritoneal mesothelial cells (HPMCs) exposed to high glucose were utilized to assess OEA's effects. Functional parameters (ultrafiltration volume, D/P ratio), histopathology (HE/Masson staining), immunofluorescence (α -SMA, collagen I, TGF- β 1), and protein expression (Smad2/3, E-cadherin) were analyzed.

RESULTS

OEA levels in PDE were significantly reduced in UFF patients versus initial PD groups ($p < 0.001$) and negatively correlated with dialysis duration ($r = -0.590$, $p < 0.0001$), TGF- β 1 ($r = -0.590$), and uremic/inflammatory markers ($p < 0.0001$). In rats, OEA (20 mg/kg/d) improved peritoneal ultrafiltration ($p < 0.05$), reduced peritoneal thickness ($169.91 \pm 7.46 \mu\text{m}$ vs. $202.06 \pm 16.19 \mu\text{m}$ in PF group, $p < 0.01$), and suppressed fibrosis markers (TGF- β 1, α -SMA, collagen I) via Smad2/3 dephosphorylation. In HPMCs, OEA (10–40 μM) reversed high glucose-induced fibrosis by restoring E-cadherin and inhibiting TGF- β 1/Smad signaling.

CONCLUSIONS

OEA attenuates peritoneal fibrosis and dysfunction by modulating TGF- β 1/Smad2/3 signaling, highlighting its therapeutic potential for PD-related complications. The findings provide translational evidence from clinical, animal, and cellular models, emphasizing OEA as a novel candidate for preserving peritoneal membrane integrity in long-term PD patients.

O-05 – The 9th National Census of The Peritoneal Dialysis Group – Italian Society of Nephrology N The State of Peritoneal Dialysis in Italy in 2024

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OBJECTIVES

To report the results of the 9th National Census (Cs-24) of Peritoneal Dialysis in Italy - carried out in 2025 and relating to 2024 - by the Italian Society of Nephrology's Peritoneal Dialysis project Group.

METHODS

The Census was conducted by on-line questionnaire in the 228 non pediatric centers which DID PERFORM PD in 2024. The results have been compared with the previous Censuses carried out since 2005.

RESULTS

INCIDENCE In 2024, 1,398 patients (CAPD=55.1%) started on PD (1st treatment for ESRD). PD was started on by 40.2% incrementally (Cs-05: 11.9%), 6.4% were Late Referrals. The catheter was positioned only by the Nephrologist in 19.5%. Furthermore, the patients transferred to DP from HD and transplant in 2024 were 201 and 57, respectively.

PREVALENCE The pts on PD at 31/12/2024 were 4,322 (CAPD=43.7%), with 21,4% of prevalent pts on assisted PD (family member caregiver: 86.2%).

OUT In 2024, PD drop out (ep/100 pt-yrs: 12.7 to HD; 9.7 death; 8.5 Tx) has not changed. The main cause of transfer to HD remains peritonitis (21.8%), although it is still diminishing (Cs-05: 37.9%).

PERITONITIS The incidence of peritonitis in 2024 (647 episodes) was 0.164 ep/pt-yr (culture negative in 17.9%).

EPS The incidence of new cases of EPS in 2023-24 (9 cases=0.106 ep/100 pt-yrs) is diminishing too.

OTHER RESULTS In 2024 the number of Centers using 3.86% for PET (58.1%) increased, and the Centers making home visits diminished (45.7%).

CONCLUSIONS

Cs-24 confirms the good results for PD in Italy. Incremental PD is on the increase again. Incidence and drop out from peritonitis and EPS are dropping further. Increasing use is made of 3.86%-PET, and home visits are envisaged by half of the Centers.

O-06 – The ePISTLE-PD study: Perceptions of Illness Severity, Treatment goals and Life Expectancy

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OBJECTIVES

Studies of prognostic beliefs and expectations of older dialysis patients are limited to haemodialysis. A better understanding is needed for those on peritoneal dialysis (PD).

METHODS

Patients with a high mortality risk or those undergoing assisted PD at a single centre were selected after screening case notes. They and their health care professionals (HCPs) were invited to complete a structured interview or mixed-methods questionnaire. 99 patient notes were screened. 38 eligible patients were approached and 31 patients were included (9F, 22M).

RESULTS

Median age of participants was 75years (IQR 69-78) and with median dialysis vintage of 11months (IQR 3.5- 19.5). 9/31(29%) participants had died at latest follow-up. 20/31 (65%) people felt they had been actively involved in their decision to start dialysis and 25/31 (81%) would continue with PD if asked again. Patients predicted significantly higher life expectancies than HCPs for both 1- and 5- year survival ($P=0.003$). 12 patients thought transplantation was an option for them, but only 3 were listed at the time of interview. Perceived transplant candidacy influenced perceived 1-year survival ($P=0.03$). In 15 sets of patient notes, advance care planning discussions were recorded, but only 9 patients recollected these. 10/31 (32%) patients would not want resuscitation if their heart were to stop, but only 3 people had shared this wish with their doctor or family/close person. Total symptom burden was high and under-recognised by HCPs ($P=0.0001$). We found a correlation between reported anxiety and total symptom score ($P=0.04$) but not between total symptom score and perceived 1- or 5- year survival.

CONCLUSIONS

PD patients are content with their dialysis decision-making. We have found a significant mismatch between prognostic expectations of patients and their HCPs, with perceived transplant candidacy influencing perceived survival. Strikingly, 40% of documented advance care planning discussions were not recalled by participants.

O-07 – Urgent Unplanned Peritoneal Dialysis Versus Hemodialysis in End-Stage Renal Disease: Costs and Outcomes

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OBJECTIVES

To evaluate the efficacy and safety of urgent, unplanned peritoneal dialysis (PD) compared to haemodialysis (HD) in patients with end-stage renal disease (ESRD).

METHODS

This prospective cohort quasi-experimental study enrolled 60 ESRD patients requiring urgent, unplanned dialysis. Participants were randomly assigned to automated peritoneal dialysis (APD) or daily dialysis (HD) at a tertiary hospital from May 2021 to June 2023. The primary outcome was patient survival. Secondary outcomes included infection rates, bacteraemia, mechanical complications, catheter loss, cost, and hospitalization. All patients were followed for 3 months. Baseline characteristics were similar between groups.

RESULTS

Of the 60 patients who started urgent unplanned dialysis, 5 (8.3%) died during the treatment and follow-up period. There was no significant difference in the mortality rate between PD patients (6.7%) versus HD patients (10.0%). Overall infection rates were higher in the HD group (40.0%) compared to the PD group (6.7%) ($p = 0.014$). HD patients had a significantly higher incidence of bacteraemia in the follow-up period compared to PD patients (20.0% versus 10.0%, $p < 0.01$). HD patients also had longer hospitalization stays (13.6 ± 4.1 days) compared to PD patients (6.2 ± 3.3 days, $p = 0.014$). Additionally, the overall cost of dialysis was significantly higher for HD patients compared to PD patients ($p < 0.01$).

CONCLUSIONS

Urgent, unplanned PD was as effective as HD in treating ESRD patients. PD was associated with lower infection rates, shorter hospital stays, and reduced costs, making it a safe, viable, and cost-effective option for urgent dialysis.

O-08 – Modelling Sorbent Assisted Peritoneal Dialysis

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MODELLING SORBENT ASSISTED PERITONEAL DIALYSIS

OBJECTIVES

In this study, we establish a computational model of the Sorbent-assisted Peritoneal Dialysis (SAPD) system that applies rapid cycling of dialysate via a single lumen PD catheter combined with continuous regeneration of the peritoneal dialysate using sorbents and a dialysate reservoir and validate it against the preclinical pig data and the clinical trial results of CORDIAL trial (<https://www.projectcordial.eu/>). After validation, the model can be used to assess the effect of sorbent mass, in- and outflow rate, tidal volume, recirculation fraction, dialysate reservoir volume and peritoneal membrane characteristics on ultrafiltration and solute clearance.

METHODS

We developed a one-dimensional multi-compartmental model of SAPD. We simulate tidal flow in the peritoneal compartment, the dialysis reservoir and the sorbent chamber. We fit MTACs using the Runge-Kutta methods to solve the differential equations and scipy minimisation using the SLSQP solver (maximum iterations = 1000) to minimise the error between predicted and measured solute concentrations in pigs and human. Error is calculated using

$$C_{error} = \sum_{all\ solutes} \sqrt{\frac{\sum_{t=0}^{t=end} \left(\frac{\tilde{c}_{d,predicted} - \tilde{c}_{d,measured}}{c_p} \right)^2}{n}}$$

RESULTS

The model can predict solute concentrations with low error in both pigs and human (Table 1 and figure 1).

Table 1: Error between predicted and measured solute concentration in the device ingoing line (i.e. in the dialysate going from the peritoneal cavity to the device), device outgoing line and dialysate reservoir in pigs ($n = 15$).

Solutes	Device ingoing	Device outgoing	Dialysate reservoir
Creatinine	0.009 ± 0.011	0.003 ± 0.002	0.013 ± 0.026
Urea	0.022 ± 0.019	0.009 ± 0.007	0.015 ± 0.032
Phosphate	0.006 ± 0.006	0.003 ± 0.003	0.012 ± 0.022
Potassium	0.052 ± 0.043	0.014 ± 0.008	0.021 ± 0.024
Glucose	0.104 ± 0.179	0.042 ± 0.039	0.069 ± 0.150
Sodium	0.011 ± 0.015	0.012 ± 0.014	0.002 ± 0.003
Bicarbonate	0.010 ± 0.010	0.005 ± 0.005	0.006 ± 0.007
Lactate	0.146 ± 0.268	0.092 ± 0.251	0.052 ± 0.109

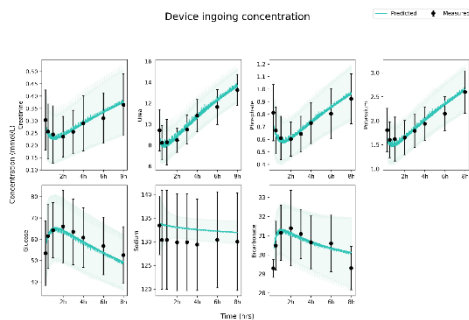


Figure 1: Predicted and measured solute concentration in the device ingoing line in humans ($n = 31$ sessions in 6 patients).

CONCLUSIONS

The SAPD model predicts concentration with high accuracy, offering innovative opportunities to virtually evaluate the new SAPD device in humans allowing 1) fast optimization of device design and settings, and 2) treatment personalization. This model significantly reduces the need for unnecessary testing in both animals and humans, paving the way for more ethical and efficient advancements in dialysis treatment.

O-09 – The Impact of Probiotics Combined with Nutrients on The Nutritional Status and The Gut Microbiota and Its Levels of Short Chain Fatty Acids (SCFAs) in Patients with Peritoneal Dialysis Complicated by Peritonitis

Mr Weijin Zhang¹

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OBJECTIVES

The Impact of Probiotics Combined with Nutrients on The Nutritional Status and The Gut Microbiota and Its Levels of Short Chain Fatty Acids (SCFAs) in Patients with Peritoneal Dialysis Complicated by Peritonitis

METHODS

This prospective randomized double-blind placebo-controlled trial (April 2017-April 2023) enrolled PD patients meeting inclusion/exclusion criteria. Participants were randomized to probiotic-nutrient group (PR, $n=26$) or placebo group (PL, $n=26$) for 1-month intervention (acute phase) with 2-month post-treatment follow-up. Endpoints:1.Nutritional indicators pre-/post-treatment.2.Fecal microbiota analysis via PCR amplification and high-throughput sequencing (types, abundance, diversity).3.Fecal short-chain fatty acids (SCFAs) quantification by GC-MS.

RESULTS

After one month of intervention, the PR group had lower levels of low-density lipoprotein and higher levels of hemoglobin compared to the PL group ($P<0.05$). Dominant phyla in PD patients were Bacillota (formerly Firmicutes), Bacteroidetes, and Pseudomonadota. Baseline phyla abundance showed no intergroup differences. Post-intervention, PR exhibited higher Bacillota and lower Bacteroidetes vs PL ($P<0.05$). At genus level, Enterococcus was predominant, followed by Bacteroides and Escherichia-Shigella. Post-treatment, PR demonstrated increased Streptococcus and Massiliomicrobiota, alongside reduced Alistipes and Phascolarctobacterium compared to PL ($P<0.05$). Initial analysis revealed no significant differences in baseline short-chain fatty acid (SCFA) profiles between the PR and PL groups. Post-intervention analysis revealed modest increases in all seven SCFA subtypes relative to baseline measurements in both cohorts. However, intergroup comparisons exhibited no statistically significant differences in these metabolic changes ($P>0.05$), indicating comparable regulatory impacts on SCFA profiles between the interventions.

CONCLUSIONS

Probiotic-nutrient intervention in PD-associated peritonitis patients significantly increased hemoglobin and decreased LDL versus controls. The treatment elevated Bacillota, Streptococcus, and Massilia abundance while reducing Bacteroidota, Erysipelotrichaceae, and Collinsella. No short-term changes in short-chain fatty acid levels were observed.

O-10 – Social Deprivation and Clinical Outcomes in Patients Receiving Peritoneal Dialysis: A 10-Year Observational Study from the UK

Dr Varun Mamidi¹, Dr Henry HL Wu², Mrs Joanne Collier¹, Prof Helen Hurst¹, Dr Dimitrios Poulidakos¹, Dr David Lewis¹, Dr Rajkumar Chinnadurai¹

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OBJECTIVES

Social deprivation (SD) is a key determinant of adverse health outcomes across a range of health conditions, including dialysis-dependent end-stage kidney disease. There remains a paucity of UK-based data examining the relationship between SD and clinical outcomes in peritoneal dialysis (PD) patients. This study investigates the impact of SD on clinical outcomes in the PD patient cohort in our centre over a 10-year period.

METHODS

Retrospective observational study on 648 adult patients commencing PD between January 2015 and December 2024. Data collected includes patient demographics, comorbidity status, PD catheter and prescription, biochemistry results and medications. For the analysis, patients were grouped based on the Index of Multiple Deprivation (IMD) quintiles, generated using postcodes from the English Indices of Deprivation 2019 online tool. Clinical outcomes included infectious complications (peritonitis & exit-site infections), cardiovascular events, death, transfer to haemodialysis (HD) and kidney transplantation.

RESULTS

The cohort was 63% male. Patients in the lower IMD quintiles (1&2) were significantly younger compared to the higher IMD quintiles (4&5) (54.5 vs 65 years; $p < 0.001$) and had a higher proportion of ethnic minority backgrounds (27 vs 10%, $p < 0.001$). The distribution of comorbidities, PD catheter characteristics, and biochemistry were similar across the IMD quintiles. There were no significant differences in clinical outcomes across the IMD quintiles, including cardiovascular events, all-cause mortality, transition to HD, transplantation and PD peritonitis episodes. The PD exit-site infection rate was noted to be higher in the lower quintiles (18% vs 13%; $p = 0.003$). Neither univariate Cox regression (Figure 1) nor Kaplan-Meier chart analyses (Figure 2) revealed an association between social deprivation and poor outcomes.

CONCLUSIONS

Our findings suggest that social deprivation is not associated with poorer clinical outcomes in patients receiving PD. It is possible that SD effects are mitigated by effective patient training and support from our community nursing team.

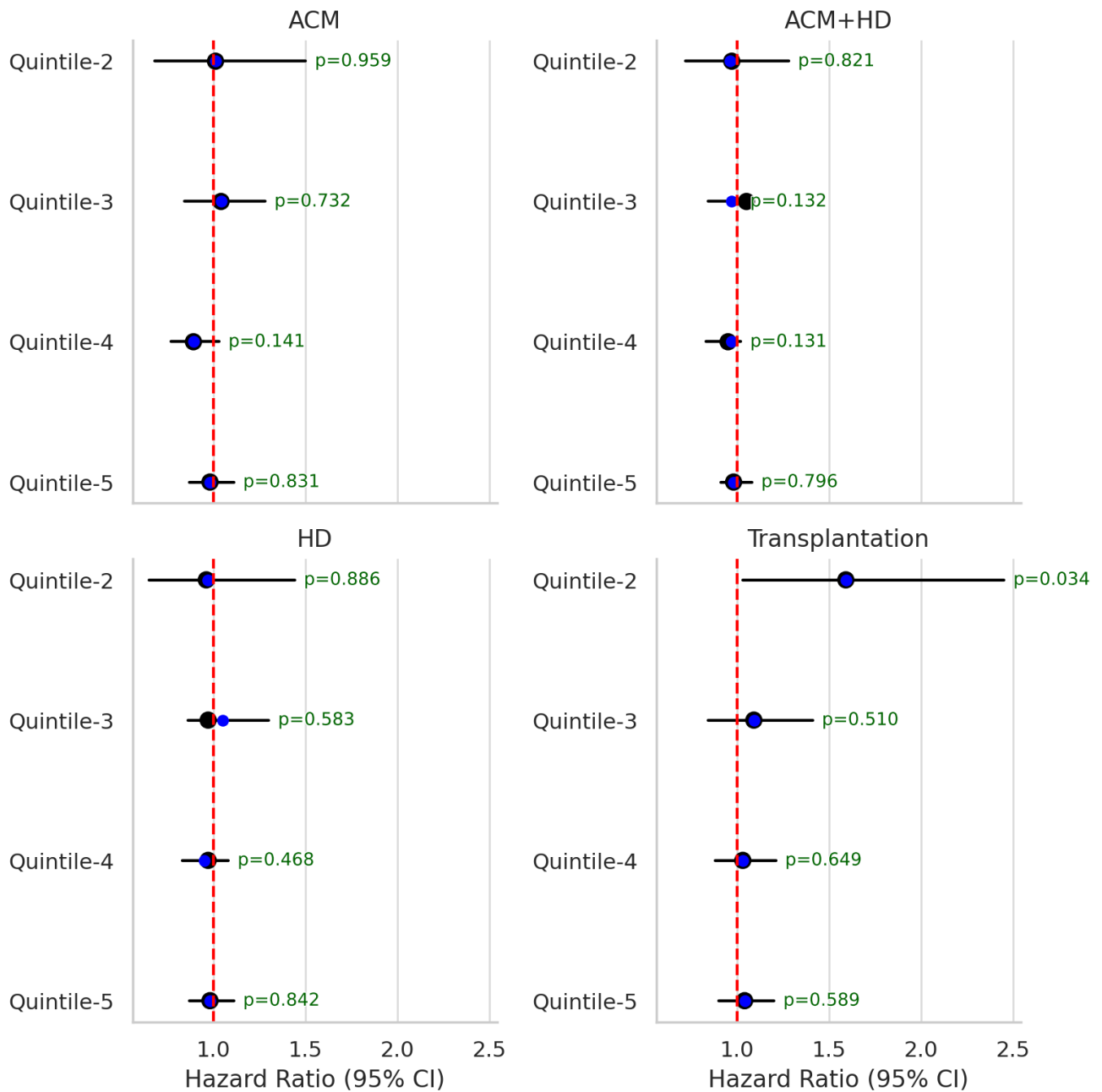


Figure 1. Forest Plot of Hazard ratios of the IMD quintiles across the four outcome domains

ACM: All-cause mortality; HD: Transfer to haemodialysis; ACM+HD: All-cause mortality + Transfer to haemodialysis

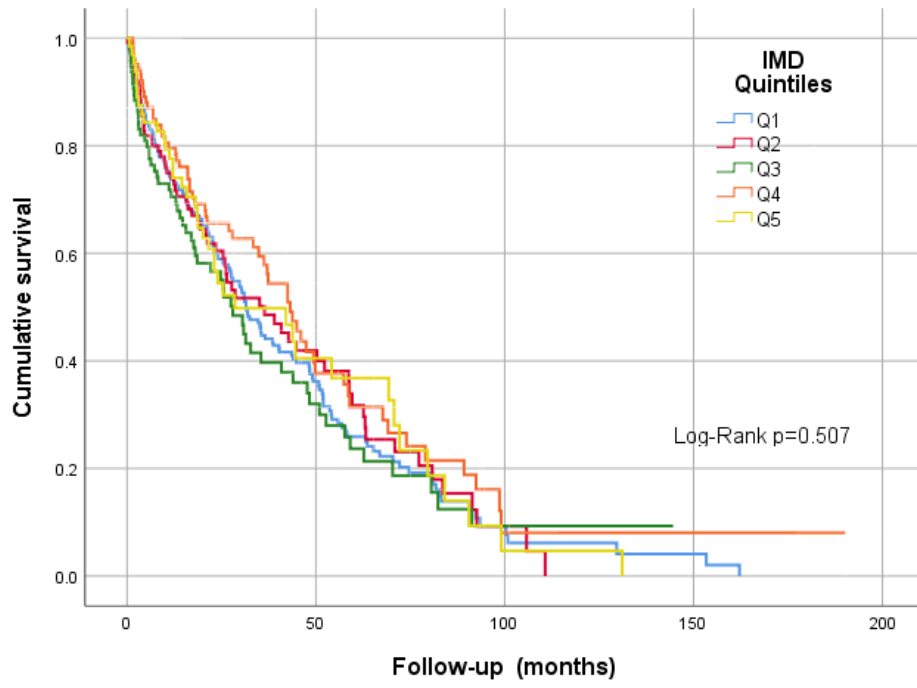


Figure 2. Kaplan-Meier chart for the combined clinical outcome (i.e. ACM+HD)



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Poster Presentations

P-01 – Encapsulating Peritoneal Sclerosis (EPS) – There Is No More Reason to Fear. EPS in Patient with Dilated Cardiomyopathy, Mitral Valve Insufficiency, and A Cardioverter Defibrillator During Short-Term PD

Ms Dragana A Aleksic¹, Dr Goran Lončar², Dr Aleksandra Kezić³, Dr Jasmina Kovacevic¹, Dr Stefan Veljkovic², Dr Jasmina Bogdanovic¹

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OBJECTIVES

EPS is a rare complication of peritoneal dialysis (PD), typically associated with long-term use, peritonitis episodes, bioincompatible solutions, or non-compliance. However, cases have occurred without prior PD—linked instead to beta-blockers, TB, endometriosis, or likely genetic predisposition. This case documents all four stages of EPS in a patient with dilated cardiomyopathy (EF 15–20%), mitral insufficiency, and an ICD. The patient underwent one year of continuous ambulatory peritoneal dialysis (CAPD), complicated by CoNS peritonitis and a Tenckhoff tunnel infection. CAPD was stopped, and he was transferred to hemodialysis. Three years later, ascites developed with fibrous strands on CT and visible peritoneal thickening on ultrasound. Repeated ascites evacuations and cystofix placements followed, complicated by Klebsiella peritonitis. A year after symptoms began, EPS was confirmed via CT showing three cystic formations.

METHODS

Surgery was ruled out due to low cardiac output. Treatment began with 40 mg prednisone, over the period of 3 weeks, gradually reducing dosage up to 10mg for 2 weeks intervals, tapered over six months to a 7 mg alternate-day dose of deflazacort. Tamoxifen (2×20 mg) was added later, with cardiologist approval. The plan requires a 2 year therapy duration.

RESULTS

Follow-up imaging after 1 year of treatment, showed near-complete cyst regression without decreased cardiac function. Although diagnosis was delayed, timely treatment likely halted EPS progression during the fibrotic stage.

CONCLUSIONS

EPS, while complex, is manageable. Early intervention is key—waiting for the final stage renders conservative therapy ineffective. The case raises important questions—was EPS solely due to CAPD, or did beta-blockers, genetic factors, or procedural trauma contribute? Should treatment have started at the first sign of ascites?

P-02 – A Single-Center Open-Label Study on the Efficacy of Biosimilar Erythropoietin Alfa (Repoitin®) in the Treatment of Anemia Among Adult Patients on Incident Peritoneal Dialysis

Dr. Romina Danguilan¹, Dr Mel Hatra Arakama¹, Romina A. Danguilan, MD and Mel Hatra I. Arakama, MD

¹National Kidney and Transplant Institute, Philippines

OBJECTIVES

This prospective, open-label, single-center study evaluated the efficacy and safety of biosimilar epoetin alfa (Repoitin®) in adult patients newly initiated on peritoneal dialysis. Thirty ESA-naïve patients aged 18–65 years with baseline hemoglobin levels of 7–10 g/dL and adequate iron stores were enrolled. Repoitin® was administered subcutaneously at 50–100 IU/kg thrice weekly. Dose adjustments were made every four weeks according to hemoglobin response.

METHODS

The mean baseline hemoglobin was 8.38 ± 0.81 g/dL. By Month 3, the mean increased to 10.63 ± 0.54 g/dL, yielding a mean absolute rise of 2.26 ± 0.78 g/dL ($p < 0.001$). A hemoglobin increase of ≥ 1 g/dL was observed in 83.3% of patients by Month 1. Epoetin dosing remained stable over the study period, with no statistically significant changes.

RESULTS

No patient required blood transfusion. Minor adverse events occurred in 10% of patients and were self-limiting. No serious adverse events or treatment discontinuations were reported.

CONCLUSIONS

Repoitin® was effective in increasing and maintaining target hemoglobin levels in this population. It was well tolerated, with a safety profile consistent with established erythropoiesis-stimulating agents. These findings support the use of biosimilar epoetin alfa as a cost-effective treatment for anemia in peritoneal dialysis patients.

P-03 – Zirconium Cyclosilicate Use in Peritoneal Dialysis: A Pilot Multicentre Observational Study

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OBJECTIVES

The prevalence of hyperkalaemia has been reported to be approximately 14% among peritoneal dialysis (PD) patients. Zirconium cyclosilicate (Zirc) as an intestinal potassium binder has so far very limited data regarding its use in PD. The aim of this study is to document the Greek experience of Zirc use in PD

METHODS

PD centres were surveyed regarding the administration of Zirc to their pts. For recipients, data were collected on demographics, modality and duration of PD, primary renal disease, comorbidities, clinical and laboratory parameters, use of RAAS inhibitors and dietary potassium restrictions before and after zirc administration.

RESULTS

In 9 PD centres surveyed (275 patients in total, 15-45 per center), 24 pts were receiving Zirc, median prevalence 7%, range 0-35%. Data obtained from 4 PD centres (122 patients, 20-41 per center): 17 pts were receiving Zirc, median prevalence 13%, range 4-35%. Mean age 61(±11) years, Male sex 60%, median dialysis vintage 20 months (range 1-96), mean zirc treatment period 15(±8) months. Regarding dialysis modality: Incremental PD 70% and automated PD 30%. Zirc administration regimen was 1-7 times per os per week with a mean weekly dose of 28(±10) g. Mean serum potassium before Zirc was 5,6(±0,3) mEq/l and after 4,6±0,3 mEq/l (p<0.001). A reduction in dietary restrictions was observed in 90% of patients following zirc administration, while 30% of patients were able to initiate RAAS inhibitors.

CONCLUSIONS

Zirconium appears to be effective in the management of hyperkalaemia in pts undergoing PD with sustained efficacy extending beyond one year. Its use facilitated the administration of RAAS inhibitors and allowed for a reduction in dietary restrictions. However further studies are needed to establish its safety and optimal dosing in PD pts and the potential impact in important clinical outcomes, as residual renal function preservation and patient and method survival.

P-04 – Clinical Experience of Incremental Peritoneal Dialysis in Greece: A Multicentre Observational Study

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OBJECTIVES

Over the last decade, Incremental Peritoneal Dialysis (incrPD) has been established internationally as the preferred approach over conventional PD, where applicable, with a prevalence of approximately 30%. We aimed to document the clinical experience of incrPD in Greece.

METHODS

PD centres in Greece were surveyed regarding the prevalence incrPD. In these patients data were collected on demographics, primary renal disease, comorbidities, dialysis vintage, clinical and laboratory parameters and PD prescription.

RESULTS

In 9 PD centres surveyed (275 patients in total, 15-45 per center), 69 pts were on incrPD: median prevalence 22%% (range 0-50%). Data collected from 4 PD centres (122 patients, 20-41 per center): 35 pts were on incrPD, median prevalence 28% (range 22-50%). Mean age was 66 years old (± 10), Male sex 63%, median dialysis vintage 20 months (range 1-145). Prevalence of Diabetes mellitus 15%, Arterial Hypertension 85%, Heart Failure 26%. Regarding incrPD prescription the mean daily delivered volume was 5200 ± 2400 ml. As Continuous Ambulatory PD: 1-3 manual exchanges of 1500-2000 ml dwell volume and as Automated PD less than 10 liters per day. Patients' mean urea volume distribution was $37,7 \pm 5,8$ and mean daily diuresis was 1400 ± 480 ml. Mean serum laboratory values recorded after at least one month on incrPD: hb $12 \pm 1,2$ g/dl, urea 126 ± 32 mg/dl, creatinine $6 \pm 1,7$ mg/dl, calcium $8,9 \pm 0,8$ mg/dl phosphate $4,7 \pm 1,1$ mg/dl, parathormone 287 ± 159 ng/ml.

CONCLUSIONS

Incremental PD as recorded in some PD centres in Greece seems to provide a satisfactory clinical and laboratory control in those patients that require renal replacement therapy (RRT) with preserved renal diuresis. Further studies may support its broader implementation and thus potentially increase the preference of peritoneal dialysis as RRT over twice or thrice-weekly hemodialysis.

P-05 – Novel Bone Biomarkers Aid in Severe Osteoporosis Management in a Female Peritoneal Dialysis Patient With Severe Osteoporosis, Refractory Hyperparathyroidism and 46 XY Karyotype: A Case Report

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OBJECTIVES

To highlight the contribution of novel bone biomarkers in the treatment strategy of severe osteoporosis in peritoneal dialysis (PD) patients where underlying mixed bone disease is suspected.

METHODS

We present the case of a female PD patient 33 years old, being in renal replacement therapy by hemodialysis since 2003 due to congenital nephrotic syndrome. History of parathyroid adenoma removed in 2017. Transfer to PD in 2018 due to loss of vascular access and at that time diagnosis of tertiary hyperparathyroidism (Parathormone (PTH) 2000pg/ml, calcium (Ca) 11,1 Phosphate (Ph) 8,9 mg/dl). Just before the scheduled parathyroidectomy, she sustained bilateral head femoral fractures and severe osteoporosis was revealed (T-score -4.5). After total parathyroidectomy in 2019 an initial fall of PTH (200 pg/ml) was followed by a gradual increase at 980 pg/ml without ectopic parathyroid gland. Her mother mentioned amenorrhea from teenage years and computer scan revealed absence of the ovaries. Karyotype and novel bone biomarkers were searched for due to the complexity of contributing factors to severe osteoporosis, in order to reveal high turnover (HTO) or low turnover (LTO) bone disease.

RESULTS

Karyotype was 46XY with female phenotype. Chronic hormonal dysfunction due to absence of ovaries probably contributed to major bone loss. PTH 260-350pg/ml, 25-OH vitamin D 24 ng/ml, Ca 9,3 mg/dl Ph 6,1 mg/dl while on cinacalcet 120 mg and vitamin D3 peros. Bone alkaline phosphatase 16 µg/l (LTO), Procollagen type 1 N-terminal Propeptide (P1NP) 165ng/ml (HTO), Tartrate-Resistant Acid Phosphatase 5b (TRAP5b) 4,72 u/l (marginal LTO). These bone biomarkers pinpoint to a mixed bone disease, rather than a simple HTO due to refractory hyperparathyroidism.

CONCLUSIONS

This case report highlights the complexity of bone disease in peritoneal dialysis patients and the aid of novel bone biomarkers in order to stratify the treatment management in the correct direction

P-06 – The Maltese Experience of Peritoneal Dialysis Infections: A Seventeen-Year Overview

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Acknowledgments: (Prof) MA Borg, A Azzopardi, MA Gauci, J Gauci, T Dalli, M Mintoff, R Formosa, M Bonavia, Renal Unit

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OBJECTIVES

Peritoneal dialysis (PD)-related infections are a leading cause of dialysis modality failure and morbidity. This study aims to determine the rates and microbiological profile of PD peritonitis and catheter-related infections (CRI) in Malta from 2008 to 2024.

METHODS

All local PD patients during this period were included. Data from 2008 to 2012 was collected retrospectively, shown as mean, and prospectively from 2013 to 2024. International Society of Peritoneal Dialysis (ISPD) peritonitis definitions and guidelines ^[1] were followed.

RESULTS

Annual PD populations ranged between 80 and 127 patients. PD peritonitis rates from 2008 to 2024 were 0.38, 0.31, 0.35, 0.46, 0.43, 0.57, 0.54, 0.43, 0.39, 0.4, 0.46, 0.37, 0.29, 0.38, 0.41, 0.47 and 0.49 episodes/patient-year. Gram-positive bacteria were dominant, with Staphylococcal rates at 0.25 episodes/patient-year between 2008 and 2012, and 0.16 episodes/patient-year in 2023 and 2024. Methicillin-resistant *Staphylococcus aureus* (MRSA) peritonitis remained rare with no episodes recorded in several years. Gram-negative peritonitis rates were stable, with a slight rise in *Escherichia coli* cases to 0.07 episodes/patient-year in 2024, and one *Pseudomonas* episode in the last 6 years. A single case of tuberculous peritonitis was identified in 2023, the first nationally. Fungal infections remained consistently low. The CRI rate between 2008 and 2012 was 0.39, and 0.35, 0.91, 0.37, 0.38, 0.25, 0.5, 0.29, 0.22, 0.25, 0.33, 0.25 and 0.37 episodes/patient-year from 2013 to 2024. Gram-positive bacteria again predominated. MRSA-related CRIs decreased significantly with no isolates in recent years. *Pseudomonas* CRIs also declined.

CONCLUSIONS

Malta has maintained PD infection rates largely below ISPD-recommended minimal standards over the past 17 years. The recent slight increase in PD peritonitis rates since 2023 may reflect a certain laxity in hand hygiene and PD protocols post-COVID19 pandemic. These findings highlight the importance of ongoing vigilance, and regular patient and staff re-training, to preserve long-term success rates in PD care.

REFERENCE

1. Li PK, Chow KM, Cho Y, Fan S, Figueiredo AE, Harris T, et al. ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. *Perit Dial Int.* 2022;42(2):110-53.

P-07 – Analysis of Safety and Efficacy of Long-Term Treatment with PD Catheters

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OBJECTIVES

Peritoneal Dialysis (PD) is a Renal Replacement Therapy for patients with renal insufficiency that has been used more frequently in recent years. In PD treatment, catheters are used to provide access to the peritoneal cavity, allowing the dialysate to be introduced and removed from the abdomen. The aim of this study is to evaluate the safety and efficacy of long-term treatment with PD catheters (developed by Fresenius Medical Care (FME)) in adult and paediatric patients treated with CAPD or APD. Safety and performance parameters of the catheters will be analyzed, as well as data on PD treatment outcome, such as Peritoneal Clearance and Peritoneal Ultrafiltration.

METHODS

The study is a prospective, multinational, observational post-market clinical follow-up study, that includes retrospective data collection. In total, 300 patients who will begin PD using FME catheters, or patients who began PD using FME catheters within the last 1.5 years before study start, can be included in the study. As no predefined treatment schedule is specified, therapy will be conducted according to local clinical practice. Data will be recorded starting from PD initiation and every six months (\pm 2 months, as per center practice) until PD discontinuation or end of study.

RESULTS

The Study is designed to evaluate the safety and efficacy of long-term treatment with FME PD catheters at regular intervals in patients with renal insufficiency. An initial analysis will be conducted at the end of retrospective data collection, including the first 6 months of prospective observation. The final study results are planned to be published in 2029.

CONCLUSIONS

This study aims to demonstrate the safety and efficacy of long-term treatment with FME PD catheters and is expected to provide valuable evidence to support its clinical use in paediatric and adult patients with renal insufficiency.

P-08 – Clinical Performance of The Therapy Option Flexpoint (Flexible Volume And Dwell Time Management) of The PD Cyclor Sleep Safe Harmony

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OBJECTIVES

While adequate removal of fluid, uremic toxins, and sodium is key for clinical homeostasis, modern peritoneal dialysis (PD) should also address patient lifestyle and quality of life. The FlexPoint therapy option of the *sleep•safe harmony* PD cyclor (Fresenius Medical Care) enables flexible volume and dwell time management. It allows automatic shortening of cycle phases with limited dialysis efficiency without compromising treatment efficacy or patient comfort. Adjustments are made within predefined, acceptable medical limits, and physicians can further tailor settings to individual needs. The objective of this study is to assess whether the use of FlexPoint—flexible volume and dwell time management—affects the efficacy of automated peritoneal dialysis (APD) and the hydration status of PD patients, as measured by bioimpedance spectroscopy (BCM).

METHODS

This interventional, controlled, randomized, crossover trial (NCT06390592) includes 24 PD patients treated with the *sleep•safe harmony* cyclor over a six-week clinical phase. The study is divided into three two-week periods, each applying a different FlexPoint setting. A Williams 6×3 crossover design ensures balanced treatment sequences. Primary outcomes include total Kt/V, mean daily ultrafiltration, and hydration status. To capture patient perspectives, validated questionnaires assessing sleep quality and overall quality of life are administered. Data are collected at baseline and after each treatment phase.

RESULTS

Primary analysis consists of three pairwise comparisons between FlexPoint settings to assess equivalence in total Kt/V. Secondary efficacy and safety outcomes are analyzed descriptively per treatment phase and across pairwise comparisons where applicable.

CONCLUSIONS

This study aims to demonstrate that individualized management of volume and dwell time via FlexPoint maintains PD efficacy while potentially enhancing patient comfort and well-being.

P-09 – Improving Peritoneal Dialysis Retention Through Hospital-Industry Partnership: A Quality Improvement Initiative

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OBJECTIVES

Peterborough Home Therapies Service, one of four units in Leicester Network, provides comprehensive support for PD across the Peterborough region. By early 2023, staffing constraints contributed to declining patient numbers, with 70% of patients transitioning to In-Centre Haemodialysis (ICHD) within their first year, highlighting an urgent need for systematic improvement.

METHODS

A collaborative quality improvement initiative was implemented between Leicester management, Peterborough and Vantive. Key interventions included: 1) Named nursing with scheduled home visits; 2) Structured refresher training at 5-6 weeks post-initiation, after peritonitis episodes, and 6-monthly intervals; 3) Peritoneal equilibrium tests and adequacy assessments; 4) Utilisation of Vantive Clinical Training Specialists (CTS) for patient training and as part of a bespoke 90-day Early Support Partnership; 5) Embedding a standardised patient pathway through specialist-led education sessions; 6) Regular therapy optimisation reviews through multidisciplinary meetings utilising remote patient management (Sharesource and Adequest).

RESULTS

Comparing April 2023 (intervention start) to December 2024 showed substantial improvements. The prevalence of patients receiving Vantive PD therapy doubled from 19 to 38 patients. Average time on therapy for prevalent patients improved from 507 to 573 days (+13%). Technique failures to ICHD decreased from 21 patients in 2023 to 16 in 2024, representing a 24% reduction. Early technique failure (within 90 days) reduced from 9 to 5 patients (44% reduction). The average time on therapy at discontinuation improved by 3% from 308 to 318 days (excluding transplantation and death).

CONCLUSIONS

This hospital-industry collaboration transformed the sustainability of the Peterborough PD programme. By embedding structured education, proactive monitoring, and multidisciplinary coordination into routine care, the partnership achieved a significant reduction in technique failure. The integration of Vantive's CTSs effectively supplemented limited staff resources whilst maintaining programme quality. This model enhances patient retention and offers a scalable framework for strengthening home dialysis pathways in resource-constrained settings.

P-10 – Unexpected Reduction in Glucose-Related Ultrafiltration Associated with The Introduction of a Long Dwell with Icodextrin and a “Full Abdomen” Prescription in Peritoneal Dialysis

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OBJECTIVES

The RRF decline and the progressive increase in peritoneal membrane permeability often require a gradual increase of glucose concentration and the use of icodextrin for the long dwell to maintain adequate UF.¹

METHODS

4 cases between 2016 and 2024 in which the interventions adopted were influenced by individual factors and routine clinical practice.

RESULTS

CASE 1- CTPD with daytime ICO for several years, AVF creation due to onset of UFF over time. At the start of combined treatment with discontinuation of ICO (NTPD/7 and HD/1) a rapid increase in nocturnal UF was observed, which postpone the transfer to haemodialysis.

CASE 2- Start PD with CTPD (daytime ICO). In the following days we observed UF reduction with ICO but also with glucose. ICO discontinuation was followed by a rapid increase in night-time UF.

CASE 3- CAPD with 2 glucose daytime dwell and nocturnal with ICO. No dialysis Saturday and Sunday. From Monday to Friday gradual decrease in day and night-time UF. The switch to 3 glucose dwell with empty abdomen during the night was followed by an unexpected increase in glucose UF, with no change during the week. An attempt with a glucose night-time dwell was followed by the same phenomenon observed with ICO.

CASE 4 - Prevalent patient in NPD. Start daytime ICO followed by rapid reduction of nocturnal UF. Equally rapid recovery of nocturnal UF after ICO discontinuation. Then resumption of daytime ICO with manually discharged after 6-8 hours with good preservation of night and day-time UF.

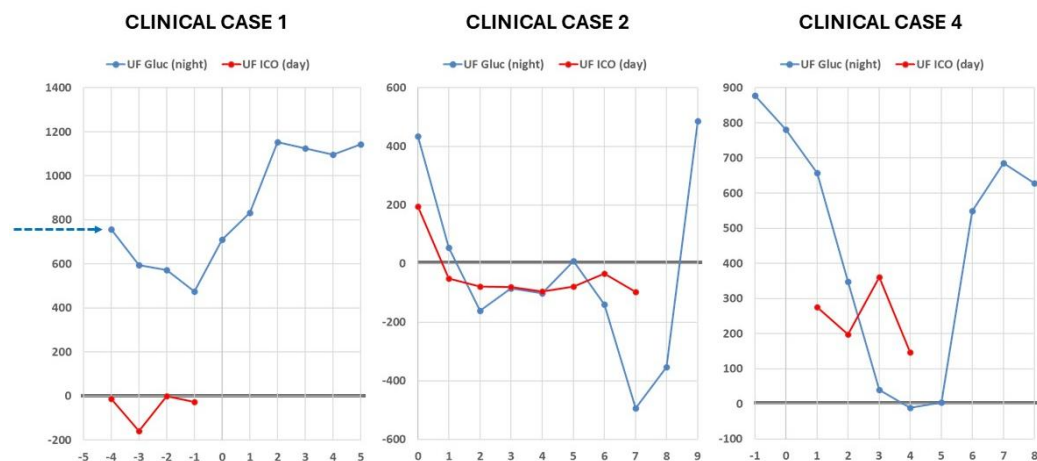


Figure 1. Daily UF generated by glucose and ICO at the times of their introduction and discontinuation. As can be appreciated, the changes are realised in 2-3 days and the amount is considerable.

CONCLUSIONS

The phenomenon does not appear to be related to ICO but to the effect of a full abdomen as observed even with a long glucose dwell. The aim of our work is to suggest reintroducing a period of empty abdomen for several hours that may promptly restore adequate UF.

1. Boudville N, de Moraes TP. 2005 Guidelines on targets for solute and fluid removal in adults being treated with chronic peritoneal dialysis: 2019 Update of the literature and revision of recommendations. *Perit Dial Int.* 2020 May;40(3):254-260. doi: 10.1177/0896860819898307. Epub 2020 Jan 14. PMID: 32048566.

P-11 – The Nurse's Role in Peritoneal Dialysis Training Through Telemedicine

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OBJECTIVES

Space-time barriers affect the organization of traditional PD training, whether in-center or at home, and consequently influence patient selection. Traditionally conducted by a single nurse, the training lasts an average of 5 days. With telemedicine-based training (VideoTr), these limitations are overcome, and multiple nurses can be involved in the same training process.

METHODS

A retrospective analysis was conducted on the first APD training of patients/caregivers from 01/10/2017 to 30/09/2023. VideoTr is based on breaking down dialysis procedures (setup, connection, disconnection) into elementary steps: "red" if an error poses a risk of contamination, or "white" if not. The execution of individual steps, performed at home by the patient/caregiver, is immediately monitored and recorded by the nurse on duty at the center through dedicated software. Since 2017, an Expert System (ES) has been integrated into VideoTr. It suggests ending the training when no "white" or "red" errors are made for 1 and 3 consecutive days, respectively; however, the final decision to conclude VideoTr remains with the nurse.

RESULTS

VideoTr sessions analyzed: 42 (9 patients, 33 caregivers). Average number of nurses involved per individual VideoTr: 5.4±1.7 for setup, 5.7±1.5 for connection, 4.6±1.3 for disconnection. On average, one nurse supervises 1.8±0.6 executions per training. In 64.3% of cases, the end of the training coincided with the ES recommendation; in 14.3%, training was extended by 1.8±0.9 procedures without the occurrence of new errors; in 21.4%, it was extended by 7.4±2.9 procedures due to the detection of new errors. Patients older than 61 years and those with language difficulties were predominant in this latter group. Excluding hospitalizations and treatment interruptions, two episodes of peritonitis occurred during a total follow-up of 590.3 months.

CONCLUSIONS

VideoTr/ES, through a reorganized workflow, provides valuable support to the nurse. However, the shared yet irreplaceable role of the nurse remains essential.

P-12 – Role of Peritoneal Dialysis in Kidney Supportive Care – A Single-Center Experience

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OBJECTIVES

Dialysis may be indicated, contraindicated, or discouraged in patients with high short-term mortality risk (Rein Score >12, 3-month mortality >25%). If the patient disagrees with the nephrologist's recommendation in the first or second case, conservative care is initiated-either out of respect for the patient's will or due to the ethical and legal non-obligation to provide an inappropriate treatment. In the third scenario "palliative dialysis" is started.¹ However, it is unclear to what extent the availability of care resources may influence an outcome that appears to be "predetermined" by a clinical score.

METHODS

From 1st January 2023 to 15th March 2025 we observed 7 cases of "discouraged" dialysis with strong motivation to start PD from patients themselves or their relatives.

RESULTS

All patients had been assessed as *unsuitable* for dialysis and most of them had more than one caregiver. Mean age: 80.9 ± 3.7 years. Five with severe Cardiorenal Syndrome (CRS); the remaining with metastatic cancer. Mean Rein Score: 13. All with full-dose dialysis prescription: six underwent assisted NTPD supported by a caregiver and telemedicine, one received assisted CAPD. The average distance from the dialysis center was 22.7 km with a saving of 151 trips/patients during follow-up. On 15th March 2025 3 patients expired (one from sepsis after 37 days, one from metastatic disease progression after 400 days and a third from intestinal infarction after 748 days), the remaining are still on home PD (mean follow-up: 11.6 months). Two cases of peritonitis were recorded.

	1	2	3	4	5	6	7
Age (year)	76,1	78,1	86,8	77,3	80	78	90
Surprise Question	NO	NO	NO	NO	NO	NO	NO
Charlson Comorbidity Index	9	8	11	13	7	13	8
Rein score (KI 2015)	15	12	16	10	13	15	18
Barthel Index	<49	<49	<49	73	<49	<49	<49
Malnutrition (BMI)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cognitive decline	Yes	Yes	Yes	NO	NO	NO	NO
Hospitalizations	Yes	Yes	NO	NO	Yes	Yes	Yes
Dialysis caregiver	Sons	Sons	Sons	Brother	Nurses	Wife	Sons
Life-limiting illnesses	CRS	CRS	CRS	Kidney cancer/Mets	CRS	CRS	CRS
Type	Hypokinetic cardiopathy 1. post-ischaemic 2. valvular (mitraclip) 3. Biventricular ICD 4. FFA 5. VEF 30%	Hypokinetic cardiopathy 1. Valvular 2. Severe TI 3. Arithmogenic 4. FFA 5. intestinal haemorrhage	Cardiopatía a FEC 1. Valvular (severe MI / TI) 2. VEF 60% 3. FFA 4. BPCO / OLT	Kidney Cancer with bone and lymphnode metastases DM	Hypokinetic cardiopathy 1. valvular (aortic bioprosthesis, mitraclip) 2. Pulmonary hypertension 3. VEF 50%	Bladder Cancer	

Table 1. Patient characteristics. Surprise question - "Would I be surprised if this patient were to die in the next 12 months?"

CONCLUSIONS

In patients with strong family support and Cardiorenal Syndrome, assisted home PD via Telemedicine can achieve outcomes that exceed clinical expectations. These findings suggest the need to critically redefine the concept of "discouraged dialysis," highlighting the importance of integrating technological and family support into the overall decision-making framework rather than using a priori scores.

1. Pinerolo de Septis MC, Alberghini E, Cornacchiari M, Galassi A, Heidempergher M, Vettoretti S, de Leonardi R, Sangalli L, Aucella F, Esposito C. [Palliative and Supportive Dialysis: Current Practices and Recommendations for Best Clinical Practice]. G Ital Nefrol. 2024 Apr 29;41(2):2024-vol2. Italian. PMID: 38695224.

P-13 – Efficacy and Tolerability of Automated Peritoneal Dialysis Treatment of Toddlers and Newborns With The Silencia PD Cyclor

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OBJECTIVES

Automated peritoneal dialysis (APD) in pediatric patients presents clinical challenges due to small body size, variability in peritoneal membrane function, and fluid balance needs. The Silencia PD cyclor (Fresenius Medical Care) offers a pediatric mode with advanced features, supporting precise and individualized treatment. This study evaluates the efficacy and tolerability of APD using the Silencia PD cyclor in patients weighing ≤ 20 kg who can tolerate a minimum inflow volume of 100 mL. The primary objective is to determine whether patients achieve a total weekly $Kt/V_{urea} \geq 1.8$. Secondary objectives include assessment of ultrafiltration, residual renal function, treatment delivery accuracy, safety, and overall tolerability.

METHODS

This is a prospective, multicenter, interventional study including 13 pediatric patients with renal failure undergoing APD with the Silencia PD cyclor. After recruitment, patients and/or their parents begin a training phase. Once training is completed, a baseline visit is conducted, followed by a 4-week treatment period using the Silencia PD cyclor as prescribed by the physician. Data are documented at the inclusion visit, the baseline visit, and at follow-up visits after 2 and 4 weeks of treatment. The total clinical phase may last up to 8 weeks, depending on the duration of the training required to handle the device.

RESULTS

For the primary analysis a one-sided t-test will be performed on total Kt/V_{urea} after 4 weeks of treatment using a target value of 1.8 as reference. In addition, a two-sided 95% confidence interval for total Kt/V_{urea} will be provided. A similar analysis will be conducted at week 2. Descriptive statistics will be used to summarize the secondary variables.

CONCLUSIONS

This study aims to generate evidence on the efficacy, safety, and tolerability of APD in infants and toddlers treated with the Silencia PD cyclor. The results will support individualized PD strategies in this vulnerable population.

P-14 – Report on the Launch of The Belgian Insights Forum on Home Dialysis to Support Knowledge Exchange on Home Dialysis

Professor Karlien François

OBJECTIVES

The low prevalence of home dialysis and the small size of many home dialysis programs in Belgium goes together with a shortage of training, exposure, and experience in this area. The Belgian Insights Forum on Home Dialysis was launched to improve peritoneal dialysis (PD) and home hemodialysis (HHD) knowledge and skills. The forum provides case-based and general advice from experts in the field.

METHODS

The Belgian Insights Forum on Home Dialysis is a monthly virtual meeting between Belgian nephrologists. Healthcare providers submit cases and questions regarding the clinical management and organization of home dialysis via an electronic Qualtrics form. Each Insight Forum on Home Dialysis is attended by at least 3 home dialysis experts from different Belgian universities. The professional association NBVN sends email reminders to nephrologists about the meetings. In addition to live discussion among participants, the forum facilitates the exchange of protocols and literature on the topics discussed. Here, we present the results of the first six Insight Forums on Home Dialysis.

RESULTS

Since December 2024, six 1-hour Insights Forums on Home Dialysis were organized, with 21-41 participants per session (median 24, IQR 22-25) and 77 unique participants. Overall, 23 cases submitted by 17 contributors were discussed. The cases concerned infectious complications of PD (n=7), non-infectious complications of PD (n=4), organization of the HHD program (n=4), PD catheter dysfunction (n=3), PD catheter insertion (n=2), home dialysis program organization (n=2) and urgent-start and acute PD (n=1).

CONCLUSIONS

The establishment of a national, medical, virtual meeting on home dialysis with significant participation by Belgian nephrologists is feasible and acclaimed as needed. The Belgian Insights Forum on Home Dialysis is an initiative that enables organized collaboration and networking at the national level, potentially providing a solution to cultural and knowledge barriers hindering the growth of home dialysis.

P-15 – Fibrinogen/Albumin Ratio as A New Predictor of Survival in Patients Treated with Peritoneal Dialysis

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OBJECTIVES

This study aimed to investigate whether the fibrinogen/albumin ratio (FAR), a chronic indicator of inflammation, can predict survival in patients treated with peritoneal dialysis (PD).

METHODS

All patients were treated in one PD center, and all PD patients from the center who were on a chronic treatment program for longer than 3 months were monitored. Biochemical analyses were controlled monthly and always determined in the same laboratory. Parameters of dialysis adequacy, Kt/V, and peritoneal equilibration test (PET) for glucose (Glc) and creatinine were controlled every 6 months according to guidelines.

RESULTS

65 patients with an average age of 63, with 30 women (46.2%), participated in the study. The average length of dialysis treatment was 22.0 months. The most prevalent underlying kidney disease was hypertension (HTN) in 38.4%, diabetes mellitus (DM) in 27.7%, glomerulonephritis (GN) in 20.0%, autosomal dominant polycystic kidney disease (ADPKD) in 1.5%, tubulointerstitial disease (TIN) in 3.1%, and other diseases in 9.2%. The follow-up lasted for 18 months, during which there were 23 deaths (35.4%). During this period, most of the biochemical analyses and dialysis parameters, Kt/V and PET, between the surviving 29 patients (group I) and the dead 36 patients (group II) were not statistically significant. A statistically significant difference was shown between the two groups for FAR ($p = 0.070$) as well as for C-reactive protein (CRP) average levels ($p < 0.01$), with higher average FAR and CRP in group II. Using logistic regression analysis, higher average CRP levels (OR = 1.284, $p = 0.032$) and the standardized FAR (OR = 5.285, $p = 0.032$) were shown to be independent predictors of lethal outcome.

CONCLUSIONS

A high FAR can be a significant predictor of lethal outcome in PD patients during the 18-month follow-up.

P-16 – Neutrophil to Lymphocyte Ratio as A New Predictor of Outcome in Peritoneal Dialysis Patients

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OBJECTIVES

This study aimed to examine whether the Neutrophil-to-Lymphocyte Ratio (NLR), as an indicator of systemic inflammation, can predict composite outcome (death or transition to hemodialysis) in patients on peritoneal dialysis (PD).

METHODS

The study included patients who initiated PD for at least 3 months. NLR was calculated as the ratio of neutrophils to lymphocytes. The logistic regression model was used to identify predictors of the composite outcome. Significant predictors were set at $p < 0.05$ and marginally significant at $p < 0.1$.

RESULTS

This study included 65 patients, with an average age of 63. The average duration of PD status was 22 months. The follow-up lasted for 18 months, and during this period, there were 23 deaths (35.4%). The median NLR reported was 3.27. Most of the biochemical analyses, including NLR, and dialysis parameters Kt/V and peritoneal equilibration test (PET), between the surviving patients (group I) and patients who died (group II) were not statistically significant. A statistically significant difference was shown between the two groups for average levels of C-reactive protein (CRP) ($p < 0.01$), blood glucose (Glc) ($p = 0.022$), and triglyceride (Tgl) ($p = 0.040$), with higher average CRP and Glc and lower average Tgl levels in group II. Use of automated PD (OR= 76.059, $p = 0.030$), higher average levels of parathyroid hormone (OR= 1.007, $p = 0.006$), and CRP (OR= 1.284, $p = 0.032$) were significantly associated with an increased risk of reaching the composite outcome. NLR and Tgl levels showed marginal associations ($p = 0.083$ and $p = 0.063$, respectively), suggesting potential predictive value in larger cohorts.

CONCLUSIONS

NLR is not a significant predictor of outcome (death or transition to hemodialysis) in our small cohort of PD patients during the 18-month follow-up. Given that previous studies indicate its importance, longer follow-up of patients may be necessary.

P-17 – Health Technology Assessment (HTA) Evaluation of Clinical Care Pathways: Home Peritoneal Dialysis vs. In-Hospital Hemodialysis

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OBJECTIVES

Peritoneal dialysis (PD), when feasible, offers numerous theoretical advantages over hemodialysis (HD) for patients with end-stage kidney disease (CKD stage 5D). These benefits include increased patient comfort, better suitability for personalized treatment, preservation of residual kidney function, avoidance of dialysis-induced ischemia, improved transplant outcomes, reduced early mortality, and enhanced safety during infectious disease outbreaks. PD is also environmentally friendlier and more cost-effective than HD. Despite these potential benefits, a comprehensive Health Technology Assessment (HTA) comparing PD and HD had not been conducted until this study.

METHODS

To address this gap, a multidimensional evaluation was performed, analyzing clinical, organizational, and economic aspects. A literature review up to 2022 identified 26 comparative studies on PD vs. HD, although the overall quality of evidence was moderate to low based on the GRADE criteria. Using the PICO framework, the study focused on adult and pediatric patients with CKD stage 5D, comparing home-based PD (both CAPD and APD) with in-hospital HD. Outcomes assessed included patient and caregiver quality of life, mortality, adverse events, hospitalizations, infections, dialysis switching, and kidney transplant outcomes.

RESULTS

A Cost-Utility Analysis (CUA) using a four-stage Markov model (PD, HD, transplant, death) found PD to be both less expensive and more effective. The total annual cost per patient was €29,547 for PD versus €38,949 for HD. PD also yielded better outcomes in terms of Quality Adjusted Life Years (QALYs): 1.20 for PD vs. 0.94 for HD. Given its lower cost and greater effectiveness, PD was determined to be the dominant treatment strategy, making the calculation of the Incremental Cost-Effectiveness Ratio (ICER) unnecessary.

CONCLUSIONS

This HTA analysis confirms PD as a cost-effective and clinically advantageous first-line therapy for eligible patients with end-stage kidney disease.

P-18 – MyPD: The Evolution of Remote Patient Management in Peritoneal Dialysis. First Real-World Experience in The Italian NHS

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OBJECTIVES

The new MyPD Patient Mobile App, now available in Italy, enhances the management of peritoneal dialysis (PD) by integrating with the Sharesource clinical portal—a remote patient management (RPM) platform that enables two-way communication between patients and healthcare providers. This integration allows clinicians to securely monitor treatment data and adjust PD device settings without requiring in-person visits. MyPD is designed for both Continuous Ambulatory Peritoneal Dialysis (CAPD) and Automated Peritoneal Dialysis (APD) patients. It enables users to capture and view clinical data, which is automatically transmitted to Sharesource. The app also supports Bluetooth connectivity with devices to log vital signs such as weight, blood pressure, and blood glucose if required, promoting accurate and consistent data sharing with the healthcare team.

METHODS

We described the first daily clinical practice experience of the MyPD App in Italy, including the hurdles of the clinical activation of the device, the impact of the MyPD App on healthcare PD personnel, the selection and experience of the first patients using the App.

RESULTS

This summary reflects the first clinical implementation of the MyPD App in Italy. Key challenges included navigating privacy concerns and finalizing agreements between the app provider (Vantive) and hospital privacy officers—issues that were eventually resolved. Successful patient selection emphasized the importance of technological literacy among patients and caregivers. Language barriers were highlighted, particularly in non-Italian or non-English speaking users, underscoring the need for multilingual app support. Clinicians found that the app improved patient care by facilitating daily monitoring of critical health metrics, such as fluid balance, blood pressure, and dialysis parameters for patients in CAPD. It also provided insights into patient adherence to treatment plans.

CONCLUSIONS

The MyPD App extends the benefits of RPM to both CAPD and APD patients by enabling closer, real-time interaction between patients and care teams. It has strong potential as a supportive tool for home-based PD, improving treatment outcomes, patient engagement, and healthcare delivery efficiency.

P-19 – Perception of Peritoneal Dialysis by Non-Nephrologist Physicians

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OBJECTIVES

The aim of this study was to assess the level of knowledge regarding peritoneal dialysis (PD) among physicians who are not nephrologists.

METHODS

The study population consisted of hospital physicians, whose knowledge was assessed through a questionnaire about PD. Statistical analysis included descriptive statistics for mean, standard deviation, and median values.

RESULTS

We received responses from 82 doctors. Approximately a quarter (24%) had never worked with PD patients. A minority of respondents were aware that there is no difference between hemodialysis and peritoneal dialysis regarding the quality of dialysis (11%) or patient survival (15.9%). Less than half (47%) of respondents knew that the incidence of peritonitis events in PD patients is less than one episode per year. However, most believed that a peritonitis event occurs every six months or more frequently (53%), Half (50%) of respondents thought that the quality of dialysis is superior in hemodialysis compared to PD. Seventy-two percent believed that the quality of life on peritoneal dialysis is higher. The majority (55%) would recommend peritoneal dialysis as the first dialysis option. Those who recommended peritoneal dialysis as a primary option had the highest knowledge scores; however, this correlation was not statistically significant ($P = 0.29$).

CONCLUSIONS

In this study, we aimed to assess the level of knowledge about PD among medical staff not involved in nephrology and whether there is a correlation with their recommendations for PD treatment.

It is reasonable to assume that a lack of knowledge may negatively impact their recommendations. Indeed, according to our questionnaire, doctors with the highest knowledge level were more likely to recommend peritoneal dialysis as a primary alternative, though this correlation was not statistically significant. This may be due to the relatively small sample size.

1. Dahlerus C, Quinn M, Messersmith E. et al Patient perspectives on the choice of dialysis modality: result from the empowering patients on choices for renal replacement therapy (EPOCH-RRT) study. *Am J Kidney Dis.* 2016;68(6):191-62
2. Rute Aguiar, Ming Pel et al, Health-related quality of life in peritoneal dialysis patients: A narrative review. *Seminars in Dialysis* 2018; 1-11
3. Matt Foy, C. John Sperati. What the non-nephrologist needs to know about dialysis. *Seminars in Dialysis.* 2018; 31: 183-192
4. Martin J. Schreiber Jr. Changing Landscape for Peritoneal Dialysis: Optimizing Utilization. *Seminars in Dialysis – Vol 30. No 2 (March-April) 2017 pp. 149-157*

P-20 – “Intraperitoneal Insulin Administration in APD Patients: Two Case Reports”

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OBJECTIVES

The use of intraperitoneal (IP) insulin is not common practice in our country. However, we occasionally employ this largely forgotten method and would like to present two cases of its use in patients undergoing automated peritoneal dialysis (APD).

METHODS

Patient 1

A 66-year-old woman with end-stage renal disease (ESRD) secondary to diabetic nephropathy transitioned to APD/NIPD with 10 liters of 2.3% dialysate six years ago. Her fasting glucose levels had increased significantly. A trial of an icodextrin-based solution replacing part of the dextrose-based solution, along with increased subcutaneous insulin dosing, failed to achieve adequate glycemic control. Intraperitoneal insulin therapy was initiated by adding insulin to one of the dialysate bags.

Patient 2

A 73-year-old woman with ESRD due to diabetic nephropathy began APD/NIPD with 10 liters of 1.5% dialysate two years ago. Her glycemic control deteriorated over time. We attempted to substitute an amino acid-based solution for a glucose-based one and increased her subcutaneous insulin dose, but her fasting glucose levels remained poorly controlled. The patient was trained to add insulin to one of the dialysate bags.

RESULTS

Both patients demonstrated significant improvement in fasting glucose levels and HbA1c following the initiation of intraperitoneal insulin therapy (HbA1c: 6.9% in Patient 1 and 6.5% in Patient 2). After six years of treatment, Patient 1 requires 34 units of intraperitoneal insulin daily in addition to 122 units of subcutaneous insulin. Patient 2 uses 20 units of intraperitoneal insulin per day, along with 44 units of subcutaneous insulin. Neither patient has experienced any episodes of peritonitis. A recent abdominal ultrasound in Patient 1 revealed fatty liver, with no evidence of subcapsular hepatic steatosis. Patient 2's ultrasound was normal.

CONCLUSIONS

Intraperitoneal insulin may be a simple, effective, and safe option for enhancing glycemic control in patients on APD.

P-21 – Antilithiasic Effect of Moroccan Medicinal Plants Mentha Piperita on The Uric Acid and Calcium Oxalate Kidney Stones

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OBJECTIVES

Urolithiasis is the second reason of hospitalization in urology in Morocco after prostatic adenoma. Existing medical therapies are expensive and often poorly tolerated. The objective of this study was to investigate the antilithiasic effect of aqueous extract of Mentha piperita, a Moroccan traditional medicinal plant reputed to its diuretic properties, on the formation of in vitro uric acid and calcium oxalate nephrolithiasis.

METHODS

First, we realised phytochemical tests to determine the composition of Mentha piperita. Secondly, we evaluated its aqueous extract on the uric acid and calcium oxalate kidney stones. The results of our experiment showed that the aqueous extract of Mentha piperita is composed of phenolic components, flavonoids and alkaloids. On the other hand, we observed that the aqueous extract has greater dissolving effect on the uric acid than on the calcium oxalate kidney stones. This moderate action for calcium oxalate kidney stones can be ascribed to less interaction between the extract constituents and those stones.

CONCLUSIONS

Further studies have to be carried out in order to extract and purify these compounds to test their effect on urinary lithiasis.

P-22 – Uncomplicated Robotic-Assisted Laparoscopic Hysterectomy (RALH) In A Peritoneal Dialysis Patient with Endometrial Cancer and Clinical Obesity

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OBJECTIVES

Surgical interventions represent a significant risk for technique failure and the need for permanent transfer to hemodialysis (HD) for patients undergoing peritoneal dialysis (PD) due to the risk of complications. We report the first case of an uncomplicated robotic-assisted laparoscopic total hysterectomy for endometrial cancer in a 46-year-old PD patient with clinical obesity.

METHODS

Written consent was obtained from the patient for the publication of this case.

RESULTS

A 46-year-old female patient on PD was diagnosed with adenocarcinoma, requiring surgical treatment. Her medical history was significant for clinical obesity (Body Mass Index 38kg/m²), arterial hypertension and Type 2 Diabetes Mellitus (T2DM). The patient underwent robotic-assisted laparoscopic total hysterectomy (RALH) which was performed under general anesthesia. The decision was made to electively plan a postoperative PD interruption with transfer to hemodialysis (HD), due to anticipated wound healing complications secondary to T2DM and clinical obesity. Following uncomplicated surgery, she was discharged on day four postoperatively and received outpatient HD sessions, followed by low volume cycler therapy and eventually continued on her full dose PD regime six weeks postoperatively. No infections, wound healing complications or leakage were observed. Although laparoscopic techniques are well documented for general abdominal surgery, there is limited data on hysterectomies in PD patients. Two similar cases have been described in the literature – both of which involved complications. [1-3]

CONCLUSIONS

Preservation of the peritoneum, minimal trauma to the abdominal wall and therefore reduced risk of dialysate leakage are the main advantages of laparoscopic surgery compared to open procedures in PD patients. In the absence of clear guidelines on postoperative PD resumption, risk factors such as clinical obesity may discourage physicians from attempting to restart PD altogether. Our case demonstrates that interdisciplinary collaboration and careful planning can lead to successful outcomes and contribute to the growing evidence base supporting strategies to ultimately reduce PD dropout.

1. Mari G, Scanziani R, Auricchio S, Crippa J, Maggioni D (2017). Laparoscopic Surgery in Patients on Peritoneal Dialysis: A Review of the Literature. *Surg Innov* 24:397-401. 10.1177/1553350617708723.
2. Kakuda M, Kobayashi E, Tanaka Y, Ueda Y, Yoshino K, Kimura T (2017). Total laparoscopic hysterectomy for endometrial cancer in a renal transplantation patient receiving peritoneal dialysis: Case report and literature review. *J Obstet Gynaecol Res* 43:1232-7. 10.1111/jog.13337.
3. Lew SQ, Chernofsky MR (2016). Uninterrupted Peritoneal Dialysis after Robotic-Assisted Total Laparoscopic Hysterectomy. *Perit Dial Int* 36:349-50. 10.3747/pdi.2015.00136.

P-23 – Peritoneal Dialysis Induces Hepatic Metabolic Stress as Pacemaker for Systemic Inflammation

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OBJECTIVES

PD as lifesaving therapy in patients with kidney failure results in daily intraperitoneal glucose administration corresponding to 50% of the recommended energy intake, most of which enters the portal circulation. As the impact of this glucose exposure on liver and metabolic health remains unclear, we have explored in this study hepatic and systemic metabolic effects of PD.

METHODS

Healthy mice and mice with chronic kidney disease underwent 7 weeks of PD. Combining morphologic studies, untargeted tissue proteomics, targeted plasma metabolomics and spatial transcriptomics, we assessed hepatic molecular and metabolic effects of PD. Gut microbiome, gut- and gut-vascular barriers, systemic and hepatic LPS abundance and zonal transcriptional changes were assessed with multiplexed spatial single-cell analysis and transcriptomics. PD patients were analysed under the causal inference framework for relationships between peritoneal glucose load, hepatobiliary injury, systemic inflammation, and mortality.

RESULTS

Intraperitoneally administered glucose during PD was rapidly taken up by the liver and induced hepatic metabolic inflammation. Portal-venous glucose overload bypassing the gastrointestinal tract resulted in increased glucose-to-cholesterol shunting with elevated plasma cholesterol levels, despite the absence of hepatic steatosis or glycogen storage. Increased oxidative stress and endotoxin load were associated with reduced hepatic Kupffer cell numbers, without increased gut permeability, or gut dysbiosis. A cohort of human PD patients exhibited PD-induced and glucose-dependent hepatic oxidative stress associated with systemic inflammation, both connected increased glucose exposure to mortality in clinical PD.

CONCLUSIONS

Ours is the first study to report chronic hepatic metabolic stress induced by PD. Evidence of hepatic glucotoxicity and oxidative stress as pacemakers for systemic metabolic inflammation in PD patients suggests that similar pathomechanisms could also contribute to increased cardiometabolic risk in these patients.

P-24 – Comparison of The Acoustic Performance of APD Cyclers: An Important Parameter on Sleep Quality

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OBJECTIVES

Sleep quality significantly influences the overall well-being of peritoneal dialysis (PD) patients, yet sleep disturbances are common, often exacerbated by the noise from automated PD (APD) cyclers. A new gravimetric APD cycler, SILENCIA (Fresenius Medical Care, Germany), has been reported to achieve not only an adequate dialysis dose, but it is also proposed to be silent, user-friendly, and cost-effective. This study compared the acoustic performance of SILENCIA with two other APD cyclers to provide objective noise data.

METHODS

An experimental setup assessed five APD cyclers across three models: SILENCIA (n=2), Cyler A (n=2), and Cyler B (n=1). Background operating noise was measured in an anechoic chamber using five microphones placed one meter from the cycler. The APD prescriptions included five cycles with 2-liter in-/outflow phases, with dwell times of 5 or 60 minutes (the latter, to simulate a more realistic treatment in the volumetric cyclers). The focus was on comparing *equivalent continuous sound level* (LAeq), reflecting average sound energy experienced during a given time; and *maximum sound level* (LAFmax), the loudest moment in a measurement period. Both parameters were measured in decibels (dBA) and adjusted for human hearing (A-weighting). Additionally, sound pressure levels were evaluated across frequencies from 100 Hz to 10 kHz during dwell phases.

RESULTS

SILENCIA demonstrated the lowest LAeq (mean: 13.35 dBA) and LAFmax (mean: 38.55 dBA) over a 5-minute interval during a well, with cyler B showing the highest values (Table 1). SILENCIA also exhibited the lowest sound pressure levels (Figure 1).

CONCLUSIONS

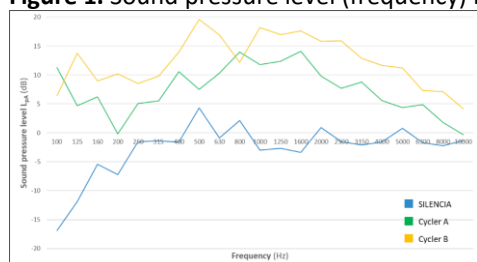
SILENCIA demonstrated better acoustic performance with lower noise levels compared to Cyclers A and B, in both overall sound level (LAeq and LAFmax) and frequency-specific pressure levels. These preliminary findings provide valuable insights for clinicians and patients in selecting APD cyclers and may also have potential beneficial effects on clinical and economical outcomes in PD patients.

Table 1: Comparison of acoustic performance metrics for APD cyclers

Device	LAeq (dBA)		LAFmax (dBA)
	(Dwell 5min)	(Dwell 60 min)	(Dwell 5min)
SILENCIA (n=2)	13.35	N/A *	38.55
SILENCIA #1	12	N/A *	36.3
SILENCIA #2	14.7	N/A *	40.8
Cycler A (n=2)	23.65	16.6	57.4
Cycler A #1	24.9	15.4	55.7
Cycler A #2	22.4	17.8	59.1
Cycler B (n=1)	27.5	26.1	65.4

*The modification of the dwell times was not performed on the SILENCIA cyclers, since their results would not have changed significantly

Figure 1. Sound pressure level (frequency) for a 5-minute dwell time.



P-25 – Escaped to Learn: The Use of Escape Room in Teaching Peritoneal Dialysis To Young Nephrologists

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OBJECTIVES

Gamification is an emerging educational approach in medical training that enhances engagement, motivation, and learning outcomes. In nephrology, particularly in teaching peritoneal dialysis (PD), there is a growing need for innovative strategies to improve both physician education and patient care. The aim of this study is to evaluate the effectiveness of an escape room as a gamified learning tool for young nephrologists in the context of peritoneal dialysis training.

METHODS

During a two-day educational workshop for nephrology trainees, a peritoneal dialysis-themed escape room was introduced as part of the teaching curriculum. Participants (n=20) attended standard lectures, case-based discussions, and role-play exercises, culminating in a voluntary 1-hour escape room challenge. The scenario focused on four key PD topics: patient qualification, managing peritonitis, catheter malfunction, and patient education. After the session, a voluntary anonymous survey was completed by 13 of the 14 escape room participants, assessing engagement, knowledge, confidence, and attitudes toward gamification in education.

RESULTS

Survey data revealed that 92% of participants reported increased engagement with PD and 85% stated the experience deepened their knowledge. Additionally, 62% felt more confident discussing PD with patients. All participants found the experience enjoyable and engaging, and 100% expressed increased interest in the use of gamification in medical education. Qualitative responses emphasized innovation and enthusiasm, with frequent mentions of “super fun idea” and “innovative learning.”

CONCLUSIONS

This pilot project suggests that gamified approaches such as escape rooms can serve as effective, team-based educational tools, enhancing learning, motivation, and potentially long-term clinical interest in home dialysis modalities.

P-26 – Peritoneal Dialysis Effluent–Derived Extracellular Vesicles as a Novel Tool to Monitor Peritoneal Alterations

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OBJECTIVES

Tools to assess peritoneal membrane vitality during peritoneal dialysis (PD) are lacking at present. Current methods detect peritoneal membrane changes at later stages only, highlighting the need for a novel approach to identify early alterations. Extracellular vesicles (EVs) are membrane-bound microparticles released by cells mediating intercellular communication by transporting bioactive molecules like nucleic acids. We propose miRNA profiles of EVs derived from PD-effluent (PDE) as a promising applicable tool for this purpose.

METHODS

We collected PDE-samples of twenty prevalent adult patients, treated with either automated PD (APD) or continuous ambulatory PD (CAPD). Following EV-isolation, IsoSeek miRNA sequencing was performed to obtain miRNA profiles. Differential expression analysis was performed comparing patients with a PD-vintage below and above two years, followed by enrichment analyses on both miRNA and mRNA datasets.

RESULTS

EVs were isolated from the PDE, with a good yield in terms of number and quality. MiRNA-27a-5p and miRNA-449c-5p were significantly higher in the long PD-duration group, while miRNA-122-5p was lower in those patients. Enrichment analysis of these miRNAs revealed amongst others the fibroblast proliferation and PI3K-Akt-signaling pathways. Differential mRNA expression analysis showed that thrombospondin-1 and collagen mRNAs, all genes involved in fibrosis pathways, were higher in the long PD-duration group. Pathway analysis of all differentially expressed mRNAs identified enrichment in extracellular matrix-related pathways.

CONCLUSIONS

We established a clinically feasible method to evaluate the peritoneal membrane by analysing the miRNA cargo of EVs. In this proof of principle study, we found significant differences in biologically relevant EV-miRNA and -mRNAs based on PD duration. Pathway enrichment analysis highlighted biologically relevant pathways related to peritoneal membrane vitality.

P-27 – Empagliflozin Attenuates Peritoneal Dialysis-Driven Cardiac Fibrosis and T-Cell Infiltration in a Mouse Model of Uremic Cardiomyopathy

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OBJECTIVES

Uremic cardiomyopathy (UCM) is a common and serious complication of chronic kidney disease (CKD), associated with high morbidity and mortality. While peritoneal dialysis (PD) is lifesaving in patients with end-stage kidney disease, it may contribute to heart failure (HF) by inducing systemic inflammation and fibrosis. Empagliflozin provides cardio-protection in patients with UCM, yet its potential role in PD-patients remains unclear. In this study, we investigated whether empagliflozin exerts cardioprotective effects in the setting of a PD mouse model.

METHODS

Kidney failure was established with 5/6-nephrectomy in wild-type female C57BL6/N mice. Controls (n=8) underwent sham surgery. All mice were fed a Western diet. Two-thirds of CKD-mice received intraperitoneal Physioneal 40 infusions (2mL/day, 3.86% glucose) for 67 days via a subcutaneous port, the remainder was the CKD-group (n=8). Within the PD-group, half was treated with empagliflozin (20mg/kg/day, oral gavage) (CKD+PD+EMPA-mice, n=7), and half received a vehicle control (CKD+PD-mice, n=6). Cardiac function was assessed by echocardiography at weeks 1, 5 and 9, and left ventricular tissue was analysed for fibrosis, CD3+ T-cell and Mac3+ macrophage infiltration by immunohistochemistry.

RESULTS

CKD+PD mice exhibited significantly more pronounced perivascular cardiac fibrosis, myocardial T-cell infiltration and mild diastolic dysfunction at weeks 1 and 5, as compared to CKD-mice without PD and controls. These early features of PD-driven cardiac injury were significantly attenuated by empagliflozin. No differences were observed among all groups in macrophage infiltration, atrial/brain natriuretic peptide levels, lung wet-to-dry ratio, indexed heart weight, or cardiomyocyte hypertrophy.

CONCLUSIONS

This is the first experimental mouse model of CKD- and PD-driven cardiomyopathy, reflected by myocardial inflammation, fibrosis and transient diastolic dysfunction. Empagliflozin significantly attenuated this cardiac injury, suggesting an additional cardioprotective mechanism of this drug-class in the context of PD and UCM, and highlighting its potential as a therapeutic strategy for PD-patients at risk for HF.

P-28 – Education Initiatives to Improve the Adoption of Peritoneal Dialysis in Poland

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OBJECTIVES

Although peritoneal dialysis (PD) offers many benefits for patients and the healthcare system, it is still not widely proposed to eligible patients. In Poland, the penetration rate of PD decreased from nearly 11% in 2000 to less than 4% in 2024. The main reasons include the prevalence of hemodialysis (HD) units, limited knowledge, and a lack of willingness among nephrologists to offer PD to patients with end-stage kidney disease (ESKD).

METHODS

Two streams of continuous education were proposed and developed by the PD Working Group of the Polish Society of Nephrology:

1. Education for healthcare professionals (HCPs)
2. Education for patients and their families (PF)

RESULTS

HCP education was delivered in the form of:

- Bi-monthly online meetings for doctors and nurses, focusing on practical aspects of running PD programs and patient management.
- Individualized training in academic PD units for interested HCP.
- Ongoing educational activities via PD Academy and local PD conferences, organized or supported by Baxter/Vantive several times a year.

PF education included:

- Formal education programs at academic units, offered on a voluntarily through biannual webinars and individualized training for stage G4 ESKD patients.
- Webinars for patients and families focusing on slowing CKD progression and the importance of shared decision-making in ESKD treatment. These were organized with support from Baxter/Vantive.
- Media campaigns through radio, TV (e.g., national breakfast programs, local news), and newspapers, with active involvement from the Patient Association My Kidneys.
- Expanded educational content in the biannual magazine Dialysis and You, created voluntarily by doctors, nurses, dietitians, psychologists, and physiotherapists for patients.

CONCLUSIONS

Educational initiatives for HCPs and patients/families may enhance awareness and increase the adoption of PD. Support from PD-related companies is valuable and should be maintained. Patient education across all stages of CKD should be considered an essential, reimbursed part of treatment.

P-29 – Ultrasound as a First-Line Tool in Evaluating Suspected Peritoneal Dialysis Catheter Leaks: A Confirmed Case Report

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OBJECTIVES

To highlight the use of point-of-care ultrasound (POCUS) as an effective first-line diagnostic tool for suspected peritoneal dialysis (PD) catheter exit-site leaks and to compare it with confirmatory CT findings.

METHODS

A 63-year-old female with cutaneous lupus, coronary artery disease, heart failure with reduced ejection fraction (~30%), and severe valvular disease was admitted for dyspnea and orthopnea. Due to poor response to diuretics, hemodialysis (HD) was initiated. After significant fluid loss (8.6 kg), a PD catheter was placed and used for small-volume dialysate washouts (500 mL). On day two post-insertion, the exit site appeared wet, raising suspicion of early leakage.

RESULTS

Point-of-care ultrasound (POCUS) was performed, showing no evidence of subcutaneous fluid tracking or leak. Abdomen CT confirmed the absence of leakage, validating the ultrasound findings. Wet exit side was attributed to interstitial oedema and patient continued PD method successfully.

CONCLUSIONS

This case illustrates the clinical utility of ultrasound as a rapid, bedside imaging modality for assessing suspected PD leaks. When CT access is limited or delays are crucial, POCUS offers a safe and cost-effective alternative. Its integration into clinical protocols may reduce unnecessary CT imaging, improving patient care and resource utilization.

REFERENCES

1. Granata A, Rahbari E, Di Nicolò P, Battaglia Y, Campo I, Fresilli D, Pacini P, Lucatelli P, Barr RG, Cantisani V, Zeiler M. The Underrated Role of Ultrasound in Peritoneal Dialysis. *J Ultrasound Med.* 2022 Feb;41(2):301-310. doi: 10.1002/jum.15710. Epub 2021 Mar 29. PMID: 33780019.
2. Nardelli L, Scalamogna A, Castellano G. Utility of ultrasonographic examination in catheter-related infections in peritoneal dialysis: a clinical approach. *J Nephrol.* 2023 Sep;36(7):1751-1761. doi: 10.1007/s40620-023-01589-w. Epub 2023 Mar 20. PMID: 36939999; PMCID: PMC10543158.
3. Marie E, Navallas M, Harvey E, Vali R, Davda S, Oudjhane K, Lorenzo AJ, Shamma A. Imaging of Peritoneal Dialysis Complications in Children. *Radiographics.* 2022 Mar-Apr;42(2):559-578. doi: 10.1148/rg.210143. Epub 2022 Jan 14. PMID: 35030066.

P-30 – Patients With Polycystic Kidney Disease on Peritoneal Dialysis: A Single Center Experience

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OBJECTIVES

Polycystic kidney disease (PKD) is a major cause of end stage renal disease. However, low rates of peritoneal dialysis (PD) utilization are observed in this group of patients due to nephrologists concerns about PD success. The aim of our study was to share the experience about the efficacy of PD and the associated complications in patients with PKD.

METHODS

A single-center, retrospective study was conducted to describe the outcome of PKD patients on PD. We analysed 9 years of data, from 2016-2024. PD modality, dialysis adequacy, mortality, PD-technique failure, peritonitis, abdominal wall problems and withdrawal of the method were recorded.

RESULTS

Out of 84 PD catheter insertions, 10(11.9%) were for PKD patients. The median age at dialysis initiation was 56years (range 28-68) and 70% were females. Patients were followed for a total of 53.38patient-years, with a mean of 5.34 years per patient (range:1.8-8 years). Automated peritoneal dialysis (APD) was the predominant modality (80%). Dialysis adequacy was excellent, with a mean weekly Kt/V of 1.96 ± 0.24 . Most patients (70%) retained residual urine output (~1500 ml/day) during the first year. The average fill volume was 1900ml per exchange. Nine out of ten patients experienced at least one peritonitis episode, yielding a low overall incidence of 0.24 episodes per patient-year. Staphylococcus spp was the main causative micro-organism. We didn't find any diverticulosis during the follow-up period. One patient developed a hernia that was repaired without the need for permanent transfer to hemodialysis. Causes of stopping PD in our PKD patients were transplantation (n=4), transfer to haemodialysis (n=2), death (0%). The causes of technique failure were peritonitis in one patient and ultrafiltration failure in another.

CONCLUSIONS

PD is a suitable renal replacement therapy option for at least a sub-group of PKD patients. PKD patients are not exposed to greater risk of technique failure or peritonitis.

P-31 – The Art of Getting There: One Patient, Many Lessons

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OBJECTIVES

This case report illustrates an unconventional beginning of peritoneal dialysis (PD) treatment in a complex patient who prioritized autonomy and quality of life consistent with his personal values.

METHODS

The retrospective analysis of medical registry of the patient was done.

RESULTS

61-year-old man suffered from CKD V due to unknown origin was referred to PD Clinique. His medical history included hypertension, multinodular goiter and liver transplantation for NASH-related cirrhosis performed ten years prior to presentation. He had an inverted Y-shaped surgical scar in the upper abdomen and bilateral inguinal hernia. After discussion of potential risks and benefits, the patient chose to proceed with PD. The catheter insertion was performed by laparoscopic operation combined with bilateral inguinal hernias repair. Throughout the subsequent year, the patient encountered multiple complications including culture negative peritonitis after the first flash of the abdomen (2 weeks post-surgery), continue with outflow failure, incisional hernia and exit site leak leading to exchange of the dialysis catheter, another culture negative peritonitis immediately after the catheter exchange, intolerance to IP TauroLock, weakness of the abdominal wall, large collection within the abdominal wall, short trial of hemodialysis complicated with access thrombosis and return to PD. Throughout this time, we addressed each complication on a case-by-case basis with interventions such as low-volume exchanges, surgery, use of Claria machine, abdominal binders, daily catheter flushes and other measures. Throughout this entire period, at each stage, as some problems were resolved, new ones emerged. For each problem, a personalized treatment plan was developed, considering the patient's underlying illnesses, family support, and the goal of maintaining a positive and inclusive experience

CONCLUSIONS

Despite recurring challenges throughout his PD treatment, but with persistence, patience, a supportive team, and a personalized regimen, he was able to return to normal activities and travel

P-32 – Reframing Volume Management in Peritoneal Dialysis: The Role of Tolvaptan in Enhancing Cardiac Outcomes

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OBJECTIVES

Peritoneal dialysis (PD) offers several advantages over hemodialysis, including preservation of residual kidney function and better blood pressure stability. However, managing fluid overload in PD patients remains a persistent clinical challenge, often limiting the effectiveness of traditional diuretics. Tolvaptan, a selective vasopressin V2 receptor antagonist, has demonstrated promising results in improving fluid balance in PD patients, particularly in Asian studies where its use has been approved. This work explores the therapeutic potential of tolvaptan not merely as a diuretic adjunct, but as a strategic agent to influence cardiac parameters such as Left Ventricular Mass Index (LVMI) and Brain Natriuretic Peptide (BNP) levels.

METHODS

A meta-analysis was undertaken to synthesize current evidence for the utility of tolvaptan in PD. Five studies encompassing 70 patients (mean age 66.1 ± 15 years) were included. Participants received up to 15 mg of tolvaptan, with a mean follow-up duration averaging 8.2 ± 3.9 months.

RESULTS

The meta-analysis revealed that tolvaptan significantly increased urine output in two out of four studies (Mean Difference = +554.5 cc [379, 730], $I^2 = 61.5$). Although changes in body weight and dialysis adequacy (kt/V) were generally minimal, two studies reported a significant decline in LVMI (MD = -43.28 [-84.9, -1.6], $I^2 = 80.6\%$). A single study documented a marked reduction in BNP levels. Importantly, no serious adverse events were reported.

CONCLUSIONS

Tolvaptan may serve as a valuable adjunct in fluid management strategies for PD patients, potentially mitigating volume overload and reducing cardiac stress. These findings support a growing interest in vasopressin antagonism as a means of improving cardiovascular outcomes in dialysis populations. Further prospective trials are essential to validate its long-term safety and efficacy.

P-33 – Roxadustat in Peritoneal Dialysis Patients: Early Observations Raise Questions About Efficacy and Tolerability

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OBJECTIVES

Roxadustat, a hypoxia-inducible factor prolyl hydroxylase inhibitor (HIF-PHI), is approved for anemia management in chronic kidney disease (CKD). While promising in broader dialysis populations, its role in peritoneal dialysis (PD) patients remains under-explored, with limited data on both efficacy and safety.

METHODS

This observational study included 8 PD patients (mean age 62.5 ± 17.9 years, median PD duration 37.5 [22.5–89.25] months) who transitioned from erythropoiesis-stimulating agents (ESAs) to roxadustat. Patients were followed monthly for a minimum of three months. One patient discontinued the drug after experiencing epigastric discomfort following the first dose. Another died due to a cardiovascular event in the second month. Notably, one patient demonstrated a transition from high to low peritoneal transport status during the follow-up period.

RESULTS

A decline in hemoglobin and hematocrit was observed in all patients by the second month (mean reduction: 1.75 ± 0.9 g/dL and $4.9 \pm 2.4\%$, respectively), with recovery to baseline by the third month. There were no significant changes in CRP or ferritin levels. Although a reduction in cholesterol was observed across the group, it was not statistically significant. No episodes of peritonitis occurred.

CONCLUSIONS

In this small cohort of PD patients, roxadustat was associated with a transient decline in anemia parameters and did not yield clear biochemical or clinical advantages in the short term. The case of a patient transitioning from high to low peritoneal transport status raises additional concerns regarding potential effects on peritoneal membrane characteristics. These early findings highlight the importance of cautious use and the urgent need for larger, controlled studies to clarify the risk-benefit profile of roxadustat in PD populations.

P-34 – Peritoneal Dialysis Associated Peritonitis, Their Treatment and Outcome: A 18-Year Single Centre Experience, Prague, Czech Republic

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OBJECTIVES

Peritoneal dialysis (PD)-associated peritonitis is a complication of PD that can lead to significant morbidity and technique failure. Some variation was reported in peritonitis rates across different centres. Evaluating its incidence, outcomes and causative organisms is crucial for improving patient care. We aimed to analyse these characteristics of peritonitis in our unit during 18-year period.

METHODS

Medical records of all PD patients (treated during the years 2007-2024) from our unit at the General University Hospital were evaluated. We retrospectively analysed the incidence of peritonitis, their causative organism, the antimicrobial treatment, and outcome. Peritonitis rates were calculated as number of episodes per patient-year. Outcome was classified as initial cure, catheter removal or patient death.

RESULTS

A total of 192 patients (m=128, age 43.7 ± 14.5) were treated with PD in our centre. 59 patients (31 %) experienced at least 1 episode of peritonitis. The total incidence of peritonitis was 0.36 episodes per patient-year. Gram+ microorganisms were the causative agents in 50% of cases, gram-negative bacteria in 15%, polymicrobial findings in 9%, culture-negative in 25%, mycotic peritonitis in 1% of cases. Our initial empirical ATB choice was Cefazoline and Gentamicin, with possible subsequent change according to cultivation results. The initial cure rate was 80%, removal of PD catheter was performed in 17% of cases. Two patients died within 4 weeks after developing peritonitis. Catheter removal was common in mycotic peritonitis (100%), polymicrobial (36 %) and gram-negative peritonitis (32 %). Mortality was highest in gram-negative peritonitis.

CONCLUSIONS

The overall peritonitis rate of 0.36 episodes per patient-year at our unit meets the ISPD guidelines. Culture negative peritonitis rate was higher than recommended, but this trend has been decreasing. The proportions of Gram+ (50%) and CoNS (29%) was slightly higher than reported in other studies. The cure rate of peritonitis in our centre was favourable.

REFERENCES

1. Young EW, Zhao J, Pisoni RL et al. : Peritoneal Dialysis–Associated Peritonitis Trends Using Medicare Claims Data, 2013-2017. *American Journal of Kidney Diseases*. 2023 Feb 1;81(2):179–89.
2. Li PKT, Chow KM, Cho Y et al: ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. *Peritoneal Dialysis International*. 2022 Mar 1;42(2):110–53.
3. Marshall MR. A systematic review of peritoneal dialysis-related peritonitis rates over time from national or regional population-based registries and databases. Vol. 42, *Peritoneal Dialysis International*. SAGE Publications Inc.; 2022. p. 39–47.
4. Brown MC, Simpson K, Kerssens JJ et al.: Peritoneal dialysis-associated peritonitis rates and outcomes in a national cohort are not improving in the post-millennium (2000 - 2007). *Peritoneal Dialysis International*. 2011 Nov;31(6):639–50.
5. Forté V, Novelli S, Zaidan M et al: Microbiology and outcomes of polymicrobial peritonitis associated with peritoneal dialysis: a register-based cohort study from the French Language Peritoneal Dialysis Registry. *Nephrology Dialysis Transplantation*. 2023 May 1;38(5):1271–81.
6. Perl J, Fuller DS, Bieber BA et al: Peritoneal Dialysis–Related Infection Rates and Outcomes: Results From the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS). *American Journal of Kidney Diseases*. 2020 Jul 1;76(1):42–53.

P-35 – Team Selection as A Key Prerequisite for Successful Performance of Peritoneal Dialysis

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OBJECTIVES

Approximately about 10% of the total world population who require dialysis are on peritoneal dialysis (PD) modality treatment. However, in our hospital more than 25% of these patients are on PD. In this paper we analyzed the recruiting approach of patients for PD in our hospital.

METHODS

The fundamental step was improvement of selection and training of our doctors and nurses who are engaged in the PD program. Next, we have formed a pre-dialysis infirmary where we perform education of patients with unbiased presentation of advantages PD (including engagement of compliant PD patients) but complications of both dialysis modalities also, encouraging them to perform PD as first option with all benefits which same provides. A basic criterion for selection of patients for PD is absence of medical contraindications and after that a choice by the patient. Possibility of APD is next, very important factor in recruitment of these patients especially in population of elderly patients who need assisted PD. Providing 24-hour-a-day patient support is another important factor. Possibility of transfer into our HD center in the case of the discontinuation of PD is the next, very important argument. Finally, all patients without contraindications for kidney transplantation are regularly prepared for this procedure.

RESULTS

More than 60% of patients who were educated in our pre-dialysis infirmary have chosen PD as the first treatment modality.

CONCLUSIONS

The optimal selection, motivation and education of medical staff is crucial for conducting unbiased education and successful selection of patients for PD program in our hospital. The maximum limitation of all potentially negative determinants for PD selection (including nephrologists' distrust of this method) is the next necessary prerequisite for the successful implementation of this selection.

P-36 – Relationship of Peritoneal Membrane Transport Characteristics to Nutritional Status and Residual Renal Function

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OBJECTIVES

The positive impact of preserved nutritional status and residual renal function (RRF) on surviving in peritoneal dialysis (PD) patients is well known. On the other hand, high transport characteristics of peritoneal membrane may have a negative impact on the outcome of these patients. In our study we analyzed distribution of these characteristics in our patients.

METHODS

Retrospective analysis of 72 chronic PD patients with at least a 3-year history of PD treatment. We analyzed demographic characteristics, transport status, rate of peritonitis, RRF (daily diuresis >200ml) and nutritional parameters (percentage body fat, serum creatinine, albumin concentrations and normalized protein catabolic rate (nPCR)) and their impact on surviving of our patients.

RESULTS

The patients were classified into two groups: 28 patients (38.89%) with low (<0.65) and 44 patients (61.11%) with high (>0.65) transport characteristics of peritoneal membrane (12 of them were on APD). First group had 71.43% patients with RRF (N=20) and second 73.73% (N=32). Total Kt/V urea being equal in both groups- $1.98 \pm 0,1$ and $2,02 \pm 0,1$; weekly creatinine clearance (58.2 vs $60.1/w/1.73m^2$), also. Total duration of dialysis were similar ($4,6 \pm 0,8$ vs $5,1 \pm 0,5$ years). There were no significantly difference in age, diabetes mellitus co morbidity, percentage of body fat and albumin concentrations. Female gender, level of creatinine and nPCR were significantly higher ($p > 0.01$) in patients with low transport characteristics of peritoneal membrane. Rate of peritonitis was higher ($p > 0.05$) in group with high transport characteristics. There were no significant difference in surviving rate.

CONCLUSIONS

Almost two third of our PD patients have had high transport characteristic of peritoneal membrane which was connected with poor nutritional status and higher rate of peritonitis what can have negative impact on surviving of these patients in perspective.

P-37 – The First Report of Peritonitis Due To *Aggregatibacter Segnis* In A Peritoneal Dialysis Patient

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OBJECTIVES

Aggregatibacter segnis (AS) is a fastidious Gram-negative coccobacillus and a member of the HACEK group. Its growth requires specialized culture conditions, potentially delaying its identification in clinical practice.¹ AS, part of the normal human oral flora, is primarily associated with endocarditis. To date, no cases of AS peritonitis have been reported.^{2,3}

METHODS

An 85-year-old patient with a history of end-stage kidney disease on peritoneal dialysis (PD) presented with abdominal pain and cloudy peritoneal effluent. Rebound tenderness and a dialysis effluent cell count of 4300 cells/ μ L confirmed the diagnosis of peritonitis. A culture of the PD effluent identified *Aggregatibacter segnis*, while blood cultures were negative. The patient received intraperitoneal ceftazidime based on the sensitivity profile of AS for 21 days.

RESULTS

Symptoms resolved completely, with normalization of laboratory findings, and the PD catheter was preserved without the necessity for removal. A dental evaluation, given the possible oral origin of AS, showed no abnormalities. The patient's PD technique was reviewed with an emphasis on proper hand hygiene and face mask use during exchanges. Three months later, the patient remains asymptomatic, with no recurrence of peritonitis.

CONCLUSIONS

This is the first documented case of peritonitis caused by *Aggregatibacter segnis*. Importantly, the infection was successfully treated while preserving the peritoneal dialysis catheter. Early identification of this pathogen is critical for guiding appropriate antimicrobial therapy. This case also underscores the importance of maintaining proper PD exchange techniques and considering dental evaluations in patients with AS infections.

References

1. Nørskov-Lauritsen N. Classification, identification, and clinical significance of *Haemophilus* and *Aggregatibacter* species with host specificity for humans. *Clin Microbiol Rev.* 2014;27(2):214-240. doi:10.1128/CMR.00103-13
2. Guo X, Zhang X, Qin Y, Liu H, Wang X. Endocarditis due to *Aggregatibacter Segnis*: a rare case report. *BMC Infect Dis.* 2023;23(1):309. doi:10.1186/s12879-023-08231-x
3. Khaledi M, Sameni F, Afkhami H, et al. Infective endocarditis by HACEK: a review. *J Cardiothorac Surg.* 2022;17(1):185. doi:10.1186/s13019-022-01932-5

P-38 – Optimising Diabetes Care in Patients on Peritoneal Dialysis Using A Combined PD/DM Virtual Clinic Model

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OBJECTIVES

Developments in continuous glucose monitoring (CGM) systems have transformed diabetes care. We now have the opportunity to improve blood sugar control in diabetic patients on peritoneal dialysis. CGM data combined with knowledge of dialysis prescriptions allows optimisation of diabetes treatment to counteract the impact of glucose containing peritoneal dialysis fluids. A combined virtual clinic utilising nephrology and diabetology expertise offers the opportunity to deliver better diabetes care and more successful peritoneal dialysis.

METHODS

We identified all diabetic patients on peritoneal dialysis under the care of the Wessex Kidney. We then arranged a 3 monthly virtual clinic with nephrology and diabetology colleagues jointly reviewing CGM data, diabetes medication and PD prescriptions. Management changes in terms of insulin administration or oral hypo-glycemic agents were communicated to patients, their primary care diabetes teams or their specialist diabetology teams if under the care of other secondary diabetes providers. Adjustments of peritoneal dialysis fluid prescriptions were made moving towards lower glucose regimens. The requirement for ongoing CGM was determined on an individual patient basis.

RESULTS

The clinic has run regularly since 2021. We currently have 98 prevalent patients on PD. 28 have diabetes and are under PDDM clinic review. CGM data has been obtained in the majority and we have access to remote PD monitoring data for those on APD via Sharesource. CAPD dialysis fluid use data is obtained directly from the patients. Undertaking the clinic is allowing us to develop improved expertise in managing blood sugar levels in a complex group of diabetic patients who at high cardiovascular risk.

CONCLUSIONS

A joint renal and diabetes virtual clinic model implementing use of CGM and remote dialysis monitoring can provide a way of streamlining care and improving patient experience and outcomes.

P-39 – Insertion of Peritoneal Dialysis Catheters Using Local Versus General Anaesthetic – A Single Centre Experience Over 2 Years

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OBJECTIVES

Peritoneal dialysis catheters can be inserted using local anaesthetic (LA) or general anaesthetic (GA). Advantages of LA include quicker recovery, that it can be performed as a day case, and that PD can be offered to patients unsuitable for GA. We aimed to review our own practice and look at ways to improve our service going forwards.

METHODS

Electronic patient records were reviewed to identify patients who underwent PD catheter insertion during a 2-year period. Data was collected on patient demographics, type of anaesthetic, rationale for LA or GA, and post-procedure complications.

RESULTS

80 catheters were inserted over the 2-year period. Average patient age was 60 years (range 21-86). There were slightly more males (49) than females (31). The average GFR at catheter insertion was 9mls/minute. In total, 63 catheters (79%) were performed under LA and 17 (21%) under GA. Of those who had GA insertion most had added procedural complexity, either due to the requirement for simultaneous hernia repair (29%) or significant previous surgeries/scars (41%). A smaller number of patients opted for GA as personal preference. Complications occurred in 8 of 63 (12.7%) LA insertions (7 catheters requiring subsequent re-positioning under GA and one early exit site infection). Complications occurred in 2 of 17 (11.7%) GA insertions (1 episode of bowel damage and 1 pleural leak). There were no episodes of post-procedure peritonitis in either group.

CONCLUSIONS

In our centre the majority of PD catheters are inserted under LA. Complication rates were similar between LA and GA approaches though a significant number of LA insertions required subsequent catheter repositioning. As a result, we have changed our pre-procedure bowel preparation and are hoping to improve local expertise in catheter repositioning under LA. We feel that having access to both LA and GA catheter insertions maximises accessibility to PD for patients with kidney failure.

P-40 – Differences In Nephrologist’s Personality and Attitudes Towards Dialysis Modality Selection: A Q-Sort Analysis

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OBJECTIVES

Culture within dialysis units impacts modality selection decision (MSD) and thus partition of home-based therapies. We hypothesized that attitudes towards the concept of shared decision making (SDM) discussion might differ substantially between nephrologists. Q-sort techniques explore subjectivity in a quantified systematic way to provide objectified understanding of this subjectivity and can thus provide insights into attitudes regarding MSD.

METHODS

We used a Q-sort analysis starting from a clinical vignette to explore attitudes of Belgian nephrologists towards SDM during MSD. Participants from different age, gender, dialysis expertise and geographical location were selected. A concurs of 9 statements about the vignette was drafted containing different attributes varying in degrees of attention to goal-oriented care, SDM, need for (medical) control, complacency and medical-technical knowledge on home-based therapies. Kade-Qsort factor analysis was used to explain the variance over the participants. Achieved factors were interpreted for meaning according to predefined attributions for each statement.

RESULTS

15/25 participants indicated MSD requires a collaborative decision of (informed) patient, nephrologist, and nephrology team, whereas 16 opposed that MSD is the exclusive responsibility of the nephrologist and 16 struggled to give the final decision to the patient. Factor analysis revealed 3 groups explaining 79% of variance: one (49%) keen on goal-oriented care, low complacency and high knowledge on home-based therapies; one (20%) with high complacency and low knowledge towards home-based therapies, a high need for control and a paternalistic attitude. A third group (10%) had comparable properties as the previous but allocated all responsibility for MSD to the patient.

CONCLUSIONS

Nephrologists with a paternalistic attitude and need for control had high complacency towards and low knowledge of home-based therapies, whereas those in favour of home-based therapies were more prone to use goal-oriented care and SDM in MSD.

P-41 – A Nephrologist Dream of Peritoneal Dialysis Catheter with Zero Migration: A Multicenter Prospective Study

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OBJECTIVES

PD catheter tip migration is a common complication and a significant cause of catheter malfunction. In this perspective, we present our experience with a new catheter and a new technique that involves the use of a new triple cuff PD catheter and a low entry site to prevent PD catheter migration.

METHODS

A total of 503 incident PD patients have been studied in more than one PD centre over a period of 5 years.

RESULTS

During the 5-year follow up we recorded zero percent catheter migration. Other technical complications were poor drainage in 3.4%, omental wrap in 2.8%, early leakage in 3.4%, and catheter replacement in 2.4%. By the end of the study, the one-year PD catheter survival was 97.6%.

CONCLUSIONS

Our new triple cuff PD catheter and our low-entry approach seem to be effective in preventing PD catheter migration and minimizing other mechanical complications.

P-42 – Comparison of Percutaneous and Laparoscopic Insertion of a Novel Three-Cuff PD Catheter: A Single-Center Study

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OBJECTIVES

To look at the practice pattern and outcomes of the novel three-cuff PD catheter insertion at our center from 2015 to 2024. This may help to understand the factors that govern and dictate nephrology physicians to choose between surgical techniques and if one method is superior to the other in terms of post-surgical complications.

METHODS

The cross-sectional study included 225 patients with end-stage kidney disease who had undergone PD catheter insertion, either percutaneous or laparoscopic in the nephrology unit at King Fahad Hospital University over nine years, from 2015 to 2024 (table1). Patients with acute kidney injury who underwent peritoneal dialysis were excluded from the study. All data variables such as gender, age, BMI, underlying comorbidities, type of PD catheter insertion, and post-surgical complications (e.g., catheter malfunction, bleeding, peritonitis, and other complications) had been collected from the hospital registry, after approval from the hospital ethical committee (tables 2 and 3). The statistical analysis of data for the standard deviation, p values, prevalence, odd ratios, and correlation between independent and dependent variables was performed using the SPSS software. Patients' characteristics are shown in Table 1. We declare no conflicts of interests between the authors.

RESULTS

There was no statistical significance between the two groups in terms of patient characteristics such as sample size, age, hypertension, diabetes mellitus, body mass index, and polycystic kidney disease. However, the study reported a higher prevalence of CHF, greater risk of technique failure, and increased complications at three months in the percutaneous PD catheter group compared to the laparoscopic group. However, the rate of catheter migration and peritonitis was 0% with the use of a three-cuff PD catheter.

CONCLUSIONS

This cross-sectional study highlights a higher prevalence of CHF, greater risk of technique failure, and increased complications at three months in the percutaneous PD catheter group compared to the laparoscopic group. However, the rate of catheter migration and peritonitis was 0% with the use of a three-cuff PD catheter. These findings emphasize the importance of careful patient selection and consideration of insertion techniques and PD catheter types, particularly in patients with significant comorbidities. The availability of both methods and the use of the novel three-cuff PD catheter can help increase the number of patients who may benefit from peritoneal dialysis with the minimum possible complications post-insertion, particularly catheter migration and peritonitis, regardless of which surgical method is used.

P-43 – Minilaparotomy Approach for CAPD Catheter Insertion: A Three-Year Review

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OBJECTIVES

Catheter placement is critical step in the success of CAPD. Several techniques are available for the insertion of peritoneal dialysis catheters including laparoscopic surgery, percutaneous placement and minilaparotomy. Each method has its own advantages and limitations in terms of safety, efficiency and accessibility. In our center, minilaparotomy is routinely used for catheter insertion. We present our experience with this technique, focusing on surgical outcomes and catheter function

METHODS

Catheters were inserted via a short paraumbilical incision using the min-laparotomy technique. The procedure was performed under local anesthesia, without the need for general anesthesia. The catheter was secured in position to minimize the risk of dislocation or migration. After placement, catheter function was immediately verified by flushing with dialysis solution to ensure proper flow and drainage.

RESULTS

A total of 8 patients underwent peritoneal dialysis catheter placement using the minilaparotomy technique. Initial catheter function was successful in all cases. One catheter was explanted after 2 months due to an exit-site infection caused MRSA. Another patient discontinued CAPD after two years because diverticulitis, and one patient after 2,5years due peritonitis

CONCLUSIONS

Our experience with CAPD catheter placement via laparotomy over 3-year period demonstrates that this technique is a safe and effective option. All catheters were inserted without intraoperative complications and were fully functional. Although three patients discontinued CAPD due to infection complications five continue treatment successfully. This method provides a reliable alternative for centers without laparoscopic access offering good outcomes with manageable risk profile.

P-44 – Staying Home After APD Failure: A New Role for Home HD

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OBJECTIVES

We present a case of successful transition from peritoneal dialysis to home hemodialysis (Home HD) following catheter explantation due to peritonitis and to highlight Home Hd as a feasible and patient-centered alternative to in-centre hemodialysis.

METHODS

We describe a 75-year-old male patient with end-stage renal disease secondary due to vascular nephrosclerosis. CAPD was initiated in April 2022 with the catheter placed via mini-laparotomy without complications. After 2,5 years, the catheter was explanted due peritonitis, and CAPD was discontinued. The patient experienced poor tolerance to standard in-centre hemodialysis. Given his strong motivation and adequate functional capacity, Home HD using the Physidia system was offered. The patient underwent individualized training and began treatment at home five times per week.

RESULTS

The patient adapted well to the Home HD therapy. He reported significant improvement in overall comfort, psychological well-being and treatment satisfaction compared to in-centre hemodialysis. There were no technical or medical complications during the training or early follow-up period. Home HD allowed the patient a high level of autonomy and avoid regular travel to the dialysis centre.

CONCLUSIONS

This case demonstrates that HOME HD can be a viable and well tolerated alternative for selected patients following CAPD discontinuation due to complications such as peritonitis. In appropriately motivated and clinically suitable individuals. Home HD offers benefits in terms of quality of life and treatment satisfaction. Wider use of this modality may help personalize renal replacement therapy beyond the standard centre-based approach.

P-45 – “Shaving” The External Muff as A Method of Treating Persistent Peritoneal Catheter Exit Site Infections

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OBJECTIVES

Persistent exit-site infections (ESIs) of peritoneal dialysis (PD) catheters can lead to tunnel infections and peritonitis, jeopardizing catheter survival and therapy continuity. Surgical “shaving,” involving excision of the external cuff and surrounding infected tissue, is a minimally invasive approach for managing refractory ESIs. This study reports a ten-year experience with this technique.

METHODS

Between 2014 and 2024, fifteen PD patients with persistent exit-site and external cuff infections unresponsive to antibiotics underwent shaving under local anesthesia. The procedure involved *en bloc* removal of the infected cuff, followed by primary wound closure and PD resumption within two hours. Patients with tunnel infections or peritonitis were excluded. Clinical outcomes and infection rates were evaluated pre- and post-intervention.

RESULTS

Mean patient age was 62 ± 12 years; 67% were male. Diabetes mellitus was the most common comorbidity. *Pseudomonas aeruginosa* and *Staphylococcus aureus* were the most frequent pathogens. The mean PD duration prior to the procedure was 34 ± 20 months. Infection resolution occurred in over 80% of patients. Post-intervention, infection and peritonitis rates significantly decreased (infections: 2.9 ± 1.4 vs. 1.0 ± 1.0 , $p < 0.001$; peritonitis: 0.8 ± 1.0 vs. 0.27 ± 0.5 , $p < 0.04$). Technique survival was preserved in 70% of patients; one required catheter replacement. Cardiovascular mortality accounted for 33% of deaths during follow-up.

CONCLUSIONS

External cuff shaving is a safe and effective salvage technique for managing recurrent ESIs and reducing peritonitis risk in selected PD patients. Despite the limited sample size, this method may help preserve peritoneal dialysis as a long-term renal replacement option.

P-46 – Adaptation and Application of A Root Cause Analysis (RCA) Tool For PD Peritonitis at The Sheffield Kidney Institute

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OBJECTIVES

PD peritonitis is a major complication of the therapy and a significant concern as it can result in hospitalisation, transfer to haemodialysis and rarely death. The ISPD 2022 peritonitis guideline recommends that the overall peritonitis rate should be no more than 0.40 episodes per year. Our rate during 2024 was 0.42, which we seek to improve by using a systematic root cause analysis (RCA) to identify modifiable risk factors.

METHODS

We adapted a RCA tool provided by the Midlands Kidney Network, in collaboration with KQIP, using a working group of PD specialist nurses, consultants and renal speciality trainees. The tool includes a range of domains which recognise an array of factors included in table 1.

Table 1.

Patient factors	Peritonitis episode	Other
Diabetes Immunosuppressant use H2 antagonists Hypokalaemia Bowel function Cognitive function	Recent ESI Organism Current treatment Previous peritonitis	Home environment Carer fatigue PD training

We piloted the tool using a PDSA cycle on 10 cases of peritonitis occurring since January 2025 leading to changes including the addition of the blood potassium concentration, direction of PD catheter, information relating to the home environment and bowel habit. We are now using the adapted RCA tool prospectively and will continue to co-develop the tool with patient partners and assess the impact on our peritonitis rates.

RESULTS

Of the 10 patients, 8 were male. 1 had an ESI growing pseudomonas which was the causative organism for their peritonitis. 7 had peritonitis within the past year with 1 showing recurrence of the same organism, 4 cases led to catheter removal, 1 ending in fatality.

CONCLUSIONS

When applying a RCA tool to assess peritonitis risk, it is important to adapt the tool for local contextual issues, ensure it takes account of the latest high-quality evidence and involve patient partners in its subsequent adaption.

P-47 – Metabolomic Profiling of Peritoneal Fluid in Peritoneal Dialysis Patients: A Proton NMR-Based Study

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OBJECTIVES

To perform detailed metabolic profiling and quantification of metabolites in PF and to explore correlations with clinical and laboratory parameters in PD patients. Metabolomics is a high-throughput analytical approach that captures the complete set of metabolites in biological systems, reflecting underlying metabolic processes. Despite its growing application in nephrology, data on the metabolomic profile of peritoneal fluid (PF) in patients undergoing Peritoneal Dialysis (PD) remain scarce.

METHODS

We studied 26 patients on PD who underwent a modified peritoneal equilibration test (PET) with temporary drainage at 1 hour. Peritoneal fluid samples were collected at the end of the procedure and analyzed using proton nuclear magnetic resonance spectroscopy (¹H-NMR). Multivariate statistical analysis and machine learning algorithms were applied to the metabolic profiles, integrating demographic, clinical, and PET-derived data.

RESULTS

Patient characteristics are summarized in Table 1. The models developed identified distinct metabolic profile patterns associated with PD duration, presence of residual renal function (RRF), creatinine ratio (D/Pcre), and C-reactive protein (CRP) level (pict 1). Less robust classifiers included dipping sodium (DipNa) and 4-hour ultrafiltration (UF240).

Table 1

26pts	Mean ± sd	Median	Range
age (years)	69.02 ± 13.6		
Duration on PD (months)		42.17	1.5 – 217
RRF (ml/min)		3.3	0 – 15.75
D/Pcre	0.75 ± 0.08		
UF240 (ml)		505	0 – 900
DipNa		6.5	0 -14
CRP (mg/dl)	0.66 ± 0.84	0.37	0.12 – 3.31

CONCLUSIONS

Time on Peritoneal dialysis, Residual renal function, membrane characteristics and CRP levels are robust classifiers of the peritoneal membrane metabolomic fingerprint. Subsequently, a process of metabolite identification and quantification will follow, along with an effort to determine their potential clinical significance.

P-48 – Placement of Peritoneal Dialysis Catheters at Oslo University Hospital Ullevål From 2017 To 2022

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OBJECTIVES

The placement of a peritoneal dialysis catheter is a surgical procedure used in the treatment of end-stage renal failure. The aim of this study was to review the placement of peritoneal dialysis catheters at Oslo University Hospital Ullevål

METHODS

The study is a retrospective analysis of collected data on the placement of peritoneal dialysis catheters from January 2017 to December 2022. Data collected through medical record review included demographic information such as gender and age, as well as patient-related details like comorbidities and the cause of kidney failure. Additionally, perioperative details were recorded, including surgical approach, operative technique, and postoperative follow-up.

RESULTS

Of the 181 patients who had a peritoneal dialysis catheter placed at Oslo University Hospital Ullevål between January 1, 2017, and December 31, 2022, 172 met the inclusion criteria for the study. The median age at the time of surgery was 65 years, and 110 of the patients (64%) were men. Hypertension and diabetes were the most common causes of kidney failure, accounting for over half of the cases. After 12 months, the cumulative percentage of functioning peritoneal dialysis catheters was 80,2. Within 30 days of catheter placement, exit-site infection occurred in 18 patients (11%), while peritonitis was observed in 6 patients (4%). Two patients (1%) experienced hollow organ perforation during the procedure, and one patient had postoperative bleeding requiring transfusion.

CONCLUSIONS

The placement of PD catheters at Oslo University Hospital Ullevål during the study period was generally in line with international guidelines. However, a slightly higher incidence of exit-site infections (ESI) was observed than desired. When compared to international studies, the results were comparable in terms of both catheter survival and complications.

P-49 – Gla-Rich Protein as a Novel Biomarker for Cardiovascular Risk in Peritoneal Dialysis Patients

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OBJECTIVES

Cardiovascular disease remains the leading cause of mortality in chronic kidney disease (CKD), especially in patients on dialysis. Gla-rich protein (GRP) is a potent inhibitor of vascular calcification with anti-inflammatory properties and has emerged as a promising biomarker for cardiovascular risk. This study investigates, for the first time, the association between serum GRP levels and cardiac structural and functional parameters in a peritoneal dialysis (PD) population.

METHODS

In this cross-sectional study, 101 stage 5 CKD patients undergoing PD (62% male) were enrolled between 2015 and 2022. Total GRP (tGRP) serum levels were measured in serum using a validated sandwich ELISA. Pulse pressure (PP), calcium-phosphate product (CaxP), and echocardiographic assessments including left ventricular mass index (LVMI) and relative wall thickness (RWT), were analysed.

RESULTS

Left ventricular hypertrophy (LVH) was present in 59% of patients, elevated PP in 37%, and increased RWT in 79%. tGRP levels were inversely correlated with CaxP ($r = -0.883$, $p < 0.01$), RWT ($r = -0.418$, $p < 0.01$), PP ($r = -0.349$, $p < 0.05$), and LVMI ($r = -0.691$, $p < 0.01$). CaxP positively correlated with LVMI, RWT, and PP ($p < 0.01$). Lower tGRP levels were significantly associated with increased LVH in both men ($p < 0.01$) and women ($p < 0.05$), and with higher RWT ($p < 0.01$).

CONCLUSIONS

This study demonstrates a strong and consistent inverse association between tGRP serum levels and key markers of cardiovascular risk, including ventricular hypertrophy and mineral serum markers. These findings support the potential role of GRP as a novel biomarker for cardiovascular risk stratification in peritoneal dialysis patients.

P-50 – Increasing Home Haemodialysis Uptake and Sustaining Patient Engagement through Collaborative Quality Improvement

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OBJECTIVES

Home Haemodialysis (HHD) offers substantial clinical benefits, including improved quality of life and increased life expectancy. Despite this, uptake at the Royal Free London NHS Foundation Trust (RFL) has remained low due to resource limitations, staffing constraints, and insufficient education among patients and healthcare professionals (HCPs). To address these barriers, RFL secured NHS England funding to revitalise the HHD programme, appointing a dedicated Clinical Nurse Specialist (CNS) and procuring additional equipment. A structured Quality Improvement (QI) framework guided implementation. Patient engagement activities, tailored HHD training competencies, and routine education sessions for renal nurses were introduced to increase awareness and streamline referral pathways.

METHODS

The number of patients expressing interest in HHD was recorded monthly as a process measure. Post-training questionnaires assessed patient satisfaction, while staff confidence and understanding were measured pre- and post-intervention. Additionally, a six-day collaborative educational road show—co-led by the HHD team and Vantive Medical Affairs—was delivered across four satellite dialysis units, engaging over 100 HCPs and 40 patients.

RESULTS

The HHD patient cohort tripled from 5 to 15, with a growing waiting list. Staff confidence in discussing HHD rose from 66% to 89% and understanding from 77% to 100%. Among patients surveyed, 100% rated the impact of HHD on their quality of life as 10/10. The road show also contributed to a cultural shift, with referrals increasingly initiated by nursing staff, reflecting enhanced frontline ownership.

CONCLUSIONS

This multifaceted initiative demonstrates the value of partnership-driven education and continuous QI in transforming service delivery. The tested interventions have now been embedded as standard practice, enabling sustained patient recruitment and a shift in organisational culture that supports broader adoption of home therapies across the NHS.

P-51 – Enhancing Home Haemodialysis Awareness Through a Collaborative Road Show Initiative: A Hospital–Industry Partnership

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OBJECTIVES

Despite the clinical benefits of Home Haemodialysis (HHD), its uptake remains low across the current dialysis population. In early 2025, the Royal Free London NHS Foundation Trust, HHD team and the Vantive Clinical Education and Medical Affairs team co-developed and delivered an in-house road show to raise awareness, demonstrate the home dialysis technology, and engage both patients and renal healthcare professionals (HCPs) in four satellite dialysis units.

METHODS

Over 100 HCPs—including consultants, nurses, technicians, and allied health staff—participated in 14 sessions delivered by Vantive staff. Patients undergoing in-centre dialysis and those seen in the pre-dialysis AKC clinic engaged directly with Home HD Clinical Nurse Specialists and peer supporters. Feedback and engagement data were collected to measure the initiative's impact.

RESULTS

Before the road show, only 77% of HCPs rated their understanding of HHD as good or very good, and 66% felt confident discussing it with patients. These figures improved markedly post-event to 100% and 89%, respectively. The initiative also counselled 40 patients, 17 of whom expressed interest in HHD, with 7 being added to the training waiting list. A notable outcome was the shift in referral patterns. Previously reliant on consultants, referrals are now increasingly initiated by unit nurses, reflecting enhanced ownership and awareness among staff. Feedback from 65 evaluations highlighted the sessions as highly informative.

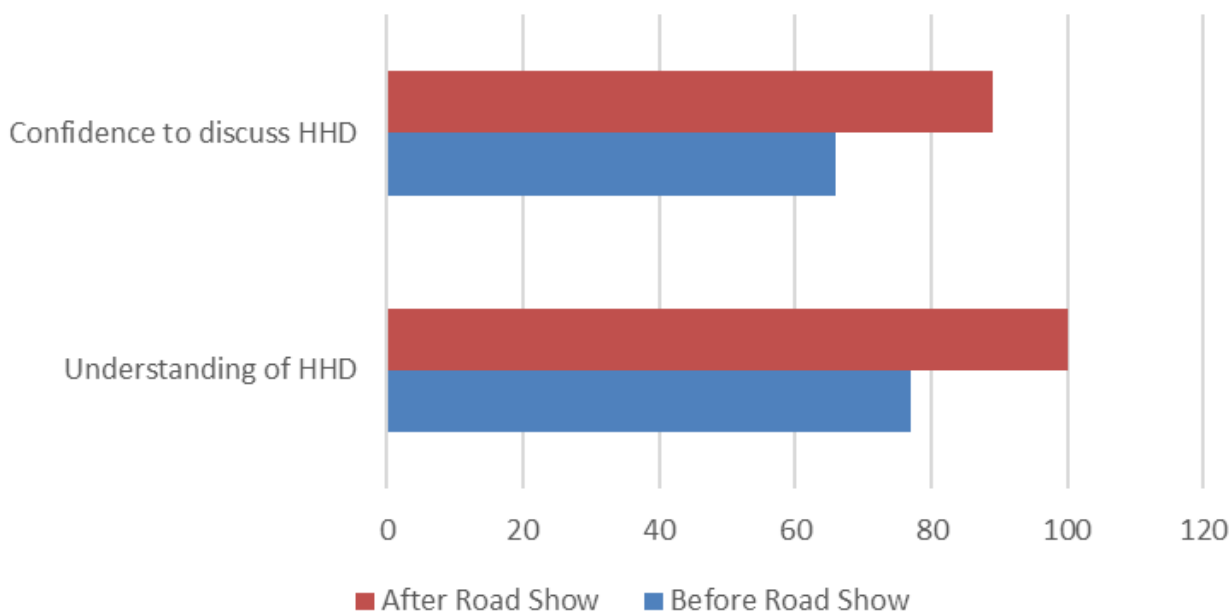


Figure 1 Improvement in Staff understanding and confidence in discussing Home Haemodialysis before and after the road show

CONCLUSIONS

This hospital–industry collaborative initiative significantly improved staff knowledge, confidence, and engagement with HHD, while also stimulating direct patient interest and enrolment. The intervention addressed a long-standing gap in awareness by enabling hands-on interaction and peer-led discussion. It also triggered a cultural shift in referral behavior, with nurses now playing a more proactive role in identifying and referring suitable patients. This scalable model demonstrates the impact of partnership-led education in supporting home dialysis expansion across the NHS.

P-52 – Brown Tumour Secondary to Secondary Hyperparathyroidism: About Two Cases

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OBJECTIVES

Brown tumours, also known as Von Recklinghausen's fibrous osteitis, are benign, non-neoplastic lesions. They are rare and affect between 1.5 and 1.7% of patients with chronic end-stage renal disease.

METHODS

Patient and method: 1st observation: This was a 57-year-old woman with ESRD who had been on haemodialysis for 15 years and had been on peritoneal dialysis for 03 years. She had maxillary and mandibular swellings for 6 months, which were painless and made mastication difficult. Imaging by CT scan of the face revealed an oval, fairly well-limited mass of dense tissue, with no periosteal reaction or invasion of adjacent structures. Observation 2: A 37-year-old patient with IgA nephropathy who had been on haemodialysis for 11 years presented with a painless swelling at the nipple. The phosphocalcic profile was disturbed in both cases, with hypocalcaemia, hyperphosphataemia and very high parathyroid hormone levels, and there was no sign of malignancy on biopsy of the above-mentioned lesions. The diagnosis of brown tumours in renal osteodystrophy was made in view of the context of CKD with long-term secondary hyperparathyroidism and the radiological and histological appearance.

RESULTS

Brown tumours are rare lesions, occurring in 1.5 to 1.7% of CKD patients. They are benign, resulting from PTH-induced bone remodelling in which normal bone tissue is replaced by connective tissue, haemorrhage and haemosiderin. Symptoms depend on their size and location, and adequate management of secondary hyperparathyroidism will often result in regression of brown tumours, and spontaneous resolution is possible. Conclusion: Brown tumours are the result of bone remodelling associated with secondary hyperPTH. Positive diagnosis is based on clinical, biological, radiological and, above all, histological evidence.

REFERENCES

1. Adnane A, Merzem A, Harmak M, Belgadir H, Amriss O, Moussali N, Elbenna N. Imaging features of multiple maxillo-mandibular brown tumors: a case report. *The Pan African Medical Journal*. 2021 Jan 5;38:4-.
2. Moussa MB, Bais M, Medarhri J, Mssrouri R, Lahlou K, Settaf A, Chad M, Taghy A. Sternal brown tumour complicating persistent secondary hyperparathyroidism after subtotal parathyroidectomy: case report .*International Journal of Medical Reviews and Case Reports*. 2020 Jul 31;4(6):1-.
3. Wémeau JL, Cardot-Bauters C. Maxillo-buccodental manifestations of hyperparathyroidism. *Medical Press*. 2017 Sep 1;46(9):845-52.

P-53 – Fungal Infection in Peritoneal Dialysis: Three Case Reports and Review of The Literature

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OBJECTIVES

Peritoneal infections are the most frequent complication of peritoneal dialysis. Fungal peritonitis is rare but most often serious, threatening the functional prognosis of the peritoneum and the vital prognosis of the patient. They are caused by multiple fungi.

METHODS

Retrospective study of three peritoneal dialysis patients presenting with fungal peritonitis.

RESULTS

Three patients aged 38, 56 and 71 years respectively, including 2 women and one man with chronic end-stage renal disease, were referred to PD as first-line treatment in 02 cases and after renal transplantation with graft loss in the third case. After probabilistic antibiotic treatment, culture of the peritoneal fluid identified yeasts in 02 cases with candida albicans and one case with filamentous fungi (*Aspergillus*). The antifungogram was used to adapt the treatment. The outcome was unfavourable despite appropriate antimycotic treatment and removal of the catheter, necessitating haemodialysis. Contributing factors were untimely broad-spectrum antibiotic therapy in all three patients, diabetes and humidity.

CONCLUSIONS

Fungal peritonitis remains a rare but serious complication in peritoneal dialysis patients. In most cases, the technique has to be stopped. It constitutes a vital emergency requiring hospitalisation and rapid therapeutic management. Conclusion: Fungal peritonitis is a dreadful infectious complication in peritoneal dialysis, with a mortality rate of 15 to 50% and withdrawal from the technique reaching 100% in certain series.

REFERENCES

1. Auricchio S, Giovenzana ME, Pozzi M, Galassi A, Santorelli G, Dozio B, Scanziani R. Fungal peritonitis in peritoneal dialysis: a 34-year single centre evaluation. *Clinical Kidney Journal*. 2018 Dec;11(6):874-80..
2. Hu S, Tong R, Bo Y, Ming P, Yang H. Fungal peritonitis in peritoneal dialysis: 5-year review from a North China center. *Infection*. 2019 Feb 7;47:35-43.
3. Dotis J, Kondou A, Koukloumperi E, Karava V, Papadopoulou A, Gkogka C, Printza N. *Aspergillus* peritonitis in peritoneal dialysis patients: a systematic review. *Journal de Mycologie Médicale*. 2020 Dec 1;30(4):101037.
4. Li R, Zhang D, He J, Ou J, Zhang L, Hu X, Wu J, Liu H, Peng Y, Xu Y, Hou H. Characteristics analysis, clinical outcome and risk factors for fungal peritonitis in peritoneal dialysis patients: a 10-year case-control study. *Frontiers in Medicine*. 2021 Dec 1;8:774946.

P-54 – Peritonitis in peritoneal dialysis: Results of a Single-Center Study

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OBJECTIVES

Peritoneal infection (PI), or peritonitis, remains one of the most frequent and serious complications of peritoneal dialysis (PD). The peritonitis rate is a key indicator of the quality of care provided to PD patients. Reducing this rate continues to be a major challenge for every PD center in order to improve outcomes and quality of life.

METHODS

This is a descriptive retrospective study that included all patients treated with peritoneal dialysis in our unit who experienced episodes of peritonitis between January 2018 and May 31, 2025. The study aimed to determine the peritonitis rate, the microbial profile, and clinical outcomes.

RESULTS

We included 37 patients (mean age 40 ± 22 years and sex ratio of 0.45). Of these, 25 patients (67.56%) experienced at least one episode of peritonitis during the study period, with a total of 47 episodes and an overall peritonitis rate of 0.40 episodes per patient-year at risk. The average time to the first episode was 15.52 months after PD catheter insertion. Microbiological cultures were negative in 17% of cases. Among positive cultures, 53.8% were due to Gram-positive cocci, 35.9% to Gram-negative bacilli, and 7.7% to yeasts or fungi. *Pseudomonas aeruginosa* was isolated in 17% of peritonitis episodes. Antibiotic therapy led to recovery in 87% of episodes. Catheter replacement was necessary in two patients, and five patients (20%) required a permanent switch to hemodialysis.

CONCLUSIONS

The peritonitis rate in our cohort narrowly met the International Society for Peritoneal Dialysis (ISPD) target of no more than 0.4 episodes per patient-year at risk. However, the rate of culture-negative infections (17%) exceeded the ISPD recommendation of less than 15%, highlighting the need for improved microbiological processing in our laboratory. Peritoneal infection remains relatively frequent among our patients. Gram-positive bacteria were the most commonly isolated organisms. Nevertheless, the overall peritonitis rate in our unit remains consistent with ISPD guidelines.

P-55 – Index of Renal Vascular Resistance: Prognosis Value in The Management of Chronic Kidney Diseases

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OBJECTIVES

Chronic Kidney disease (CKD) is a global public health problem, affecting more than 600 million or more than one in ten adults suffers from this disease and its incidence is increasing, because of the alarming increase in cases of high blood pressure and diabetes whose consequences on the kidney are harmful. The assessment of the risk of progression of the CKD but also the risk of cardiovascular event by a non-invasive examination or a capital for the nephrologist to allow the measures of nephroprotection and cardioprotection.

METHODS

The value of the resistance index (RI), measured by a doppler US, seems to be important. The main objective of this work is to evaluate the correlation between the value of RI and the severity of histological lesions. The secondary objectives were to evaluate the correlation of RI with the progression of the CKD and to define a prognosis threshold. This is a prospective single-center study of 104 patients hospitalized in the nephrology department of the Military Hospital of Constantine during the period April 2017-January 2022, presenting a CRD and programmed for a renal biopsy puncture.

RESULTS

We have shown that there is a positive and statistically significant correlation of RI with the number of cardiovascular risk factors ($r=0.392, p=0.0003$), the blood pressure systolic ($r = 0.395, p = 0.0086$) and pulsed pressure ($r=0.518, p=0.0002$), the percentage of glomerulosclerosis ($r=0.515, p = 0.0001$), the percentage of interstitial fibrosis ($r 0.433, p=0.0002$) and vascular injury ($p=0.00001$). While there is a negative correlation with initial GFR ($r=-0.526, p=0.0001$). On the other hand, no correlation was found with diastolic blood pressure and proteinuria (proteinuria/creatininuria ratio). A cut-off value of 0.65 was associated with severe histology and an adverse evolution of renal function.

CONCLUSIONS

This study emphasizes that RI is a no invasive marker of progression and the interest to propose it as a prognosis criteria in the management of CKD.

REFERENCES

1. Kim JH, Lee SM, Son YK, Kim SE, An WS. Resistive index as a predictor of renal progression in patients with moderate renal dysfunction regardless of angiotensin converting enzyme inhibitor or angiotensin receptor antagonist medication. *Kidney research and clinical practice*. 2017;36(1):58.
2. Chen Q, He F, Feng X, Luo Z, Zhang J, Zhang L et al. Correlation of Doppler parameters with renal pathology: A study of 992 patients. *Experimental and therapeutic medicine*. 2014;7(2):439-42.
3. Bigé N, Lévy PP, Callard P, Faintuch J-M, Chigot V, Jousselin V et al. Renal arterial resistive index is associated with severe histological changes and poor renal outcome during chronic kidney disease. *BMC nephrology*. 2012;13(1):139.
4. Gulek B, Soker G, Erken E, Adam FU, Varan HI, Ada S et al. The Usefulness of Renal Doppler Parameters in Chronic Kidney Disease: Is There a Cut-Off Value to Estimate End Stage Kidney Disease? *Open Journal of Radiology*. 2016;6(01):18.
5. Gigante A, Barbano B, Di Mario F, Rosato E, Simonelli M, Rocca AR et al. Renal parenchymal resistance in patients with biopsy proven glomerulonephritis: Correlation with histological findings. *International journal of immunopathology and pharmacology*. 2016;29(3):469-74.

P-56 – Risk Factors and Pathogen Spectrum in Continuous Ambulatory Peritoneal Dialysis-Associated Peritonitis: A Single Center Retrospective Study

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OBJECTIVES

To investigate the incidence, risk factors, pathogen distribution, and drug resistance patterns in continuous ambulatory peritoneal dialysis-associated peritonitis (CAPDP).

METHODS

Clinical data for 248 patients who underwent continuous ambulatory peritoneal dialysis (CAPD) treatment in a single center in China from March 2018 to January 2021 were retrospectively collected. The patients were divided into the CAPDP group (n=40) and the non-CAPDP group (n=208) according to whether peritonitis occurred. The incidence rate, risk factors, bacterial distribution, and drug sensitivity of CAPDP were analyzed.

RESULTS

The incidence of CAPDP was 16.13%, and 87.5% of patients with CAPDP continued CAPDP treatment after anti-infection treatment. Patients with and without CAPDP were clearly distinguished, on the basis of their clinical characteristics, by using principal component analysis (PCA) methods. Logistic regression analysis found that body mass index (BMI; P=0.0095), albumin (P=0.016), albumin/globulin ratio (P=0.018), C-reactive protein (P=0.0001), and rapid transport (P=0.034) were independent risk factors for CAPDP. The main pathogens causing the CAPDP were *Staphylococcus epidermidis* (50.00%), *Staphylococcus capitis* (13.33%), and *Escherichia coli* (10.00%). Among the pathogenic bacteria, the main drugs to which gram-negative cocci were sensitive were imipenem, meropenem, piperacillin/tazobactam, cefoperazone/sulbactam, ceftazidime, and tigecycline. The main drugs to which gram-positive cocci were sensitive were vancomycin, teicoplanin, and linezolid. The drug resistance rate of pathogenic bacteria to penicillin G, ampicillin, compound trimethoprim, cefepime, ceftriaxone, and amoxicillin-clavulanic acid drugs was 36.26-100%.

CONCLUSIONS

BMI, albumin, albumin/globulin ratio, C-reactive protein, and rapid transport are independent risk factors for CAPDP. Gram-positive bacteria are the main pathogens of CAPDP and are sensitive to vancomycin, teicoplanin, and linezolid.

P-57 – Urgent Start Peritoneal Dialysis: The Reggio Emilia Experience

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OBJECTIVES

Urgent start peritoneal dialysis refers to the initiation of peritoneal dialysis treatment within 14 days of peritoneal catheter placement. A “truly urgent start” is defined as dialysis initiation within 72 hours of catheter insertion, while an “early start” refers to initiation after 72 hours but within 14 days.

METHODS

Patients requiring this type of treatment are either chronic patients followed in our outpatient clinics who experience a rapid and unexpected deterioration of kidney function, or “late-referral” patients. In both scenarios, urgent start peritoneal dialysis is used in Reggio Emilia.

Since 2022, we have offered this treatment to 9 out of the 37 patients currently on peritoneal dialysis, accounting for 24% of the total: 2 patients in 2022, 2 in 2023, 2 in 2024, and 3 in 2025. Among these, 3 out of 9 patients started dialysis within 72 hours of the procedure, while the remaining 6 started between 72 hours and 14 days post-procedure.

RESULTS

None of the patients were diabetic or had a prior transplant. All patients received tidal APD (automated peritoneal dialysis) with progressively increasing volumes (see table), and 3 patients were later switched to CAPD (continuous ambulatory peritoneal dialysis). We analyzed short-term (within 30 days) and long-term (beyond 30 days) complications:

- One patient experienced catheter displacement on day 3, requiring laparoscopic repositioning.
- One patient developed leakage on day 2.
- One patient developed a reducible umbilical hernia after 30 days.

RESULTS

No infectious complications were observed. In none of these cases was a switch to hemodialysis required.

All 9 patients are still undergoing peritoneal dialysis with satisfactory laboratory results, indicating that urgent initiation of peritoneal dialysis did not negatively affect long-term technique survival.

CONCLUSIONS

Our case series suggests that urgent start peritoneal dialysis is feasible, safe, and does not lead to increased complications for patients.

P-58 – Outcomes of Percutaneous vs Surgical Insertion of Peritoneal Dialysis Catheters: A Retrospective Analysis from a Single Centre

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OBJECTIVES

To compare outcomes of peritoneal dialysis (PD) catheters inserted percutaneously versus surgically, focusing on survival, peritonitis, and dysfunction types.

METHODS

A retrospective review was conducted on 76 PD catheter insertions (medical n=33, surgical n=43) between April 2023 and April 2025 at a UK tertiary centre. Data on prior abdominal surgeries, antibiotic use, catheter survival, and peritonitis were analyzed. Kaplan-Meier survival estimates and Cox regression were applied ($p < 0.05$).

RESULTS

Medical insertion had longer unadjusted median survival (13.5 vs. 4.1 months; $p=0.0344$, HR 2.1, 95% CI 1.05–4.22). Adjusted hazard ratio was non-significant (1.56; $p=0.382$). Primary dysfunction within 30 days was significantly higher in surgical insertions (27.9% vs. 6.1%, $p=0.0176$). Peritonitis occurred in 17/76 cases (22.4%), with higher rates in the surgical group (27.9% vs. 15.2%, $p=0.268$). Prior abdominal surgery was more frequent among surgical patients (59.5% vs. 9.7%, $p < 0.001$). Catheter dysfunction occurred in 30 patients (39.5%)—including 23 primary and 9 secondary failures. Figure 1. Kaplan-Meier Survival Curve

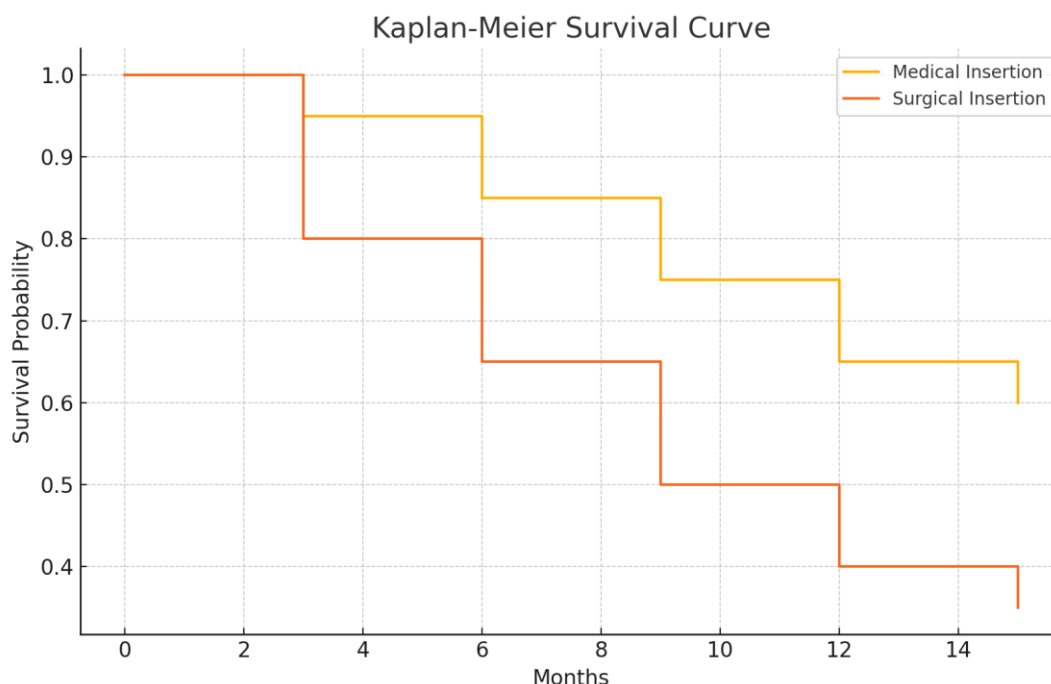


Table 1. Catheter Survival

Insertion Method	Events/Total	Event Rate	Median Survival	Hazard Ratio (95% CI)	P-value
Medical	12/33	36.4%	13.5 months	Reference	0.0344
Surgical	24/43	55.8%	4.1 months	2.1 (1.05–4.22)	

Table 2. Clinical Outcomes

Outcome	Medical Insertion n/total (%)	Surgical Insertion n/total (%)	P-value
Peritonitis	5/33 (15.2%)	12/43 (27.9%)	0.268 [†]
Any catheter dysfunction	8/33 (24.2%)	15/43 (34.9%)	0.45
Primary dysfunction	2/33 (6.1%)	12/43 (27.9%)	0.0176
Secondary dysfunction	6/33 (18.2%)	3/43 (7%)	0.165

[†]— indicates insufficient data for statistical testing

CONCLUSIONS

Percutaneous catheter insertion had favorable early outcomes, including fewer early dysfunctions and longer unadjusted survival. Although adjusted survival was similar, the surgical group had significantly more primary dysfunction. Findings support percutaneous access where feasible. Larger prospective studies are warranted to validate these findings.

P-59 – Assessment of Bone Mineral Density By Dual-Energy X- Ray Absorptiometry In Hemodialysis Patients

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OBJECTIVES

Chronic kidney disease (CKD) is a common pathology that causes early disturbance of phosphate and calcium metabolism, leading to secondary hyperparathyroidism, affecting bone and mineral metabolism, and bone loss is common and silent. It is characterized by osteopenia, deterioration of bone quality, and altered bone structure. Our work aims to determine bone status by examining the clinical, biological characteristics and bone mineral density (BMD) of hemodialysis patients at Constantine Military University Hospital (CMUH).

METHODS

This was a prospective study involving all CMUH hemodialysis patients. Biological assessment assesses bone damage and the elements used in current practice (calcemia, phosphate and parathyroid hormone) and two-photon absorptiometry (DXA) assesses BMD.

RESULTS

This study involved 18 male and female patients with a sex ratio of 1 and a mean age of 50.94 ± 17.46 years who received hemodialysis for a mean treatment duration of 8.72 years. Hypocalcemia accounted for 44.4%, hyperphosphatemia accounted for 61.1%, and hyperparathyroidism accounted for 50% of patients. The mean BMD for our entire population was 0.871 ± 0.174 g/cm² in the lumbar spine and 0.679 ± 0.099 g/cm² in the left hip. Mean T-scores were -1.628 ± 1.197 SD for the lumbar spine and -1.861 ± 0.622 DS for the left hip. We found 33.3% osteoporosis (83.3% trabecular osteoporosis) and 66.7% osteopenia, including 83.3% cortical osteopenia. Multivariate analysis identified 3 risk factors for osteoporosis in a statistically significant manner, namely, duration of hemodialysis greater than 10 years, hypocalcemia, and hyperparathyroidism greater than 500 Pg/ml.

CONCLUSIONS

Disturbed calcium phosphate metabolism and its skeletal consequences are certain and common complications in hemodialysis patients. It has a greater effect on cortical bone. Early detection and preventive measures are necessary.

REFERENCES

1. Mac Way F, Lessard M, Lafage-Proust M (2012) Pathophysiology of renal osteodystrophy. *Revue du Rhumatisme* 79: A18-A21.
2. Wheeler, D. C., & Winkelmayer, W. C. (2017). KDIGO 2017 clinical practice guideline update for the diagnosis, evaluation, prevention, and treatment of chronic kidney disease-mineral and bone disorder (CKD-MBD) foreword. *Kidney international supplements*, 7(1), 1-59.
3. Alem AM, Sherrard DJ, Gillen DL, Weiss NS, Beresford SA, et al. (2000) Increased risk of hip fracture among patients with end-stage renal disease. *Kidney Int* 58(1): 396-399.
4. De Vernejoul M-C, Cohen-Solal M (2001) Osteoporosis of renal osteodystrophy. *Revue du Rhumatisme* 68(8): 691-692.
5. Gonzalez E, Lamy O, Hans D, Favre, Pralong F (2015) Imagerie par DXA: the multifunction Swiss army knife? *Revue Médicale Suisse* 11: 645-650.
6. Jean G, Chazot C (2019) Complications and treatment of mineral and bone disorders in chronic kidney disease. *Nephrol Ther* 15(4): 242-258

P-60 – Lipid Profile Disorders in a Hemodialysis Population

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OBJECTIVES

The lipid profile in chronic hemodialysis is disturbed by the deregulation of plasma lipoprotein metabolism, these metabolic dysfunctions could contribute to an increased prevalence of cardiovascular morbidity and mortality. The objective of our study is to determine the lipid anomalies in an Algerian cohort of hemodialysis patients.

METHODS

We conducted a prospective study in 03 hemodialysis centers in Constantine (Algeria) between 01/05/2023 and 31/01/2024. We analyzed the clinical and especially biological parameters by blood samples pre-dialysis of: total cholesterol, triglycerides, high-density lipoprotein cholesterol (C-HDL) and low-density lipoprotein cholesterol (C-LDL). The atherogenicity index (IA) was determined by total cholesterol/ C-HDL.

RESULTS

The study involved 105 hemodialysis patients, 65 men and 40 women; mean age was 48.56 ± 16.30 years. The mean duration of hemodialysis was 5.3 ± 4 years. Diabetic nephropathy was the main cause of chronic renal failure (34.4%). Dyslipidemia was present in 42.2%, mainly manifested by hypertriglyceridemia in 48.6% with a male predominance in 65%, an increase in LDL-C in 47.6%, an increase in total cholesterol in 38.1% and a decrease in CHDL in 34.3% of cases. The atherogenicity index was high (> 5) in 22% of cases reported in males, diabetics, duration of hemodialysis greater than 05 years and history of FAV thrombosis. These patients are treated with statins in 63% without improvement of their lipid profile.

CONCLUSIONS

Disturbances of lipid metabolism remain a common disorder in patients with chronic hemodialysis, requiring the implementation of prevention strategies by acting early on these parameters.

REFERENCES

1. Altaf, A., Halim, A., Khan, D. A., Khalid, M., & Saif, I. (2007). Assessment of lipid dysfunction in patients on maintenance haemodialysis. *Journal of Ayub Medical College Abbottabad*, 19(4), 32-36.
2. Bawakhan, B. H., Chandru, M. C., & Moger, V. A study of lipid profile in maintenance hemodialysis patients.
3. Abo-Zenah, H., Sabry, A., Farouk, A., Abdelhalim, N., El-Sayed, K., & Sobh, M. (2007). The impact of haemodialysis-associated variables on lipid profile in Egyptian haemodialysis population. *International Urology and Nephrology*, 39, 609-618.
4. Gouri, A., Dekaken, A., Yakhlef, A., Bentorki, A. A., & Kouicem, N. (2012). Non-high-density-lipoprotein (HDL) cholesterol in Algerian hemodialysis patients. *Immuno-analyse & Biologie Spécialisée*, 27(6), 357-361.
5. Ladhari, N., Pr, F. E. Y., Pr, K. K., Pr, N. B. A., Pr, T. B. A., & Pr, R. G. (2016, January). Prévalence de la dyslipidémie chez les hémodialysés. in *Annales d'endocrinologie* (Vol. 77, No. 4, pp. 542-542). Elsevier.

P-61 – Phosphocalcic Disorders in Peritoneal Dialysis Patients

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OBJECTIVES

Mineral and bone disorders associated with chronic kidney disease refers to all the bone and visceral complications related to the disturbances of the phosphocalcic metabolism induced by renal failure. Purpose of the work is to determine the phosphocalcic profile of our peritoneal dialysis (PD) at Constantine Military University Hospital (CMUH).

METHODS

Retrospective study including 26 peritoneal dialyses, followed regularly in our peritoneal dialysis unit, with a quarterly phosphocalcic balance including calcium plasma, phosphoremia. parathyroid hormone (PTH) is requested every 6 months.

RESULTS

Twenty-six patients, 17 men and 9 women. The average follow-up period was 29 ± 19 months. 77.1% of patients had secondary hyperparathyroidism. Their average PTH is 1002 ± 496 pg/ml, their average serum calcium is 2.12 ± 0.27 mmol/l, and their average phosphoremia is 1.56 ± 0.43 mmol/l. PTH in the range of KDIGO in 17.1% of cases: with an average PTH of 225 ± 61 pg/ml, their average serum calcium is 2.12 ± 0.12 mmol/l and the average phosphoremia is 1.53 ± 0.4 mmol/l. Adynamic osteopathy in 5.7%, with a mean PTH of 104 ± 52 pg/ml, a mean serum calcium of 1.82 ± 0.57 mmol/l et phosphoremia mean 1.15 ± 0.65 mmol/l.

CONCLUSIONS

Adynamic osteopathy is increasingly common in patients treated with PD up to 60% in some teams, in our series its prevalence is low. The diagnosis and early treatment of phosphocalcic disorders prevent cardiovascular complications. Secondary hyperparathyroidism should be treated early in the stage of moderate Chronic Kidney Disease.

REFERENCES

1. Cernaro, V., Calderone, M., Gembillo, G., Calabrese, V., Casuscelli, C., Lo Re, C., Longhitano, E., & Santoro, D. (2023). Phosphate Control in Peritoneal Dialysis Patients: Issues, Solutions, and Open Questions. *Nutrients*, 15(14), 3161.
2. Kane Yaya, et al. Mineralo-Bone Disorders in Peritoneal Dialysis Patients in Senegal (West Africa). *Dialysis Trans OA* 2019, 2(1): 180008.
3. Chuang SH, Wong HC, Vathsala A, Lee E, How PP. Prevalence of chronic kidney disease-mineral and bone disorder in incident peritoneal dialysis patients and its association with short-term outcomes. *Singapore Med J*. 2016 Nov;57(11):603-609.
4. Agrou, M., Saidi, I., Ouzeddoun, N., Bayahia, R., & Benamar, L. (2022). Mineral and bone disorders in peritoneal dialysis. *Bulletin de la Dialyse à Domicile*, 5(1), 35-44.
5. Wheeler, D. C., & Winkelmayer, W. C. (2017). KDIGO 2017 clinical practice guideline update for the diagnosis, evaluation, prevention, and treatment of chronic kidney disease-mineral and bone disorder (CKD-MBD) foreword. *Kidney international supplements*, 7(1), 1-59.

P-62 – Peritoneal Dialysis-Associated Encapsulating Peritonitis: About An Observation

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OBJECTIVES

Encapsulating peritonitis is a rare but serious complication of peritoneal dialysis(PD). It leads to the formation of diffuse peritoneal fibrosis surrounding the digestive tract constituting a real peritoneal shell. The diagnosis is difficult and the course is generally unfavorable when the diagnosis is late.

METHODS

This is a patient aged 45 years, on automated peritoneal dialysis since 2020 due to chronic end-stage renal failure secondary to diabetic nephropathy. During his PD the patient has no episode of peritonitis. Since December 2024, the patient presents asthenia, weight loss, hypoalbuminemia, loss of ultrafiltration with drop in creatinine clearance. In January 2025, the patient has an episode of enterococcal peritonitis associated with sub-occlusive episodes requiring urgent scanning, which revealed a suggestive aspect of an encapsulating peritonitis indicating the discontinuation of PD and the transition to hemodialysis. The peritoneal dialysis catheter was removed 5 months later without incident. The trend was marked by an improvement in general condition and digestive signs.

RESULTS

The diagnosis of encapsulating peritonitis is difficult because clinical signs and radiological examinations are not specific. It can be suspected in the presence of a loss of Ultrafiltration, a sub-occlusive syndrome, most often associated with an inflammatory syndrome and malnutrition especially after a prolonged period of peritoneal dialysis.

CONCLUSIONS

The encapsulating peritonitis is very serious and the preventive treatment constitutes the cornerstone in the management of this pathology by the early detection of risk factors and the early cessation of peritoneal dialysis.

REFERENCES

1. Kofteridis, D. P., Valachis, A., Perakis, K., Maraki, S., Daphnis, E., & Samonis, G. (2010). Peritoneal dialysis-associated peritonitis: clinical features and predictors of outcome. *International Journal of Infectious Diseases*, 14(6), e489-e493.
2. Szeto, C. C., & Li, P. K. T. (2019). Peritoneal dialysis-associated peritonitis. *Clinical Journal of the American Society of Nephrology*, 14(7), 1100-1105.
3. Al Sahlawi, M., Bargman, J. M., & Perl, J. (2020). Peritoneal dialysis-associated peritonitis: suggestions for management and mistakes to avoid. *Kidney Medicine*, 2(4), 467-475.
4. Hamdi, Z., Toumi, S., Elheni, W., Chaker, H., Daoued, H., Agrebi, I., ... & Hmida, M. B. (2019). La péritonite encapsulante au cours de la dialyse péritonéale: à propos de 3 cas. *Néphrologie & Thérapeutique*, 15(5), 331.

P-63 – Peritonitis On Abdominal Hernia in Peritoneal Dialysis Patients

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OBJECTIVES

A higher frequency of peritonitis was observed in our patients with abdominal hernias. The purpose of this study is to investigate factors that promote infection in these patients.

METHODS

Retrospective study conducted on 10 peritoneal dialysis patients followed at the military university hospital of Constantine. Period: 2015-2024. Peritonitis by cytobacteriological examination of peritoneal dialysis fluid, and a cytobacteriological study of swab from the outlet of the dialysis catheter.

RESULTS

The mean age was 50 ±16.9, with a sex-ratio of 1.5 and an average peritoneal dialysis length of 28 months, an episode of peritonitis was observed in 80% of our patients. Peritonitis on tunnel infection was observed in seven of these ten patients. the germs found are staphylococcus coagulase-negative in 05 cases and Streptococci in 02 cases.

Discussion: hernias observed after peritoneal dialysis increase intra-abdominal pressure and fluid leakage into the hernial sac, an important gene in these patients. The use of support belts in two of our patients contributed to a tunnel infection.

CONCLUSIONS

Abdominal hernias pose real problems in peritoneal dialysis. This study finds a link between these hernias and the occurrence of peritonitis, whose pathophysiological mechanism must be considered in order to identify the factors favoring peritonitis.

REFERENCES

1. García-Ureña, M. Á., Rodríguez, C. R., Ruiz, V. V., Hernández, F. J. C., Fernández-Ruiz, E., Gallego, J. M. V., & García, M. V. (2006). Prevalence and management of hernias in peritoneal dialysis patients. *Peritoneal dialysis international*, 26(2), 198-202.
2. Rocco, M. V., & Stone, W. J. (1985). Abdominal hernias in chronic peritoneal dialysis patients: a review. *Peritoneal Dialysis International*, 5(3), 171-174.
3. Aziz, F., & Chaudhary, K. (2017). Peritoneal dialysis in patients with abdominal surgeries and abdominal complications. *Adv Perit Dial*, 33(2017), 40-46.
4. Beaudreuil, S., Hebibi, H., Charpentier, B., & Durrbachr, A. (2008). Les infections graves chez les patients en dialyse péritonéale et en hémodialyse chronique conventionnelle: péritonites et infections de la voie d'abord vasculaire. *Réanimation*, 17(3), 233-241.
5. Finkelstein ES, Jekel J, Troidle L, Gorban-Brennan N, Finkelstein FO, et al. Patterns of infection in patients maintained on long-term peritoneal dialysis therapy with multiple episodes of peritonitis. *Am J Kidney Dis* 2002;39:1278—86.

P-64 – Drug-Induced Acute Kidney Injury in Patients of The Military University Hospital of Constantine

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OBJECTIVES

Renal drug toxicity is the most frequent aspect of drug-induced acute kidney injury (Drug-induced AKI). This study aims to determine the incidence of drug-induced AKI, and to study the clinical, biological and evolutionary characteristics of adult patients with AKI at Military University Hospital of Constantine (MUHC).

METHODS

This is prospective study, over a period of two years, from January 2017 to December 2018, interesting patients with drug-induced AKI hospitalized or seen at the outpatient clinic at MUHC. Variables were collected in a pre-established data collection form. Data entry and analysis were carried out using SPSS software version 20.0.

RESULTS

A total of 104 cases of drug-induced AKI were included in the study out of 636 AKI diagnosed from all causes, an incidence of 16.35%. Mean age was 60.48 ± 16.59 years, with a sex ratio M/F of 1.21. Drugs altering renal autoregulation were responsible for 51% of drug-induced AKI; followed by combinations of several nephrotoxic drugs in 15.4% of cases; chemotherapy products in 11.5%; contrast products in 9.6%; and antibiotics in 5.8%. At 6 months of the AKI episode, 20% of our patients recovered a GFR > 60 ml / min, 55.8% presented a chronic kidney disease (CKD) stage 3, 15.8% CKD stage 4 and 8.4% CKD stage 5. Our study identified some factors of poor prognosis for progression to CKD, such as advanced age, history of diabetes and cancer, significant proteinuria, drug-related factors represented by chemotherapy products, concomitant intravenous and enteral route of administration as well as prolonged exposure to the drug, hypertensive patients under chemotherapy or Drugs altering renal autoregulation, and diabetic under chemotherapy or non-steroidal anti-inflammatory drugs (NSAID).

CONCLUSIONS

Subjects with drug AKI are at risk of developing CKD. Preventive measures should be taken by carefully prescribing the drugs identified in this study.

REFERENCES

1. Khwaja A. KDIGO clinical practice guidelines for acute kidney injury. *Nephron Clinical Practice*. 2012;120(4):c179-c84.
2. Levey AS, Bosch JP, Lewis JB, Greene T, Rogers N, Roth D, et al. A more accurate method to estimate glomerular filtration rate from serum creatinine: a new prediction equation. 1999;130(6):461-70.
3. Bellomo R, Ronco C, Kellum JA, Mehta RL, Palevsky P. Acute renal failure—definition, outcome measures, animal models, fluid therapy and information technology needs: the Second International Consensus Conference of the Acute Dialysis Quality Initiative (ADQI) Group. *Critical care*. 2004;8(4):R204.
4. Mehta RL, Kellum JA, Shah SV, Molitoris BA, Ronco C, Warnock DG, et al. Acute Kidney Injury Network: report of an initiative to improve outcomes in acute kidney injury. *Critical care*. 2007;11(2):R31.
5. Awdishu L, Mehta RL. The 6R's of drug induced nephrotoxicity. *BMC nephrology*. 2017;18(1):124.
6. Taber SS, Pasko DA. The epidemiology of drug-induced disorders: the kidney. 2008;7(6):679-90.
7. Kleinknecht D, Landais P, Goldfarb BJN. Les insuffisances rénales aiguës associées à des médicaments ou à des produits de contraste iodés: résultats d'une enquête coopérative multicentrique de la Société de néphrologie. 1986;7(2):41-6.
8. Uchino S, Kellum JA, Bellomo R, Doig GS, Morimatsu H, Morgera S, et al. Acute renal failure in critically ill patients: a multinational, multicenter study. 2005;294(7):813-8.
9. Bentley ML, Corwin HL, Dasta J. Drug-induced acute kidney injury in the critically ill adult: recognition and prevention strategies. 2010;38:S169-S74.
10. Bénard-Larivière A, Miremont-Salamé G, Pérault-Pochat MC, Noize P, Haramburu F, Fundamental ESGobotFNoPCJ, et al. Incidence of hospital admissions due to adverse drug reactions in France: the EMIR study. 2015;29(1):106-11.

P-65 - Diet, Adiposity and Glycaemia in Peritoneal Dialysis

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OBJECTIVES

This study compared body composition and dietary fibre intake between male peritoneal dialysis (PD) patients and healthy controls and evaluated their associations with continuous glucose monitoring-derived glycaemic control markers, focusing on visceral adiposity and dietary factors.

METHODS

In this cross-sectional study, glycaemic control patterns were analysed in relation to anthropometric parameters and dietary habits among 19 male PD patients and 10 healthy male controls. Continuous glucose monitoring (Dexcom G7) assessed interstitial glucose levels for 10 days. Nutritional evaluation included a 24-hour dietary recall.

RESULTS

Waist circumference (WC) was significantly higher in patients compared to controls (101,79±13,85 cm vs 86,60±9,13 cm; p=0,004). Among PD patients, no statistically significant correlations were found between WC and mean glucose (p=0,86), glucose management indicator (GMI) (p=0,83), or the coefficient of variation (CV) (p=0,20). Although the correlation between WC and time in range (TIR) has not reached statistical significance (p=0,06), the observed trend may warrant further investigation in larger cohorts to assess its clinical relevance. A Body Shape Index (ABSI) was significantly higher in patients than controls (0,084±0,005 vs 0,076±0,003; p=0,0002). No statistically significant correlations were observed between ABSI and mean glucose (p=0,40), TIR (p=0,16) or GMI (p=0,44) in patients. CV showed a moderate positive correlation with ABSI (p=0,01; Spearman's ρ =0,56). Dietary fibre intake was significantly lower in patients than controls (13,37±8,26 g vs 22,70±7,45 g, p=0,004), but showed no significant correlation with glycaemic control markers, including mean glucose (p=0,66), TIR (p=0,90), GMI (p=0,56), or CV (p=0,21).

CONCLUSIONS

This study found that male PD patients had higher WC and ABSI but lower fibre intake than controls. ABSI alone correlated with glucose variability, suggesting that visceral adiposity uniquely impacts glycaemic control in PD. These findings position ABSI as a valuable metabolic risk marker and highlight fibre deficiency as a modifiable risk factor in this population.

P-66 – Bowel Perforation by Peritoneal Catheter – A Clinical Case

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OBJECTIVES

With progression of chronic kidney disease (CKD) it is sensible to prepare the patient for the need of renal replacement therapy. Peritoneal dialysis (PD) remains an advantageous option for those with residual kidney function and those who wish a more autonomous and flexible treatment, minimizing its interference with their daily routines. Catheter insertion should occur in a timely fashion, in order to reduce the risk of peri-catheter leak associated with urgent-start PD.

METHODS

We present the case of a 49-year-old woman with CKD due to diabetic renal disease secondary to type-1 diabetes mellitus. Because of the advanced CKD, she was informed of treatment options and decided for PD. She had no potential living donor to ensure a pre-emptive kidney transplant. Due to sustained progression of CKD a coiled-tip swan-neck Tenckhoff catheter was placed on January 2022 via mini-laparotomy, using Moncrief-Popovich technique. However, kidney function stabilized and she remained dialysis-free for over two years. In September 2024 she presented to her routine appointment complaining of pain over the catheter, with evidence of a pustule adjacent to its tunnel, not involving the external cuff. There were no cutaneous lesions or insect bites justifying an external origin for infection. A *Citrobacter braakii* was identified and she was started on cotrimoxazole, with good clinical response. One month later she presented again with tenderness adjacent to the catheter tunnel below the prior pustule, now inexistent. She also complained of occasional vomiting and weight loss in the prior weeks, with no abdominal pain nor change in intestinal motility, and no fever. She started cotrimoxazole again and prompt catheter exteriorization was scheduled.

RESULTS

The procedure was followed by immediate drainage of a dark yellow heterogeneous fluid (figure 1A), which raised the suspicion of bowel perforation. An urgent CT-scan confirmed the diagnosis, showing most of the Tenckhoff catheter inside the ileum, without pneumoperitoneum or fluid collections (figure 1B). She was admitted to the Nephrology ward and catheter removal was scheduled for the next day. Surgery occurred with no immediate complications, but on day-1 post-op she developed septic shock due to peritonitis, with admission to the intensive care unit. After hospital discharge, she regained diuresis and kidney function recovered to her previous baseline, with an estimated glomerular filtration rate of 11ml/min/1.73m². She currently has no symptoms related to her advanced CKD and maintains her option for PD.

CONCLUSIONS

Bowel perforation in the setting of Tenckhoff catheter insertion is uncommon, often related to blind placement techniques and the use of straight-tip catheters. Delayed bowel erosion over time is even rarer, usually described in dormant catheters, as was our case. Clinical presentation is varied and some patients are asymptomatic, which could be explained by inflammation and fibrosis that act as a tampon around the perforation site. This exceptional case highlights the importance of determining the right time for catheter placement to avoid prolonged indwelling in the peritoneal cavity when it is not being used, although we acknowledge the difficulty in determining such optimal timing.

P-67 – Instant Diagnosis of Peritoneal Dialysis-Associated Peritonitis: Validation of A Bedside Microscopy Approach

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OBJECTIVES

Timely diagnosis of peritoneal dialysis-associated peritonitis (PD-peritonitis) is essential to avoid delays in initiating empirical antibiotic therapy and to simplify potential home-based management. However, diagnosis requires the presence of at least two of the following criteria: (1) clinical symptoms suggestive of PD-peritonitis; (2) white blood cell (WBC) count in peritoneal effluent (PE) >100/ μ l; (3) positive PE culture. As culture results are not immediately available and WBC analysis via fluorescence flow cytometry (FFC) involves sample transport to a central lab and associated delays, immediate diagnosis is currently not feasible.

METHODS

Between January 1, 2024, and April 30, 2025, a total of 235 WBC evaluations on PE were performed in 44 patients undergoing peritoneal dialysis at our center (Table 1). Indications included 25 assessments for suspected PD-peritonitis, 183 for follow-up, and 27 in asymptomatic patients. For each evaluation, two samples were taken from the same dialysis bag: one analyzed immediately by light microscopy (direct WBC count over 20 fields; Fig. 1), and the other by FFC.

RESULTS

Comparison of the two methods showed a strong positive correlation ($r = 0.89$; $p < 0.01$; Spearman; Fig. 2). In the 25 cases with symptoms suggestive of PD-peritonitis, using a cut-off of >10 WBCs/20 fields in the direct count method yielded a **sensitivity of 100%** and a **specificity of 83%**.

CONCLUSIONS

Direct light microscopy of WBCs in PE shows a strong correlation with FFC analysis and has demonstrated, although preliminarily, satisfactory sensitivity and specificity. This method may therefore enable **immediate diagnosis** of PD-peritonitis, supporting earlier initiation of appropriate treatment.

	Patients (n=44)
AGE years [mean \pm SD]	68.4 \pm 16.8
GENDER male [n(%)]	24 (54.5)
CAPD [n(%)]	42 (95.5)
APD [n(%)]	2 (4.5)
DIABETES [n(%)]	14 (31.8)
BMI kg/m ² [median (IQR)]	23.4 (5.4)
FOLLOW UP TIME months [median (IQR)]	25.2 (18.3)
DIURESIS VOLUME ml [mean \pm SD]	1351 \pm 698
KT/V total [mean \pm SD]	2.44 \pm 0.63
RENAL DISEASE	
Hypertensive nephropathy [n(%)]	15 (34.1)
Glomerulonephritis [(n%)]	9 (20.5)
Diabetic Kidney disease [n(%)]	9 (20.5)
ADPKD [n(%)]	4 (9.1)
Other [n(%)]	4 (9.1)
Unknown [n(%)]	3 (6.8)

Tab.1

Characteristics of the 44 patients in whom 235 evaluations of white blood cells in peritoneal effluent were performed.

ADPKD = autosomal dominant polycystic kidney disease; **APD** = automated peritoneal dialysis; **BMI** = body mass index; **CAPD** = continuous ambulatory peritoneal dialysis; **n** = number; **IQR** = interquartile range; **SD** = standard deviation.

WBCs n/ul FFC

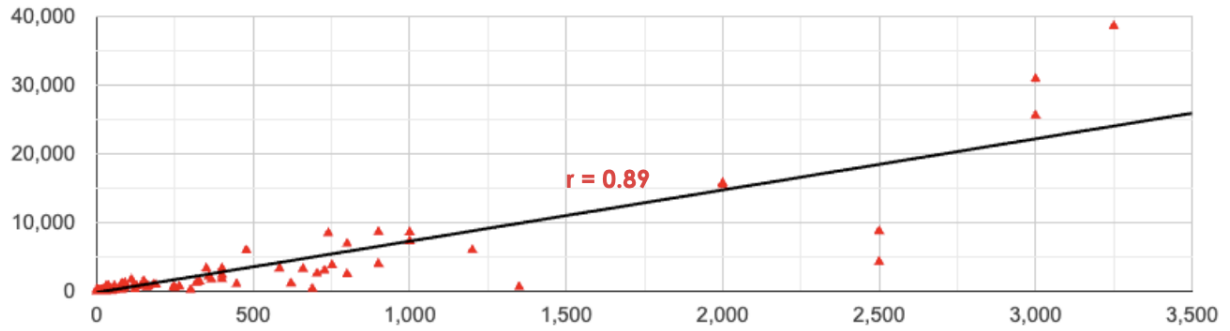
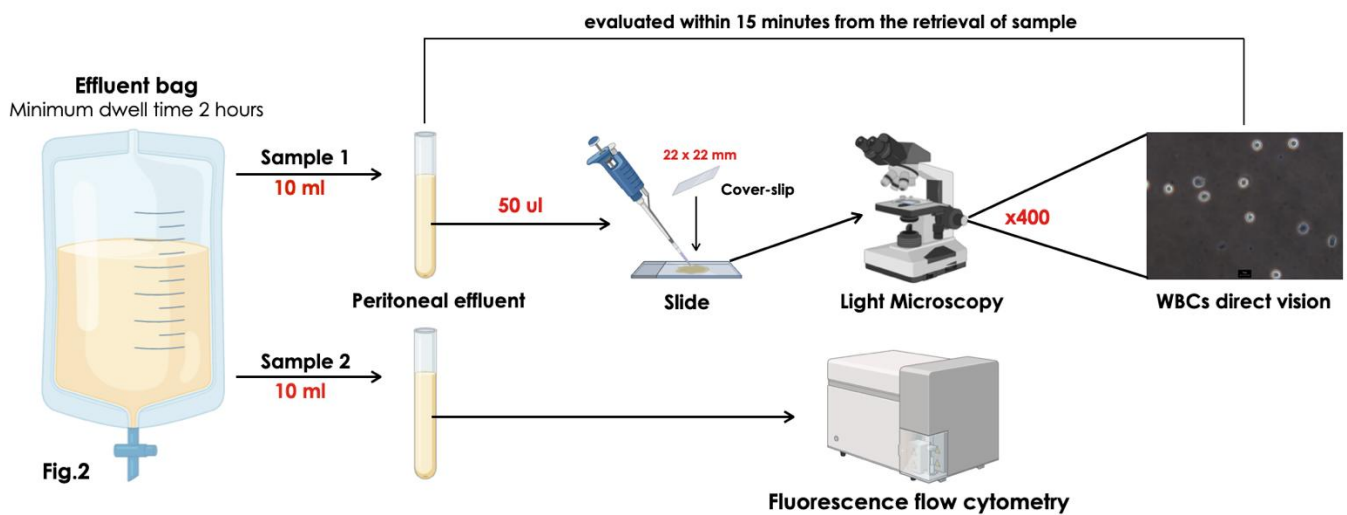


Fig.1

WBC n/20 HPFs LM x400

Correlation between the number of white blood cells per μL of peritoneal effluent measured by fluorescence flow cytometry and the white blood cell count obtained by direct optical microscopy over 20 high-power fields. FFC = fluorescence flow cytometry; LM = light microscopy; WBC = white blood cells.



Method for white blood cell analysis by direct optical microscopy (sum of white blood cells counted over 20 fields at 400 \times magnification).

WBC = white blood cells.

P-68 – Children Deprived from Dialysis Options In The Next Decade: Wake Up Call, and Cry for Awareness to Adult Nephrology and Europd

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OBJECTIVES

The EU Medical Device Regulation 745/2017 (EU MDR), aims to increase the appropriate labelling of medical devices (MD), thereby increasing the quality and evidence of new MD. The EU-MDR created topic specific commissions to evaluate the labeling files, but with 'orphanizing' the pediatric field. A pediatric specific EU-MD-commission is under development. Objective is to analyze the current and long term perspectives for children on dialysis.

METHODS

Independent advisory board, with members of the European Pediatric Dialysis Working Group, representing 14 ESPN /ERKNET centers from 11 countries.

RESULTS

We observe a progressive loss of HD, PD MD and catheter options in all EU-countries over the past decade. There are no guarantees that pediatric adaptations allow downsizing adult dialysis-MD to 40- >10 kg. Pediatric indications, are not included in the majority of new technologies such as wearable kidney, artificial kidney, green technology, heparinized filters and lines. Investment in the development of new dialysis machines, apart from the Nidus, Carpediem, to address the unmet need of the smallest children is limited. Lack of pediatric investigational plans and legal obligations (cfr EMA), but especially the insufficient legal regulation as well as financial incentives for industry and academia

CONCLUSIONS

Pediatric dialysis is in emerging crisis. Almost all MD are of label <40kg, what has major legal consequences. Many of the therapeutic MD are no longer manufactured, or are difficult to get on the market. Pediatrics are largely excluded from new developments. We state that pediatric nephrologists, should be not only present 1) in the pediatric EU-MD-commission, but also in the disease specific commissions. 2) on Advisory Boards of both industry and research programs, 3) that bottom up approach for the pediatric needs is mandatory, 4) The creation of a legal and financial incentive for pediatric MD, in parallel to the EMA drug regulations for pediatrics and rare diseases. We ask the adult dialysis experts to be our greatest defenders.

P-69 – Crossing the Line: From Predialysis Overhydration to Post-Dialysis Control

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OBJECTIVES

Overhydration is a common complication in advanced chronic kidney disease (CKD) and is associated with increased cardiovascular risk and mortality. While fluid balance in hemodialysis fluctuates due to its intermittent nature, peritoneal dialysis (PD) is considered more stable. However, recent evidence shows many PD patients remain chronically overhydrated. This study aimed to evaluate the evolution of fluid overload using bioimpedance spectroscopy (BIS) before and after PD initiation.

METHODS

We conducted a retrospective, longitudinal study in stage 5 CKD patients who started PD between [start date] and [end date]. Inclusion required at least three BIS measurements in the year before and after starting PD. Data collected included absolute overhydration (OH, liters), relative OH (%ECW), and clinical variables. BIS data were grouped into pre-PD (-12 to -6 months, -6 to -1 months) and post-PD (0-6, 6-12, 12-24 months) intervals. Temporal changes were analyzed using paired comparisons and repeated measures models.

RESULTS

Thirty-six patients were included. OH increased in the year prior to PD (from 1.38 L to 2.00 L). After PD initiation, OH progressively declined: 2.07 L (0-6 months), 1.86 L (6-12 months), and 1.52 L (12-24 months). The improvement between the last pre-PD and first post-PD period was statistically significant ($p = 0.029$). No significant changes were observed in later intervals.

CONCLUSIONS

Initiating PD was associated with a sustained reduction in fluid overload, despite high interindividual variability. These findings highlight the role of BIS in longitudinal monitoring and support its use in personalized fluid management for advanced CKD patients.

P-70 – “The Silent Voice of Water: Decoding Overhydration in PD Patients”

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OBJECTIVES

Overhydration is a common finding in patients with chronic kidney disease treated with peritoneal dialysis (PD), and it has been associated with worse clinical outcomes. However, the clinical significance of overhydration and its relationship with other dimensions of patient status remains under investigation.

To describe the associations between overhydration status, measured by bioimpedance, and clinical, inflammatory, and nutritional variables in a representative cohort of PD patients.

METHODS

This was an observational, retrospective, cross-sectional study conducted in adult PD patients with available bioimpedance measurements and clinical-analytical parameters. Comparisons of overhydration (OH) by clinical subgroups were analyzed, as well as Spearman correlations between OH and quantitative variables. Mann-Whitney tests were used for group comparisons.

RESULTS

OH was significantly higher in males (2.12 ± 1.95 L vs. 1.24 ± 0.81 L; $p = 0.0057$), in patients over 60 years old (2.03 ± 1.45 L vs. 1.25 ± 1.71 L; $p = 0.00067$), and in diabetic patients (2.55 ± 1.99 L vs. 1.46 ± 1.52 L; $p = 0.0175$). A non-significant trend toward higher OH was observed in patients without residual diuresis. OH showed significant correlations with CRP ($\rho = 0.156$), ferritin ($\rho = -0.273$), urea clearance ($\rho = -0.214$), Kt/V ($\rho = -0.218$), albumin ($\rho = -0.468$), cholesterol ($\rho = -0.261$), and FTI ($\rho = 0.273$).

CONCLUSIONS

Overhydration reflects not only volume status but also inflammatory, nutritional, and residual renal function profiles in PD patients. Its systematic evaluation may contribute to more comprehensive clinical assessments and more personalized treatment strategies.

P-71 – European Children – Exposed to PD with Suboptimal Devices?

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OBJECTIVES

In contrast to adults, PD is the most common kidney replacement therapy in young children. However, pediatric PD patients are frequently treated with off-label medical devices (MD), since neither the adult designed MD nor the pediatric adaptations are EU-labelled for pediatric use. The recent public consultation on the EU Medical Device Regulation 745/2017 (EU MDR) additionally documents that many of these MD are withdrawn or have limited access. Consequently, clinicians are increasingly forced to perform pediatric PD with suboptimal techniques.

METHODS

To validate the data of the MDR consultancy, qualitative semi-structured interviews will be performed with members of the European Pediatric Dialysis Working Group, representing 14 ESPN centers from 11 countries (Austria, Belgium, France, Germany, Greece, Italy, Lithuania, Poland, Spain, Turkey and UK). Based on the transcriptions of these interviews, the most significant limitations and risks in pediatric PD practice will be identified through appropriate text content analysis. Next, a Delphi exercise will be conducted among all participating European centers, to validate the limitations and to rank them according to subjective importance.

RESULTS

Our results will confirm the lack or even progressive loss of MD relevant for pediatric PD and thereby validate the data of the MDR consultancy. We will describe the availability of suitable PD machines and catheters in Europe as well as which MD have been withdrawn from the market. The needs assessment will allow to define themes of the highest importance with the most significant limitations and where focused improvement is needed and deemed to be fruitful.

CONCLUSIONS

Our study should provide evidence for (increasing) problems with pediatric PD in Europe and serve as a basis for medical societies and authorities to take appropriate steps to ensure the safety of PD in childhood. This comprehensive cross-national research approach will allow exploration of complex and pluralistic contexts.

P-72 – Reasons of Peritoneal Dialysis Discontinuation in Regional Center

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OBJECTIVES

To evaluate the Reasons of peritoneal dialysis (PD) discontinuation in a cohort of patients.

METHODS

This is a retrospective analysis of 96 patients who underwent PD catheter implantation during the period of 2016-2021 in Vilnius University Hospital Santaros Klinikos. Data used for the analysis was sex, age, reason of the end stage chronic kidney disease, date of the PD catheter implantation, date when the PD was started, reasons why PD catheter was removed. For analysis of the statistical data, we used IBM SPSS program.

RESULTS

The sample consisted of 96 patients, 51 female and 45 males. The mean age was 50.1±15.8 years, age range 18-82 years. Determined causes of the end-stage kidney disease were hypertensive nephropathy 20.8% (n =20), chronic glomerulonephritis 15.6%, diabetic nephropathy 13.5%, IgA nephropathy 6.3%, hypertensive and diabetic nephropathy 5.2%, polycystic kidney and liver disease 4.2%, other/ unknown causes 34.4%. The mean span from PD catheter implantation to the start of PD was 37.6±49.0 days. Time between PD catheter implantation and removal ranged from 40 to 1767 days. Mean duration from PD catheter implantation till the removal was 629.3±470.4 days. Outcomes of PD were kidney transplantation 34.3 % (n =33), PD catheter still present 31.3% (n =30), patient died 11.5% (n =11), PD catheter removal due to recurrent peritonitis 6.3% (n =6), removal due to mechanical dysfunction 4.2% (n =4). Time from PD catheter implantation to initiation of PD was not associated with patient age or causative disease.

CONCLUSIONS

The majority of patients underwent renal transplantation or still continue PD. PD catheter removal rate due to recurrent peritonitis or mechanical problems was low. The limitation of this study was a small number of patients, and we were not able to identify reliable factors causing PD catheter dysfunction.

P-73 – Polycore Reduces the Development of Fibrosis Compared to Icodextrin in In-Vitro and In-Vivo Models

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OBJECTIVES

The use of peritoneal ultrafiltration (PUF) has been proposed as an adjunctive therapeutic strategy for individuals suffering from refractory congestive heart failure (RCHF). PolyCore is a hypertonic, glucose-free solution designed for the chronic treatment of RCCF patients. Its unique blend of Xylitol, L-carnitine, and Polydextrin provides excellent biocompatibility and a more favorable metabolic profile compared to glucose-based solutions, while maintaining the same osmolarity. Here we tested its biocompatibility and anti-fibrotic property.

METHODS

The effects of PolyCore and Extraneal (Icodextrin) were evaluated using a dual approach encompassing in vitro and in vivo models. In vitro, mesothelial cells were cultured in transwell inserts until reaching stable transepithelial resistance, at which point they were exposed to pure PolyCore, Extraneal, or a control solution. In vivo, rats underwent a 15-day regimen of peritoneal dialysis, receiving daily intraperitoneal administrations of PolyCore, Extraneal, or a control. Multi-photon microscopy (MPM) was utilized to quantify blood flow, assess the grade of fibrosis, and determine vessel spreading. Subsequent analyses involved the investigation of gene and protein expression of TGF- β , VEGF, EMT, and inflammatory markers in both in vitro and in vivo samples.

RESULTS

Experimental results indicate that PolyCore treatment effectively preserves cell viability and the integrity of the mesothelial layer. In contrast, Extraneal, significantly reduces mesothelial cell viability and appears to compromise mesothelial layer integrity, as measured by Transepithelial Electrical Resistance (TER). In cells exposed to Extraneal a shift towards a mesenchymal phenotype was observed. Specifically, there was an up-regulation of mesenchymal markers like TGF-beta, alpha-smooth muscle actin (α -SMA) and vimentin (VIM), and a reduction in the key epithelial marker E-cadherin (E-CAD). In contrast, PolyCore did not induce any of these gene expression changes. While vascular endothelial growth factor (VEGF) is a known contributor to ultrafiltration failure, there were no significant differences in VEGF gene expression in mesothelial cells treated with PolyCore. In rats, PolyCore did not increase in sub-mesothelial collagen deposition and did not make the collagen fibers more compact.

CONCLUSIONS,

These data suggest that PolyCore is able to maintain the epithelial characteristics of the mesothelial cells preventing the development of peritoneal fibrosis.

P-74 – Novel Insights into Pharmacokinetics of Intraperitoneal Aztreonam and Meropenem During Automated Peritoneal Dialysis

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OBJECTIVES

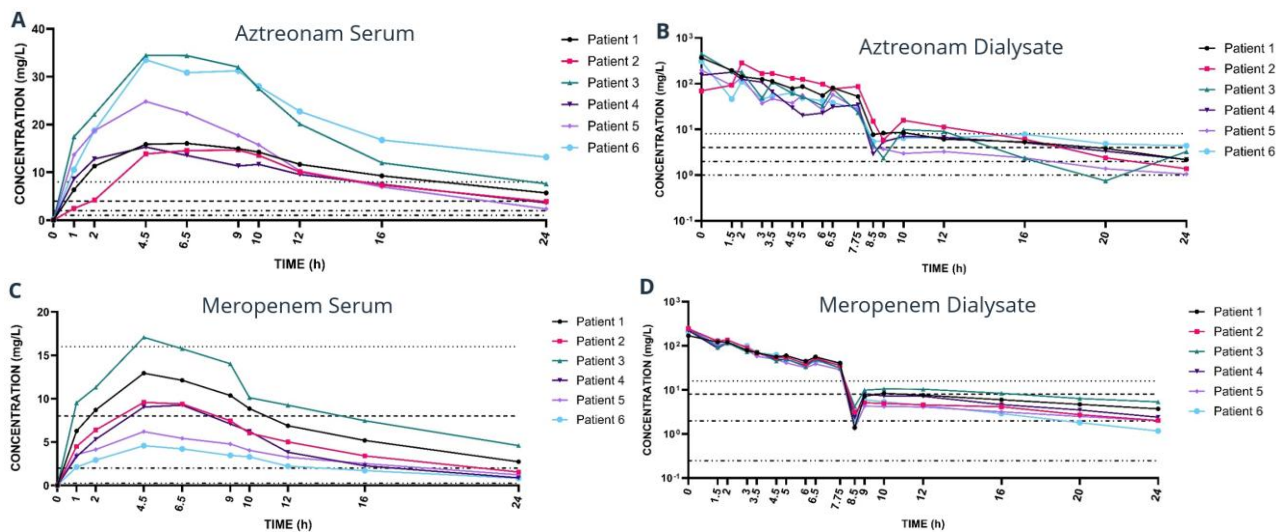
Peritoneal-dialysis-associated-peritonitis (PDAP) is a serious complication of automated-peritoneal-dialysis (APD), regarding mortality and morbidity¹. Current ISPD guidelines recommend intraperitoneal (IP) antibiotics like aztreonam and meropenem as a potential second-line therapy in PDAP treatment. However, data on pharmacokinetics (PK) and optimal dosing of these antibiotics during APD remain limited². This study aims to evaluate and optimize the PK profile of aztreonam and meropenem in APD patients by administering them during the first short dwell of the cycler therapy, rather than the long dwell.

METHODS

For each antibiotic, six adult, non-infected patients were enrolled. The antibiotics were administered exclusively via the heating bag during cycler therapy, followed by an antibiotic-free dwell solution after the completion of APD to facilitate back-diffusion from the serum into the peritoneal cavity. Dialysate and serum samples were collected and analysed using high-performance liquid chromatography coupled to a mass spectrometer (HPLC-MS). Pharmacokinetic calculations were conducted consecutively.

RESULTS

The time during which the antibiotic concentrations remained above the minimum inhibitory concentration ($t > MIC$), based on the expected bacterial spectrum, was the primary outcome measure, with a target of 60%. For aztreonam 2g, the mean serum values were: $t > 4\text{mg/L}$: 94.58% (SD ± 4.82)*, $t > 8\text{mg/L}$: 72.11% (SD ± 19.86)* (Figure A). In the dialysate, the mean values were: $t > 4\text{mg/L}$: 71.49% (SD ± 21.84)*, $t > 8\text{mg/L}$: 42.21% (SD ± 9.66) (Figure B). For meropenem 1g, the mean serum values were: $t > 2\text{mg/L}$ 81.58% (SD ± 17.86)*, $t > 8\text{mg/L}$: 22.41% (SD ± 22.6) (Figure C). In the dialysate, the mean values were: $t > 2\text{mg/L}$ 96.62% (SD ± 7.9)*, $t > 8\text{mg/L}$: 41.46% (SD ± 13.28) (Figure D).



CONCLUSIONS

This study proposes an alternative treatment strategy for PDAP in APD patients, highlighting its potential to achieve highly effective serum and IP aztreonam and meropenem concentrations. Further studies are required to optimize the drug dosage for this route of administration.

REFERENCES

1. **Recent Peritonitis Associates with Mortality among Patients Treated with Peritoneal Dialysis;** Boudville, Neil; Kemp, Anna; Clayton, Philip; Lim, Wai; Badve, Sunil V.; Johnson, David W. et al.; *Journal of the American Society of Nephrology* 2012;23(8): 1398-1405: DOI: 10.1681/ASN.2011121135
2. **ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. Peritoneal Dialysis International;** Li, Philip Kam-Tao; Chow, Kai Ming; Cho, Yeoungjee; Fan, Stanley; Figueiredo, Ana E.; Harris, Tess et al.; 2022;42(2):110-53. DOI: <https://doi.org/10.1177/0896860822108586> (accessed 2022/07/14)

P-75 – From Visual Guess to Optical Truth: Evaluating the Reliability of Subjective Versus Instrumental Assessment of Dialysate Clarity

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OBJECTIVES

Peritonitis is a serious complication of peritoneal dialysis (PD), often initially signaled by dialysate turbidity. Visual inspection is standard but subjective and may delay diagnosis. Our study evaluated the diagnostic utility of spectrophotometry as an early, objective method for turbidity detection and assessed its agreement with visual evaluation.

METHODS

Fifty healthcare professionals participated in the study, including certified nephrologists, nephrology residents, and nurses and evaluated 10 anonymized PD bags images, classifying dialysate as clear or cloudy. Corresponding dialysate samples were analyzed using spectrophotometry to obtain optical density (OD) values. We analyzed diagnostic accuracy across groups and explored correlations with observation frequency and OD results.

RESULTS

PD nurses (n=5) had the highest median correct responses (8.0, IQR = 4.5–8.5), followed by nephrology residents (n=10; 7.0, IQR = 6.75–8.25) and inpatient nurses (n=18; 7.0, IQR = 4.75–8.25). Certified nephrologists (n=17) scored lowest (6.0, IQR = 5.0–7.5), likely due to less frequent PD bag assessment. Kruskal–Wallis test showed no significant difference between relatively small groups ($H(3) = 1.574$, $p = 0.665$). Moderate negative correlation seen between PD bag observation frequency and accuracy ($r_s = -0.393$, $p = 0.005$), with no significant effect of experience ($r_s = 0.101$, $p = 0.486$). Visual assessments correlated strongly with spectrophotometric turbidity ($r_s = 0.777$, $p = 0.008$). ROC analysis (10 samples) yielded AUC = 1.000 ($p = 0.037$; 95% CI [1.000, 1.000]); the OD cutoff was 0.02435, classifying values below as ‘clear’. Results should be interpreted cautiously due to small sample size.

CONCLUSIONS

Respondents who regularly assessed PD bags showed higher diagnostic accuracy. While spectrophotometry demonstrated strong alignment with visual evaluation and high diagnostic precision, visual detection was less reliable in cases of minimal turbidity, revealing the limitations of subjective judgment. Spectrophotometry effectively detects turbidity, yet elevated optical density may arise from non-infectious causes and must be interpreted in clinical context.

P-76 – IL-6 -572 C>G Polymorphism and It's Association with Inflammation and Peritoneal Function in PD Patients

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IL-6 -572 C>G Polymorphism and Its Association with Inflammation and Peritoneal Function in PD Patients

OBJECTIVES

This study aimed to evaluate the impact of the IL-6 -572 C>G polymorphism on serum and peritoneal IL-6 levels, peritoneal membrane characteristics, and laboratory findings in patients undergoing peritoneal dialysis (PD).

METHODS

Ninety-six PD patients were genotyped for the IL-6 -572 C>G polymorphism via real-time PCR and categorized into C allele carriers (CC + CG, n=21) and non-carriers (GG, n=75). IL-6 levels in serum and peritoneal effluent were measured using ELISA. Peritoneal membrane function was assessed by the peritoneal equilibration test (PET), and clinical laboratory parameters were reviewed retrospectively.

RESULTS

Basic characteristics, laboratory parameters, peritoneal dialysis-related characteristics, serum IL-6 levels, and peritoneal IL-6 levels of the study groups according to the presence of the C allele are summarized in Table 1. Median serum IL-6 levels were higher in C allele carriers compared to non-carriers, as were peritoneal IL-6 levels; however, these differences did not reach statistical significance (p=0.647 and p=0.891, respectively). Notably, a significant difference in peritoneal transport status was observed between groups (p=0.035), with C allele carriers showing a higher proportion of low transporters. Other laboratory parameters were similar across groups.

CONCLUSIONS

Although IL-6 levels tended to be higher in C allele carriers, the differences were not statistically significant, possibly due to limited sample size. In our study C allele carriers showed a higher proportion of low transporters. The observed trends suggest a potential influence of IL-6 -572 C>G polymorphism on inflammatory activity and peritoneal membrane function, warranting further investigation in larger cohorts.

Table 1. Comparison of the study group demographic, clinical, and laboratory parameters based on IL-6 -572 C>G polymorphism

Variable		IL-6 -572 C>G polymorphism		P value
		Carriers of the C Allele (CC + CG) (n=21)	Non-Carriers (GG) (n=75)	
Age (years)		55.0 (49.0-61.5)	56.0 (47.0-65.0)	0.651
Gender (Female)		9 (42.9%)	26 (34.7%)	0.491
Charlston Comorbidity Index		4.0 (3.0-6.0)	4.0 (3.0-6.0)	0.626
Modality	APD	9 (42.9%)	40 (53.3%)	0.396
	CAPD	12 (57.1%)	35 (46.7%)	
Peritoneal dialysis duration (months)		24.0 (12.0-48.0)	23.0 (12.0-48.0)	0.972
Peritoneal equilibrium test group	Low	6 (28.6%)	18 (24.0%)	0.035
	Low-average	12 (57.1%)	22 (29.3%)	
	High-average	1 (4.8%)	23 (30.7%)	
	High	2 (9.5%)	12 (16.0%)	
Daily peritoneal glucose exposure (mg/day)		136.0 (120.0-190.0)	150.0 (107.14-190.0)	0.762
Kt/V		2.3 (1.8-2.7)	2.0 (1.8-2.4)	0.294

BUN (mg/dL)	49.0 (45.0-57.0)	49.0 (39.7-64.0)	0.366
Creatinine (mg/dL)	7.6 (6.3-9.6)	7.2 (5.5-9.6)	0.380
Sodium (mEq/L)	139.0 (137.0-141.0)	138.0 (136.0-140.0)	0.347
Potassium (mEq/L)	4.6 (4.4-5.0)	4.5 (4.1-4.8)	0.215
Albumin (g/dL)	3.7 (3.2-4.2)	3.8 (3.3-4.1)	0.821
Hemoglobin (g/dL)	11.4 (9.1-11.8)	10.5 (9.0-11.8)	0.405
Ferritin (ng/mL)	282.0 (180.0-484.0)	216.0 (128.0-354.0)	0.106
CRP (mg/L)	6.5 (2.4-13.5)	7.5 (2.4-19.6)	0.863
Serum IL-6 (ng/mL)	28.3 (15.8-133.7)	20.6 (15.9-77.6)	0.647
Peritoneal IL-6 (ng/mL)	67.5 (18.5-135.0)	64.9 (24.7-101.5)	0.891

Data are presented as median (interquartile range) or n (%), unless otherwise indicated IL-6: interleukin-6; CRP: C-reactive protein; BUN: blood urea nitrogen; PET: peritoneal equilibration test; APD: automated peritoneal dialysis; CAPD: continuous ambulatory peritoneal dialysis

P-77 - Effects of Incremental Peritoneal Dialysis on Patient Care and Sustainability

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OBJECTIVES

Chronic kidney disease (CKD) significantly impacts global health, with dialysis patients often experiencing reduced quality of life. Incremental start peritoneal dialysis has emerged as a promising individualized treatment strategy, offering potential benefits for both patient outcomes and environmental sustainability compared to standard peritoneal dialysis. This study aimed to evaluate the impact of incremental start continuous ambulatory peritoneal dialysis (CAPD) on quality of life, clinical outcomes, and environmental metrics, such as plastic waste generation, compared to conventional CAPD.

METHODS

A multicenter study involving two groups (incremental start CAPD—INPD and standard dose conventional CAPD—STPD groups) was conducted. Baseline and six-month follow-up data were collected, including laboratory parameters, treatment-related plastic waste, glucose load, residual renal function, and quality of life assessed using the Kidney disease quality of life short form (KDQOL-SF).

RESULTS

Basic characteristics of the study groups are presented in Table 1. There were no statistically significant difference in median age and gender between the two groups ($p>0.05$). In the third month of the study, a significant difference was observed in PET ultrafiltration volume, with higher values in the STPD group ($p=0.020$). There were no statistically significant differences between study groups according to permeability groups ($p=0.714$) or KtV ($p=0.743$). In the sixth month of the study, the INPD group demonstrated significantly better residual renal function ($p<0.001$) and reduced weekly polypropylene and polyvinyl chloride plastic waste ($p<0.001$) (figure 1) and glucose load ($p<0.001$) in both the baseline and sixth months of the study. KDQOL-SF scores were significantly higher in the INPD group ($p<0.001$) (Figure 2).

CONCLUSIONS

INPDD demonstrated superior outcomes in maintaining residual renal function, reducing treatment burden, and improving quality of life while significantly lowering environmental impact compared to STPD. These findings support the adoption of INPD as an individualized and sustainable strategy in CKD management. Further research is needed to validate these findings in larger cohorts and explore long-term outcomes.

Figure legends:

Figure 1. Weekly polypropylene and polyvinylchloride waste (grams) in each group (both baseline and at the sixth month of study)

Figure 2. Quality of life scores in the sixth month of study according to groups.

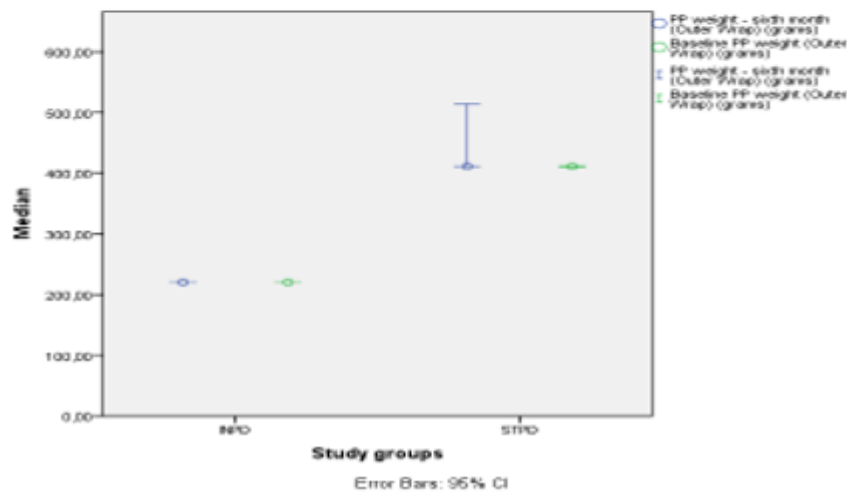
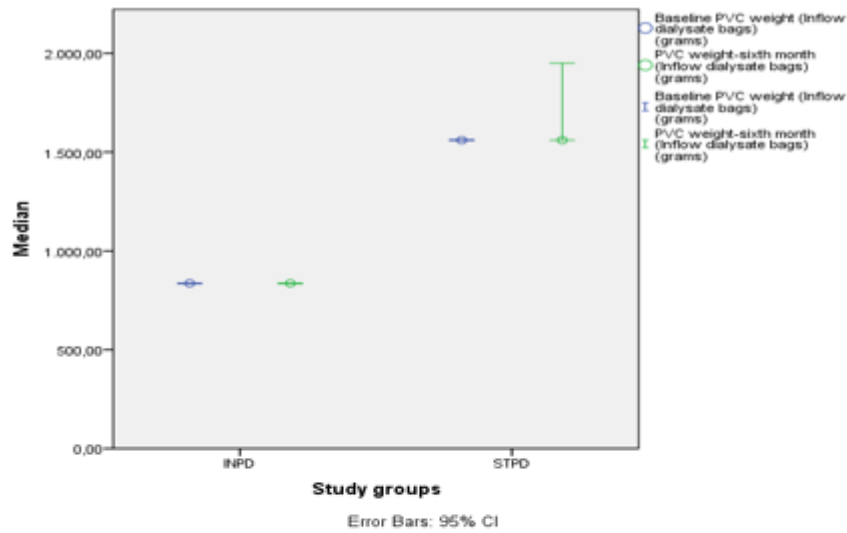
Table 1. Baseline laboratory and demographic characteristics of study groups

		INPD group (n=30)	STPD group (n=15)	P value
Gender (n(%))	Female	13 (43.33%)	9 (60.00%)	0.292
	Male	17 (56.67%)	6 (40.00%)	
Age (years) (median (min-max))		45 (22-72)	44 (17-78)	0.942
CKD etiology (n(%))	HT	13 (43.33%)	7 (46.67%)	0.067
	DM	5 (16.67%)	1 (6.67%)	
	GN	2 (6.67%)	2 (13.33%)	
	ADPKD	0 (0.00%)	3 (20.00%)	

	Other+	10 (33.33%)	2 (13.33%)	
BMI (kg/m²) (median (min-max))		24.44 (15.57-36.06)	24.12 (17.92-36.82)	0.819
BUN (mg/dL) (median (min-max))		58.50 (30.00-116.00)	46.00 (33.00-71.00)	0.019
Creatinine (mg/dL) (median (min-max))		6.70 (3.10-14.80)	7.71 (3.79-11.80)	0.500
Sodium (mEq/L) (median (min-max))		139.00 (128.00-146.00)	138.00 (129.00-141.00)	0.552
Potassium (mEq/L) (median (min-max))		4.70 (3.60-6.00)	3.94 (3.30-5.47)	<0.001
Calcium (g/dL) (median (min-max))		8.85 (6.00-10.30)	9.20 (7.70-10.50)	0.185
Phosphorus (g/dL) (median (min-max))		4.90 (3.40-9.00)	4.60 (3.20-7.80)	0.257
Albumin (g/dL) (median (min-max))		3.99 (2.60-5.20)	3.60 (3.20-4.40)	0.498
Parathyroid hormone (pg/L) (median (min-max))		305.50 (18.00-944.00)	397.00 (114.00-1335.00)	0.211
Hemoglobin (g/dL) (median (min-max))		10.60 (6.80-12.60)	11.00 (7.90-14.20)	0.405
Ferritin (pg/L) (median (min-max))		170.50 (17.60-1183.00)	169.00 (25.00-670.00)	0.904
PP weight (Outer Wrap) (grams) (median (min-max))		220.35 (220.35-220.35)	411.32 (220.35-411.32)	<0.001
PVC weight (Inflow dialysate bags) (grams) (median (min-max))		835.80 (835.80-835.80)	1560.16 (835.80-1560.16)	<0.001
Weekly glucose load (grams) (median (min-max))		408.00 (204.00-408.00)	854.00 (380.40-2012.50)	<0.001

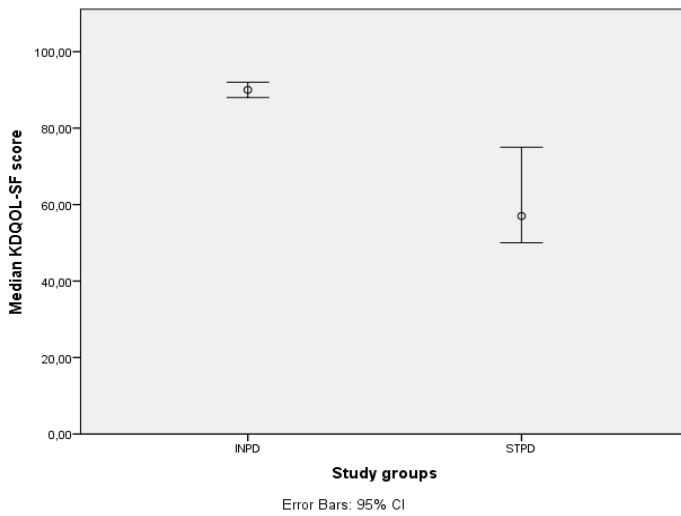
BMI: body mass index, BUN: blood urea nitrogen, INPD: Incremental peritoneal dialysis, max: maximum, min: minimum, PP: Polypropylene, PVC: polyvinylchloride, STPD: Standard dose peritoneal dialysis

Figure 1.



INPD: Incremental peritoneal dialysis, PP: Polypropylene, PVC: polyvinylchloride, STPD: Standard dose peritoneal dialysis

Figure 2.



KDQOL-SF: Kidney disease quality of life short form, INPD: Incremental peritoneal dialysis, STPD: Standard dose peritoneal dialysis

P-78 – A Real-World Pilot Study Comparing the Predictive Utility of A Point-Of-Care Device in The Diagnosis of PD Peritonitis

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OBJECTIVES

Timely diagnosis and initiation of treatment are crucial in the management of PD peritonitis. Point-of-care tools, such as the QuickCheck device, provide a rapid estimation of peritoneal fluid white blood cell count (WCC) for the diagnosis of PD peritonitis. In this pilot study, we aim to evaluate the predictive utility of the QuickCheck device compared to conventional laboratory-based WCC in PD peritonitis at our centre.

METHODS

We conducted a comparative analysis between WCC detected by the QuickCheck™ device (MicroBioSensor), and laboratory WCC on 25 PD patients presenting with suspected peritonitis (Nov 2024 and April 2025). Patient demographics, PD modality (APD vs. CAPD), symptom status, bedside clinical findings (e.g., read-through bags), and clinical outcomes were recorded. Sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were calculated. The correlation of cell counts was assessed using Spearman's correlation coefficient and a Bland-Altman plot. Area under the curve (AUC) analysis was performed to evaluate overall diagnostic performance.

RESULTS

The median age was 56 years, with a predominance of males (60%) and white ethnicity (88%). 80% were on automated PD. The sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of QuickCheck device results were 87%, 80%, 76% and 89%, respectively. The Bland-Altman plot indicates that the QuickCheck device generally tracks lab results closely but exhibits notable variation at the high and low ends of the range. The Spearman's correlation coefficient was 0.871, $p < 0.001$ (strong correlation) (Figure 1). The AUC value was 0.907 (excellent discrimination) (Figure 2)

CONCLUSIONS

The results suggest that the QuickCheck device is highly accurate in mimicking or predicting lab-based diagnoses. This supports the use of the QuickCheck device for screening or rapid decision-making, especially when lab tests are slow or unavailable.

Figure 1. Correlation between QuickCheck and laboratory white cell counts

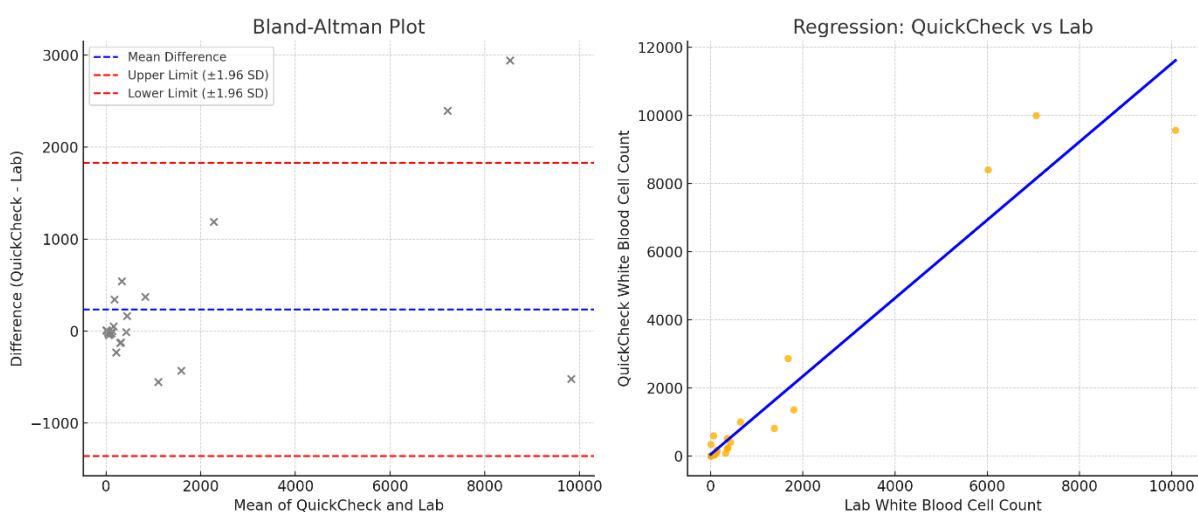
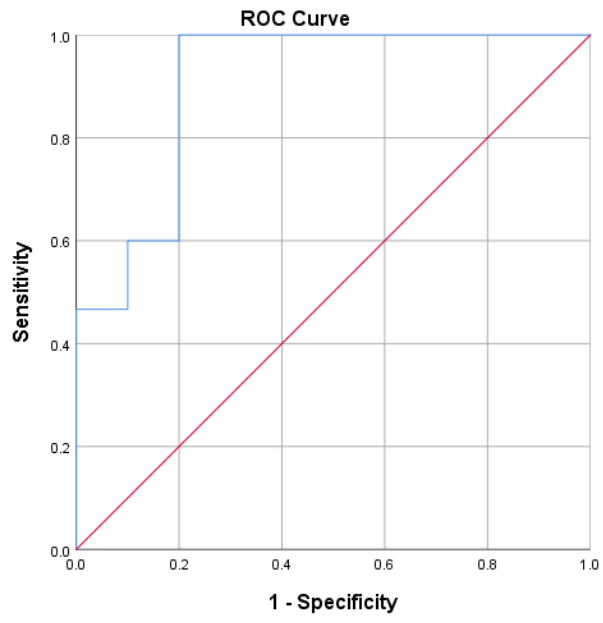


Figure 2. Area under the curve analysis comparing QuickCheck and laboratory white cell count (AUC -0.907)



P-79 – Investigating Outcomes Between Surgical and Medical Peritoneal Dialysis Catheter Insertions: A Single-Centre Observational Study Over 10 Years

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OBJECTIVES

Peritoneal dialysis (PD) catheter insertion approaches include both surgical (open or laparoscopic) and medical (percutaneous) methods. Each method presents distinct advantages, with surgical techniques allowing direct visualisation, while percutaneous insertions offer reduced invasiveness and quicker recovery. In this study, we aim to evaluate and compare the outcomes of surgical versus medical PD catheter insertions at our centre over a 10-year period (January 2015 to December 2024).

METHODS

This retrospective observational study was conducted on 650 adult patients who underwent PD catheter insertions (medical: 544 vs. surgical: 106). Data included patient demographics, comorbidities before PD catheter insertion, and information on PD catheter-related variables, including insertion method (medical or surgical), procedural setting (elective outpatient vs inpatient), occurrence of acute complications (e.g., catheter malposition), and reasons for PD dropout (e.g., death, transplant, infection, catheter dysfunction, and patient choice) was collected. A comparative analysis was made between medical and surgical PD catheter insertion for catheter longevity, PD drop-out reasons, and undesired catheter removal (due to infections and catheter dysfunction).

RESULTS

The cohort had a predominance of white ethnicity (82%), with a median age of 59 years, and more male patients having undergone a medical PD insertion (66 vs. 47, $p < 0.001$). A higher proportion of patients had a previous abdominal surgery in the surgical PD group (51 vs 23%, $p < 0.001$). Over a 19-month follow-up, there was no significant difference regarding PD dropout due to malposition-related catheter dysfunction (medical 12% vs. surgical 11.3%, $p = 0.902$). However, early dropouts due to tunnel infections were noted to be higher in the surgical group (4.7% vs. 1.23%, $p = 0.015$).

CONCLUSIONS

Outcomes between surgical and medical PD catheter insertions were comparable. A careful pre-procedure assessment in advanced kidney care services and dialysis preparation clinics is warranted to prevent undesirable PD dropouts and sustain a healthy PD programme.

P-80 – Comparing Outcomes Between Straight Versus Coiled Peritoneal Dialysis Catheters: A Single-Centre Observational Study

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OBJECTIVES

A well-functioning peritoneal dialysis (PD) catheter is a key factor for long-term sustainability on PD. In this study, we aim to evaluate the characteristics and compare the outcomes in patients on straight versus coiled PD catheters.

METHODS

We conducted a retrospective observational study of 650 adult patients with a complete dataset in the Salford PD study database between January 2015 and December 2024. A straight PD catheter with a single cuff was introduced for practice in medical PD catheter insertions since June 2023. Data collected included patient demographics, comorbidities, and information on PD catheter-related variables, such as the insertion method (medical or surgical), procedural setting (elective outpatient vs. inpatient), and reasons for PD dropout (e.g., death, transplant, infection, catheter dysfunction, and patient choice). Comparisons were made between coiled and straight PD catheters on immediate post-operative catheter position in abdominal X-ray (AXR) and undesired catheter removal (due to infection and catheter dysfunction).

RESULTS

The median age of the cohort was 59 years, with a predominance of males (63%) and white ethnic background (82%). Salient baseline comorbidities included diabetes mellitus (44%), hypertension (81%), myocardial infarction (11%), and cerebrovascular accident (12.5%). 544 (84%) had a percutaneous (medical) PD catheter insertion under local anaesthetic and sedation. Of these 35 (6.4%) were straight PD catheters with a single cuff, which was noted to be relatively technically easier during insertion. Catheter malposition on immediate postoperative abdominal X-ray was reported to be less with straight PD catheters (8.6% vs 30.9%, $p = 0.005$). Over a median follow-up of 19 months, no significant difference was noted in PD dropouts due to catheter dysfunction resulting from malposition (14.3% vs 14.1%, $p = 0.75$) or PD peritonitis (2.9% vs 9.4%, $p = 0.192$).

CONCLUSIONS

Straight PD catheters with a single cuff are technically and functionally non-inferior to coiled PD catheters.

P-81 – Anti-Hypertensives Prescribing Patterns and Associated Outcomes in Patients Receiving Peritoneal Dialysis: A Single-Centre Observational Study

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OBJECTIVES

Hypertension is highly prevalent among patients undergoing peritoneal dialysis, affecting up to 88% of this population and contributing significantly to cardiovascular morbidity and mortality. (1) Despite widespread use, there is limited longitudinal data on the patterns of antihypertensive prescribing in PD patients, particularly in relation to comorbidities and treatment response over time. In this study, we aim to analyse the antihypertensive prescribing trends and outcomes in PD patients over a 10-year period.

METHODS

This retrospective observational study was conducted on 651 patients who were initiated on PD at our centre between January 2015 and December 2024. Data collated included patient demographics, comorbidities, and data on the antihypertensive medication class prescribed at baseline, 12 months, and 24 months. Additionally, residual urine output, clinical outcomes (e.g., cardiovascular events, death, and transplant), and follow-up duration were also collected. Blood pressure control, residual urine output, cardiovascular outcomes, and other adverse events were assessed during the follow-up period in patients with and without the use of renin-aldosterone system inhibitors (RASi).

RESULTS

The patients in the cohort had a median age of 59 years, with males (63%) and white ethnicity (82%). The salient baseline comorbidities included hypertension (80%), diabetes mellitus (44%), myocardial infarction (11%) and cerebrovascular accident (13%). The median blood pressure of the cohort was 131/78 mmHg. The proportion of patients on RASi agents increased during follow-up: baseline (37%), 12 months (60%), and 24 months (71%; $p < 0.001$). Over a median follow-up of 19 months, although there were no significant difference in cardiovascular events (17% vs 14%, $p = 0.261$) or all-cause mortality (34% vs 28%, $p = 0.112$) was observed between cohorts based on RASi treatment, a higher proportion on a RASi received a transplant (28.6 vs 14.2%, $p < 0.001$).

CONCLUSIONS

The impact of RASi agents on residual urine output needs further exploration.

P-82 – Investigating The Association Between Vitamin D Levels and Outcomes in Patients Receiving Peritoneal Dialysis

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OBJECTIVES

Vitamin D, beyond its classical role in bone mineral metabolism, has been shown to exert immunomodulatory and anti-inflammatory effects. (1) The aim is to evaluate the association between time-averaged serum vitamin D levels and clinical outcomes in patients receiving peritoneal dialysis at our centre.

METHODS

A total of 470 patients with complete datasets who initiated PD between January 2015 and December 2024 at our centre were included in this analysis. Groups were stratified based on time-averaged Vitamin D levels (25-hydroxy cholecalciferol) into Group 1 (<30 nmol/L), Group 2 (30-50 nmol/L), and Group 3 (>50 nmol/L). Binary logistic regression (BLR) analysis was used to identify the risk factors associated with peritonitis and all-cause mortality.

RESULTS

The median age of the cohort was 57 years, with a predominance of male (62%) and white ethnicity (80%). A higher proportion of patients in Group 1 had a history of myocardial infarction (15.7 vs 7.2%, $p=0.022$); the rest of the comorbidities were similar across the groups. Patients in group 1 had a lower median haemoglobin (97 vs 105 g/L, $p<0.001$) and lower serum albumin (36 vs 39 g/L, $p<0.001$). Over a median follow-up of 21 months, the PD peritonitis rate (38.6 vs 25.4, $p = 0.067$) and all-cause mortality (41% vs 24%, $p = 0.002$) were higher in patients in group 1 (Table 1). Multivariate BLR analysis revealed a lower time-averaged Vitamin D level as a risk factor for all-cause mortality (OR: 0.97; CI: 0.96-0.99; $p = 0.001$) and as demonstrated in the KM chart (Figure 1). Also, patients in group 1 had a higher odds for PD peritonitis (OR: 1.36; CI: 1.03-1.8; $p = 0.027$) (Table 2).

CONCLUSIONS

A lower native Vitamin D level is observed to be an independent predictor of all-cause mortality and PD peritonitis, suggesting its immunomodulatory and anti-inflammatory roles and supporting the importance of Vitamin D repletion.

Table 1. Baseline Characteristics and outcomes on follow-up

Variables	Group -1 Vitamin D (<30) N = 127	Group-2 Vitamin D (30-50) N = 205	Group-3 Vitamin D (>50) N = 138	p-Value
Age	54 (41.5-69)	56 (40-69)	61 (50.25-72)	0.019
Sex, Male	81 (63.8)	121 (59)	90 (65.2)	0.462
Ethnicity, White	96 (75.6)	164 (80)	116 (84.1)	0.227
Comorbidities				
DM	63 (49.7)	79 (38.6)	52 (37.7)	0.082
MI	20 (15.7)	15 (7.3)	10 (7.2)	0.022
CCF	9 (7.1)	8 (4)	4 (2.9)	0.224
PVD	13 (10.2)	17 (8.3)	11 (8)	0.775
CVA	21 (16.5)	21 (10.2)	14 (10.1)	0.170
Dementia	1 (0.8)	1 (0.5)	0 (0)	0.606
Solid Tumour	11 (8.7)	21 (10.2)	21 (15.2)	0.199
COPD	18 (14.2)	30 (14.6)	19 (13.8)	0.975
Laboratory Characteristics				
HB	97 (89 - 109)	102 (91.5 – 113)	105 (99-114.7)	<0.001
Cor. Calcium	2.32 (2.23 – 2.45)	2.34 (2.2 – 2.4)	2.35 (2.26 – 2.44)	0.713
Phosphate	1.73 (1.49 – 2.23)	1.92 (1.5 – 2.3)	1.68 (1.5 – 2.02)	0.003
Parathormone	30.2 (16.4 – 58)	43.35 (24.9 – 70)	30.4 (16.5 – 56)	0.091
Albumin	36 (32 – 40)	38 (35 – 41)	39 (36 – 42)	<0.001

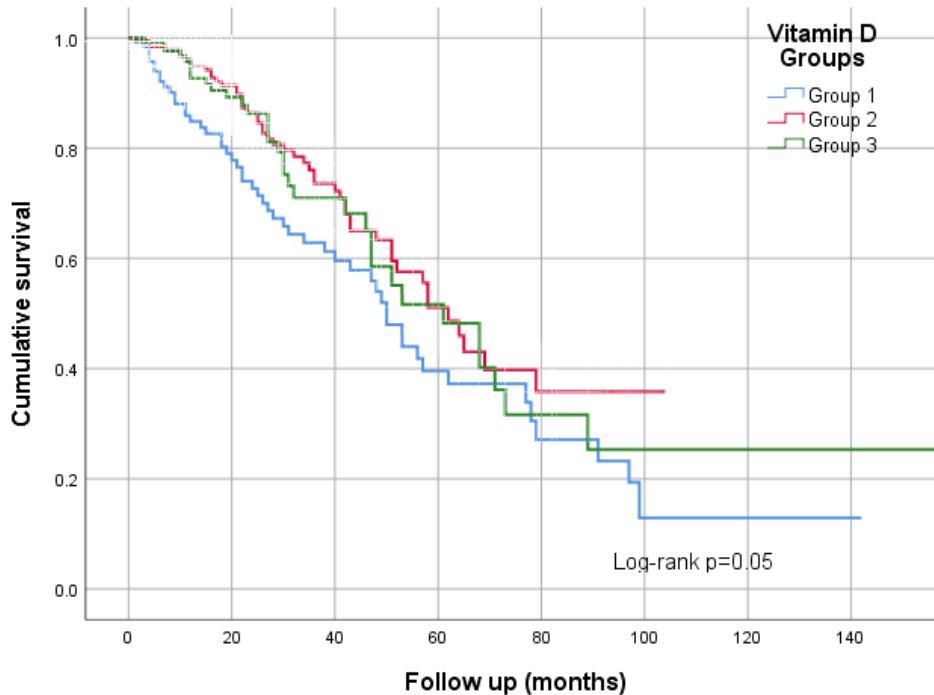
Outcomes				
PD peritonitis	49 (38.6)	68 (33.2)	35 (25.4)	0.067
Any CV event	22 (17.3)	29 (14.1)	18 (13)	0.490
MI	11 (8.7)	12 (5.9)	6 (4.3)	0.323
CCF	6 (4.7)	7 (3.4)	6 (4.3)	0.812
PVD	4 (3.1)	5 (2.4)	2 (1.4)	0.647
CVA	5 (3.9)	14 (6.8)	6 (4.3)	0.444
All-cause mortality	52 (40.9)	50 (24.4)	33 (23.9)	0.002
Transplant	20 (15.7)	51 (24.9)	38 (27.5)	0.053
Follow up, Months	20 (6-45)	22 (12-41)	20 (10-31)	0.387

Continuous variables are expressed as median (IQR), p-value by Krushal-Wallis H test. Categorical variables are expressed as number (Percentage), p-value by chi-square test

Table 2 Multivariate binary logistic regression models for all-cause mortality and PD peritonitis

Variable	OR (95% CI)	p-value
All-cause mortality		
Time-averaged Vitamin D level	0.97 (0.96-0.98)	0.001
Age	1.06 (1.04-1.08)	<0.001
Diabetes mellitus	1.62 (1.02-2.63)	0.049
Peripheral vascular disease	2.57 (1.16-5.68)	0.019
PD peritonitis		
Lower Vitamin D (group-1)	1.36 (1.03-1.80)	0.027

Figure-1. Kaplan-Meier chart on all-cause mortality across the Vitamin D groups



P-83 – Enhancing The Peritoneal Dialysis Patient Experience: Usability and Satisfaction with The New Vivatum Alba CAPD System

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OBJECTIVES

This study evaluated the usability and patient experience of the Vivatum Alba CAPD System™, an integrated, Bluetooth-enabled platform designed to enhance peritoneal dialysis (PD) delivery. Secondary objectives included assessment of patient satisfaction, device accuracy in vital sign and fluid monitoring, and the reliability of data transfer to the remote patient care (RPC™) platform.

METHODS

A prospective, two-phase, multi-centre cohort study was conducted at two South African sites. Adults on stable CAPD or APD for ≥3 months were enrolled. In Phase 1, participants received education and completed a usability questionnaire. In Phase 2, participants were trained on the Alba system and performed supervised simulated and live PD exchanges. Outcomes included structured observations of procedural competence, patient-reported satisfaction, and accuracy of data capture. Descriptive statistics were used for analysis, conducted in STATA version 17.

RESULTS

Of 41 participants enrolled, 30 completed both phases. The mean age was 50 years; 52% were male. Most participants had hypertension (88%) and 58% had fluid overload. Travel times to PD centres were often prolonged despite short distances. Patient satisfaction with the Alba system was high (97.5%) in both phases. Participants valued the system's intuitive interface, stepwise guidance, infection control prompts, and integrated vital sign monitoring. Observed competence was high, particularly among those without prior peritonitis. Vital sign and ultrafiltration data recorded via the Alba system correlated well with manual measurements. Data were reliably transmitted to the RPC platform.

CONCLUSIONS

The Alba CAPD System™ demonstrated high usability, strong patient satisfaction, and reliable data transmission, offering a feasible approach to enhance PD delivery and monitoring. Its structured training, infection control safeguards, and remote monitoring capabilities may improve patient outcomes and autonomy, particularly in resource-limited settings. Further evaluation in home environments is warranted.

P-84 – A Safe, Image-Free Technique for PD Catheter Insertion Using Veress Needle and Saline Drop Test: Office-Based, Reproducible, and Scalable

Mr Fateh Entabi¹

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OBJECTIVES

To evaluate the safety, feasibility, and outcomes of a novel blind percutaneous peritoneal dialysis catheter (PDC) insertion technique using a Veress-type safety needle and a saline drop position-confirmation test. Designed for office-based use, this method aims to reduce procedural burden and improve global access to PD.

METHODS

In this prospective cohort, 48 patients underwent PDC insertion between 2013 and 2017 using a modified Veress needle with over-sheath, guidewire, and split-dilator system. All procedures were performed under local anesthesia without imaging. Peritoneal entry was confirmed using a saline drop test. Outcomes included insertion success, early dialysis initiation, and complications.

RESULTS

Insertion was successful in 47 of 48 patients (98%). No visceral injuries, leaks, or peritonitis occurred. 69% began PD within two weeks. Minor complications included 10 cases of poor drainage (8 resolved with guidewire manipulation) and 3 cases of minor bleeding (1 required re-tunneling). No catheters required replacement within 30 days. Office-based insertions were completed in 23 cases (48%).

CONCLUSIONS

This Veress-guided, image-free technique enables safe, reproducible PDC placement in office and resource-limited settings. Its successful use without imaging or laparoscopy may support broader PD adoption and cost reduction worldwide. Comparative studies are warranted to assess long-term performance and scalability.

P-85 – Expanding PD Access in Low-Resource Settings via the Veress Needle Catheter Placement Model

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OBJECTIVES

To evaluate the feasibility and global health impact of using a Veress needle-based technique for peritoneal dialysis (PD) catheter insertion in low-resource settings, eliminating the need for imaging, operating room access, or anesthesia.

METHODS

We describe an office-based model for PD catheter placement using the Veress needle technique. This model was developed to bypass infrastructure limitations in resource-poor regions. Data from published outcomes, health economics literature, and case series demonstrating safe, blind Veress access are synthesized to support this care model.

RESULTS

Global PD adoption remains low due to barriers including cost, hospital infrastructure, and surgical access. In 2010, an estimated 2.3–7.1 million people died without access to dialysis. PD, while less expensive and associated with lower hospitalization rates, is often underutilized. Veress needle insertion enables catheter placement without fluoroscopy or anesthesia, allowing procedures in tents, clinics, or mobile units. Comparative analysis supports this method as cost-effective and safe in trained hands.

CONCLUSIONS

The Veress needle technique provides a breakthrough approach for scaling PD access in low-resource settings. Its simplicity and independence from surgical infrastructure make it uniquely suitable for remote and developing areas. Adoption of this model may significantly reduce the global burden of untreated end-stage renal disease.

P-86 – Effect of Intraperitoneal Pressure on Ultrafiltration Mechanisms in Peritoneal Dialysis

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OBJECTIVES

Net ultrafiltration in peritoneal dialysis (PD) results from the sum of ultrafiltration (UF), driven by the osmotic gradient generated by the infused PD solution, and the simultaneous reabsorption of peritoneal content into the lymphatic vessels and surrounding tissues. The composition of the peritoneal fluid, which would depend on UF and solute transport, should not be affected by reabsorption. A characteristic change in peritoneal composition is the sodium dip observed during the early phase of a high-concentration exchange, caused by the rapid influx of free water through aquaporins from the capillaries. Intraperitoneal pressure (IPP) is known to be one of the variables that reduces net UF, and it has been assumed that it does so solely by increasing reabsorption. If free water transport were independent of the effect of IPP, then changes in IPP should not influence sodium dip. To our knowledge, no evidence has challenged this presumed independence. Our study explores the effect of IPP on UF and its possible influence on sodium dip.

METHODS

We performed a 4.25%/3.86% peritoneal equilibration test (PET), 2L, 4h, in 96 PD patients, measuring IPP with empty abdomen, UF and sodium dip at 60 minutes (NaDip) as an indirect marker of aquaporin function (considering aquaporin dysfunction (AQPD) as a NaDip \leq 5 mEq/L).

RESULTS

UF was negatively correlated with IPP in the overall population ($r = -0.221$; $p = 0.03$). An inverse correlation was also observed between NaDip and IPP ($r = -0.210$; $p = 0.041$). A total of 39% of patients had NaDip \leq 5 mEq/L; in this group, IPP was significantly higher (9.2 ± 3.3 (3.1–15.0) vs. 7.4 ± 2.7 (1.3–15.0) cmH₂O; $p = 0.003$). In logistic regression analysis, an IPP above 8 cmH₂O was identified as a risk factor for AQPD (OR = 2.694, $p = 0.022$).

CONCLUSIONS

Our findings confirm the clinical relevance of IPP's effect on UF, showing that it counteracts UF during the 4.25%/3.86% PET. Moreover, these results suggest that IPP not only promotes reabsorption but also directly interferes with free water transport through aquaporins. This fact challenges the notion that IPP's role is limited to reabsorption and, instead, attributing to it a direct opposing effect on UF.

P-87 – Consensus-Based Co-Production of Nursing-Sensitive Indicators for Peritoneal Dialysis Quality Care

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OBJECTIVES

This project aimed to co-develop a set of nursing-sensitive indicators (NSIs) specific to peritoneal dialysis (PD) nursing practice, using a multinational, consensus-driven approach grounded in the Donabedian quality framework.

METHODS

A three-phase co-production process was used. First, an expert panel of seven professionals with clinical and academic expertise in nephrology nursing identified an initial list of potential indicators. This was based on clinical experience, peer-reviewed literature, and existing clinical guidelines. Second, the panel engaged in a structured consensus-building process through face-to-face meetings and online discussions to review, revise, and reduce the list. Third, confirmation of the proposed indicators was conducted using a 5-point Likert scale survey completed by 25 international nephrology nurses during a major conference.

RESULTS

An initial pool of 65 indicators was proposed, categorized into structural (n=20), process (n=22), and outcome (n=23) domains. Following iterative consensus discussions, the panel refined this list to 28 final indicators: eight structural, 12 process, and eight outcome indicators. All 28 indicators were supported in the final validation phase, each receiving an average rating above 3.5 on the 5-point scale. The most strongly endorsed indicators included patient satisfaction, fluid balance assessment, monitoring of PD catheter exit-site and clinical signs, investigation of peritonitis, referral for catheter-related complications, and infection rate monitoring.

CONCLUSIONS

This project produced a validated set of 28 peritoneal dialysis nursing-sensitive indicators through a rigorous multinational co-production and consensus process. These indicators reflect critical aspects of PD nursing care and, following further testing for validity, reliability, and feasibility, may support consistent measurement and improvement of care quality across diverse clinical settings.

P-88 – Home Dialysis in Scandinavia: Diverging Perceptions Between Patients with Kidney Failure and Kidney Professionals

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OBJECTIVES

This study aimed to explore perceptions and practices related to home-based dialysis across Scandinavian countries to inform future clinical practice and research. Specific aims included identifying factors influencing the choice of home dialysis, and examining differences in perceptions between patients and healthcare professionals.

METHODS

An explanatory sequential mixed-methods design was applied. Initial focus groups with patients, relatives, and healthcare professionals informed the development of a comprehensive questionnaire. The final online survey was distributed to patients with kidney failure and kidney professionals across Scandinavia. Closed-ended questions were followed by optional open-ended comment boxes. Quantitative data were analysed using logistic regression, adjusted for country, gender, and age. Qualitative responses were analysed using content analysis to contextualize the quantitative findings.

RESULTS

A total of 269 patients and 185 kidney professionals responded. The patient group was predominantly male (57.3%), while the professional group was mostly female (85.6%). The average age was 61.3 years for patients and 49.4 years for professionals. Independence was cited by both groups as the most important reason for choosing home dialysis, though many noted that “it is difficult to choose.” Patients identified key barriers including unclear reimbursement systems (OR=0.29), limited technology (OR=0.44), poor communication tools (OR=0.18), and staff technical knowledge (OR=0.32). Professionals reported concerns such as patients’ reluctance to take responsibility (OR=7.29), involvement of relatives (OR=7.54), social isolation (OR=7.18), and home environment limitations (OR=3.64). Patients valued social contact during dialysis and expressed concerns about transforming their homes into medical spaces. Professionals emphasized the need for additional staffing to support shared decision-making and home dialysis implementation, citing workforce shortages.

CONCLUSIONS

Significant differences exist between patients and professionals regarding barriers and motivations for home dialysis. Addressing these gaps through improved communication, support structures, and system-level reforms may enhance uptake and satisfaction with home-based dialysis in Scandinavia.

P-89 – Shared Decision Making and Dialysis Choice: An Observational Longitudinal Cohort Study

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OBJECTIVES

To describe the choice of dialysis modality and the outcomes for patients with kidney failure (KF) who received an shared decision making (SDM) intervention.

METHODS

Retrospective observational longitudinal cohort study design was used. Data were collected from 2018 to 2023 on 484 patients with KF from one regional and one university hospital. The exposure was an SDM intervention for dialysis choice. The predictors were frailty, eGFR, comorbidity, BMI, ethnicity, marital status and smoking. The outcomes were home-based dialysis, time, concordance, and death. Fisher's exact tests and Wilcoxon rank-sum tests assessed whether choice of dialysis modality differed significantly. Aalen-Johansen estimation assessed time from the SDM intervention to treatment initiation, concordance between chosen and initiated treatment, and mortality before treatment initiation. Logistic regression and Cox proportional hazards evaluated the patient characteristics predicting these three outcomes.

RESULTS

After the intervention, 68% chose home-based dialysis, while 32% chose center-based dialysis. With significant differences, more patients aged ≤ 70 years, at the university hospital, and living with a partner chose home-based dialysis. Half of the patients initiated treatment within 11 months, and predictors for initiating dialysis later than 11 months were age ≥ 70 years and eGFR > 15 ml/min/1.73 m². Eighty-three percent of the patients received the treatment chosen, and predictors for concordance were center-based dialysis, regional hospital, and very mild to mild frailty. Twelve percent of the patients died before treatment initiation, predicted by very mild to severe frailty and BMI < 25 kg/m².

CONCLUSIONS

A high proportion of patients chose a home-based treatment after receiving the intervention and initiated their preferred dialysis choice. Fifty percent of patients received the intervention 11 months before initiating dialysis, and few patients died before initiating dialysis. Routinely assessing frailty and BMI prior to intervention could possibly improve patient pathways. Complete follow-up for all patients was not ensured.

P-90 – The Role of Phase Angle in Assessing Malnutrition and Inflammation in PD: A Morphofunctional Approach

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OBJECTIVES

To explore the clinical utility of phase angle (PhA), derived from bioelectrical impedance analysis (BIA), as a marker of nutritional and inflammatory status in peritoneal dialysis (PD) patients, integrating morphofunctional, nutritional, and biochemical parameters.

METHODS

Twenty-nine PD patients underwent segmental multifrequency bioimpedance analysis (S10-INBODY®, Microcaya). Clinical characteristics, BIA-derived metrics, laboratory data (including albumin and C-reactive protein), dialysis adequacy, and residual urine output were collected. Muscle strength and functional capacity were assessed using handgrip dynamometry and the 4-meter gait speed test. Nutritional status was evaluated with the Malnutrition Inflammation Score (MIS).

RESULTS

The mean age was 68.1±14.9 years; 70% were male, 52% had diabetes, and 41% were on CAPD. Mean BMI was 20.3±11.2 kg/m², handgrip strength averaged 28.4±10.7 kg, 4-meter gait speed was 4.83±1.57 seconds, and MIS averaged 4.83±2.28 points. PhA showed strong positive correlations with handgrip strength ($r = 0.80$, $p < 0.001$), serum albumin ($r = 0.69$, $p < 0.0001$), and residual diuresis ($r = 0.57$, $p < 0.001$); and strong negative correlations with MIS ($r = -0.62$, $p = 0.0003$) and the ECW/TBW ratio ($r = -0.86$, $p < 0.0001$). These findings suggest that a higher PhA is associated with better nutritional and functional status and less inflammation and fluid overload. In multivariate regression analysis, serum albumin was the only independent predictor of MIS ($\beta = -0.39$, $p = 0.018$), highlighting its central role as a nutritional-inflammation marker.

CONCLUSIONS

Phase angle holds promise as a comprehensive indicator of nutritional and inflammatory status in PD patients. Its strong correlations with functional, biochemical, and hydration parameters supports its role in routine monitoring. Incorporating into PD patients assessment may facilitate early identification of vulnerable patients and guide targeted, personalized interventions to improve outcomes.

P-91 – A Biomarker Algorithm for Fluid Overload in Peritoneal Dialysis

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OBJECTIVES

Fluid overload (FO) in peritoneal dialysis (PD) increases cardiovascular morbidity and mortality, but clinical signs often appear late, making early detection challenging. NT-proBNP is an established marker of hypervolemia, while serum CA-125 may reflect extracellular volume. This study proposes a biomarker-based algorithm to enhance FO diagnosis and management in PD.

METHODS

We conducted a retrospective analysis of PD patients assessed between July 2023 and June 2025 at a Portuguese PD center. Patients with atrial fibrillation or heart failure were excluded. On the same day, patients underwent adequacy testing, bioimpedance, and biomarker quantification (NT-proBNP and CA-125). FO was defined as overhydration (OH) $\geq 5\%$ of total body water. Diagnostic performance was evaluated using ROC curves, sensitivity, specificity, PPV, NPV, and AUC. Statistical analyses were performed using SPSS.

RESULTS

A total of 104 assessments from 45 PD patients were analyzed; 39.8% were female, 61.5% on automated PD, mean age 59.2 ± 11.3 years. Mean serum CA-125 was 17.04 ± 13.95 U/mL, NT-proBNP 6756.47 ± 17066 U/mL and %OH 8.86 ± 8.48 . FO was present in 71.2% of cases, while peripheral edema showed low sensitivity (32.4%) %OH correlated with CA-125 ($r=0.199$; $p=0.043$) and NT-proBNP ($r=0.265$; $p=0.006$). NT-proBNP (cutoff ≥ 689 pg/mL) showed 83.8% sensitivity, 66.7% specificity, and AUC 0.797. Among patients with NT-proBNP ≥ 689 pg/mL, CA-125 ≥ 16.65 U/mL showed 40.3% sensitivity and 100% specificity. A diagnostic flowchart is presented below.

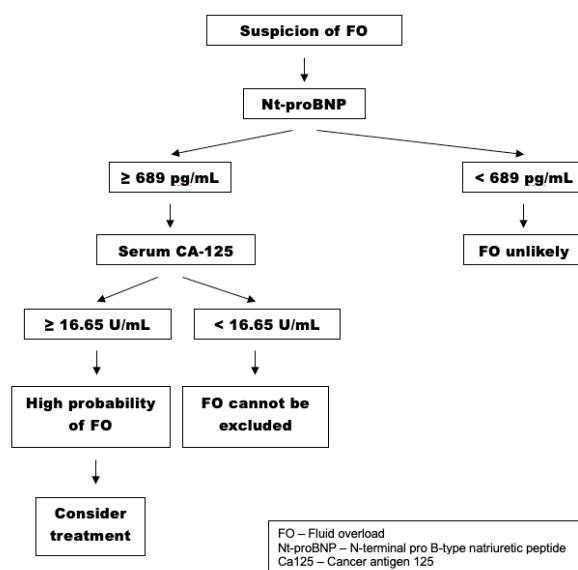


Image 1: Diagnostic algorithm for fluid overload in PD using NT-proBNP ≥ 689 pg/mL (screening) and CA-125 ≥ 16.65 U/mL (confirmation).

CONCLUSIONS

This study highlights the utility of a biomarker-based algorithm in refining FO assessment in PD. The combination of NT-proBNP ≥ 689 pg/mL and serum CA-125 ≥ 16.65 U/mL provides high specificity, supporting objective decision-making. This approach may complement clinical evaluation, particularly when bioimpedance is unavailable.

REFERENCES

1. Davenport A. Changes in N-Terminal Pro-Brain Natriuretic Peptide Correlate with Fluid Volume Changes Assessed by Bioimpedance in Peritoneal Dialysis Patients. *Am J Nephrol*. 2012;36(4):371–376. doi:10.1159/000343286.
2. Wijayaratne D, Muthuppalaniappan VM, Davenport A. Serum CA125: A Potential Marker of Volume Status for Peritoneal Dialysis Patients? *Int J Artif Organs*. 2021;44(8):561–565. doi:10.1177/03913988211016862.

3. Nikitiuk BE, Rydzewska-Rosołowska A, Kakareko K, Głowińska I, Hryszko T. On Whether Ca-125 Is the Answer for Diagnosing Overhydration, Particularly in End-Stage Kidney Disease Patients—A Systematic Review. *Int J Mol Sci.* 2024;25(4):2192. doi:10.3390/ijms25042192.
Redahan L, Davenport A. Peritoneal Dialysate Effluent and Serum CA125 Concentrations in Stable Peritoneal Dialysis Patients. *J Nephrol.* 2016;29(1):101–108. doi:10.1007/s40620-015-0250-9
4. Zoccali C, Mallamaci F, Tripepi G. Natriuretic peptides as biomarkers of cardiovascular damage in dialysis patients. *Curr Opin Nephrol Hypertens.* 2006;15(6):523–529. doi:10.1097/01.mnh.0000247473.08581.96.
5. Moissl UM, Wabel P, Chamney PW, Bosaeus I, Levin NW, Bosy-Westphal A, et al. Body fluid volume determination via body composition spectroscopy in health and disease. *Physiol Meas.* 2006;27(9):921–933. doi:10.1088/0967-3334/27/9/009.

P-92 – Validating A New Formula for Total Body Water in Peritoneal Dialysis

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OBJECTIVES

Peritoneal dialysis (PD) adequacy, assessed by Kt/V, depends on accurate estimation of total body water (TBW). The Watson and Watson (WW) formula, originally developed in healthy individuals, may not be valid in PD patients. While bioimpedance (BI) analysis provides a more precise measure, its limited availability restricts its routine use. Previously, we developed a new patient-specific formula for estimating TBW. This study aims to validate this formula by comparing it with BI-derived TBW and the WW formula.

METHODS

We conducted a prospective observational study in adult PD patients at a Portuguese center. Clinical and anthropometric data were collected to apply the WW formula and a previously developed patient-specific formula:

1. For men: $TBW = -29.608 + 0.258 * weight + 0.38 * height + 10.340 * BSA$;
2. For women: $TBW = -32.345 + 0.258 * weight + 0.38 * height - 10.340 * BSA$.

BI was used as the reference standard. Paired-samples t-tests compared TBW estimates; Bland-Altman plots assessed agreement ($p < 0.05$).

RESULTS

A total of 173 measurements were analyzed (mean age: 60.2 ± 11.7 years; 31.8% female). Mean TBW by BCM was 34.73 L. TBW estimated by the WW formula was significantly higher (mean difference +3.89 L; 95% CI 3.65–4.13; $p < 0.01$), while TBW estimated by the patient-specific formula was significantly lower (mean difference -1.03 L; 95% CI -1.28 to -0.78; $p < 0.01$) compared to BCM. The mean absolute percentage error was lower for the patient-specific formula than for the WW formula (7.36% vs. 12.42%, respectively).

CONCLUSIONS

This study demonstrates that the new patient-specific formula provides a more accurate estimation of total body water compared to the Watson and Watson formula. These findings corroborate the utility of the new formula in clinical practice and support its use in PD adequacy assessment.

P-93 – Developing A Formula to Estimate Overhydration in Peritoneal Dialysis Patients

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OBJECTIVES

Fluid overload (FO) is a key determinant of cardiovascular risk and mortality in patients undergoing peritoneal dialysis (PD). Although bioimpedance is considered the gold standard for assessing fluid status, its limited availability highlights the need for alternative tools to support clinical evaluation. This study aimed to develop a simple regression equation to estimate FO in PD patients using only serum NT-proBNP and albumin levels.

METHODS

This retrospective study included PD patients assessed between July 2023 and June 2025 at a Portuguese PD center. *Patients with atrial fibrillation or heart failure were excluded.* On the day of bioimpedance, clinical data (*weight, urine output, peripheral edema*) and laboratory values (*serum albumin, NT-proBNP*) were collected. *Outliers were excluded using the interquartile range, and NT-proBNP was log-transformed (Ln_NT-proBNP).* Variables were tested for correlation with bioimpedance-assessed FO, and those with significant associations ($p < 0.05$) were included in a multiple linear regression model to develop a regression equation. Analyses were performed using SPSS.

RESULTS

A total of 104 assessments from 45 patients were analyzed; 29.8% were female, and 61.5% were on automated PD. Peripheral edema was present in 23.1% of cases overall and in 32.4% of patients with FO, corresponding to a sensitivity of 32.4%. *Only serum albumin ($\beta = -9.004$; $p < 0.001$) and Ln_NT-proBNP ($\beta = 1.907$; $p < 0.001$) remained significant predictors of %OH.* The model demonstrated an adjusted R^2 of 0.383, with no multicollinearity and normally distributed residuals. The resulting regression equation was $\%OH = 27.309 - 9.004 \times (\text{Serum albumin}) + 1.907 \times (\text{LN.NtproBNP})$

CONCLUSIONS

This study developed a regression equation to estimate FO in PD patients using only serum albumin and NT-proBNP. Peripheral edema demonstrated low sensitivity for detecting FO, highlighting the need for objective tools. The proposed equation offers a practical and accessible means to complement clinical assessment, particularly when bioimpedance is unavailable.

REFERENCES

1. Davenport A. Changes in N-Terminal Pro-Brain Natriuretic Peptide Correlate with Fluid Volume Changes Assessed by Bioimpedance in Peritoneal Dialysis Patients. *Am J Nephrol.* 2012;36(4):371–376. doi:10.1159/000343286.
2. Wijayaratne D, Muthuppalaniappan VM, Davenport A. Serum CA125: A Potential Marker of Volume Status for Peritoneal Dialysis Patients? *Int J Artif Organs.* 2021;44(8):561–565. doi:10.1177/03913988211016862.
3. Nikitiuk BE, Rydzewska-Rosolowska A, Kakareko K, Głowińska I, Hryszko T. On Whether Ca-125 Is the Answer for Diagnosing Overhydration, Particularly in End-Stage Kidney Disease Patients—A Systematic Review. *Int J Mol Sci.* 2024;25(4):2192. doi:10.3390/ijms25042192.
4. Redahan L, Davenport A. Peritoneal Dialysate Effluent and Serum CA125 Concentrations in Stable Peritoneal Dialysis Patients. *J Nephrol.* 2016;29(1):101–108. doi:10.1007/s40620-015-0250-9
5. Zoccali C, Mallamaci F, Tripepi G. Natriuretic peptides as biomarkers of cardiovascular damage in dialysis patients. *Curr Opin Nephrol Hypertens.* 2006;15(6):523–529. doi:10.1097/01.mnh.0000247473.08581.96.
6. Moissl UM, Wabel P, Chamney PW, Bosaeus I, Levin NW, Bosy-Westphal A, et al. Body fluid volume determination via body composition spectroscopy in health and disease. *Physiol Meas.* 2006;27(9):921–933. doi:10.1088/0967-3334/27/9/009.

P-94 – Relationship Between Sodium Sieving and Peritoneal Morphology in Patients Undergoing Peritoneal Dialysis (PD)

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OBJECTIVES

In PD patients, the osmotic gradient created during the first hour of a peritoneal equilibration test (PET) with hypertonic glucose promotes free water transport via aquaporins, leading to a reduction in sodium concentration in the dialysate—known as sodium sieving. Alterations in this process are early markers of membrane dysfunction and have been linked to aquaporin impairment, submesothelial fibrosis, and increased risk of encapsulating peritoneal sclerosis. This study aimed to assess the relationship between sodium sieving and peritoneal morphology in patients with varying PD durations

METHODS

We analyzed 43 peritoneal biopsies from PD patients who had undergone a hypertonic glucose PET within the previous six months. Epidemiological data, functional parameters (urea and creatinine mass transfer coefficients (MTC-U, MTC-Cr), dialysate/plasma creatinine ratio (D/P Cr), ultrafiltration (UF), sodium sieving), and morphological findings (mesothelial integrity, mesothelial-to-mesenchymal transition, fibrosis and hyalinizing vasculopathy) were studied.

RESULTS

The mean patient age was 48.3±16 years; 60.5% were male with a mean PD duration of 25.6±18 months (range 1.4–79). Biocompatible solutions were used in 46.5%, and 32.6% had a history of peritonitis. Most biopsies (83.7%) were performed during kidney transplantation. Five patients (11.6%) were fast peritoneal transporters and 32.6% showed impaired sodium sieving (effluent Na_{0min}-Na_{60min} <5 meq/L). Morphologically, 65% had mesothelial loss, 47.6% fibrosis, and 16.3% vasculopathy. No significant morphological differences were found between patients with preserved vs impaired sodium sieving. However, impaired sieving tended to correlate with higher fibrosis rates (69% vs. 38%, p=0.06) and was more frequent in fast transporters than in the remaining groups (75% vs. 28.2%, p=0.057). Sodium sieving alterations were independent of PD duration.

CONCLUSIONS

Although no statistically significant associations were found, patients with impaired sodium sieving showed a higher tendency toward peritoneal fibrosis and fast transport. Larger studies are needed to confirm these observations.

P-95 – Influence of IL-6 And IL-10 Gene Polymorphisms on Serum IL-6, IL-10 Concentrations In Peritoneal And Haemodialysis Patients

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OBJECTIVES

Aim of this study was to determine frequency of polymorphisms in gene for IL-6, IL-10 and their influence on serum IL-6 and IL-10 levels in peritoneal and haemodialysis patients.

METHODS

We analyzed 51 patients on peritoneal dialysis and 77 patients on haemodialysis in our centre. Following parameters were determinate - age, gender, BMI, duration of HD/PD, C-reactive protein (CRP), albumin and IL-6 and IL-10 concentration in serum. Analysis of IL6 -174G>C and IL10 -819 T>C gene polymorphisms was performed by the allele-specific PCR method, and analysis of the IL10 -1082G>A polymorphism by the PCR/RFLPs method. The patients were followed for 36 months.

RESULTS

IL-6 concentrations were statistically significantly higher in PD (p=0.07) than HD group of patients, while there was no significant difference in IL-10 values. The median and range of IL-6 in subjects with the GG+GC genotype was 3.1 pg/ml (0.6-38.5), while in the CC genotype it was 6.4 pg/ml (1.4-38.5), which is a statistically significant difference (U=387.0; p=0.030). Subjects with the CC genotype had significantly higher IL-6 values. The median and range of IL10 in subjects with the IL-10-819 TT+TC genotype was 1.78 pg/ml (0.32-35.2), while in the CC genotype it was 1.41 pg/ml (1.09-4.05), which is not a statistically significant difference (U=150.5; p=0.649). Subjects with the IL-10 -819 TT+TC genotype had similar blood IL10 values as the CC genotype.

CONCLUSIONS

Concentration of IL-6 in the blood was significantly higher in patients with IL-6-174 CC genotype. These data are important for prescribing peritoneal dialysis and indicate that biocompatible solutions should be used in patients with a genetically determined propensity for inflammation.

P-96 – Creating A Standardised Root Case Analysis Tool for Post-Peritonitis: A Regional Approach

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Creating a standardised root case analysis tool for post-peritonitis: A regional approach

OBJECTIVES

Our regional network launched a quality improvement project aiming to achieve an average peritonitis infection rate of <0.35 per patient year by March 2026. A key theme that emerged was variability in the use of root-cause analyses (RCA). Most centres were reviewing or developing their own RCA post-peritonitis as part of their QI initiative. This identified an opportunity to create a standardised approach to inform preventative efforts.

METHODS

Current RCAs in use across the region were collected and items listed, noting their frequency. An item list was drafted and discussed at a regional meeting. A list of risk factors was drafted by the lead clinician and circulated for comment. Agreed items were used to create a standardised RCA tool. Since then, the tool has gone through 6 iterations, with feedback from stakeholders incorporated.

RESULTS

11 out of 13 centres reported RCA's on 248 episodes of peritonitis between July 2024 and March 2025. The average peritonitis rate in the region was 0.39 per patient year in March 2025. Most people acquiring peritonitis were between 41 – 74. 32% had diabetes. 42% cases were in patients receiving APD, 32% CAPD and 19% Assisted PD. 10% peritonitis episodes occurred within 90 days of commencing PD, however most happened between 90 and 1,000 days (54%). 10 out of 248 cases occurred within 30 days of catheter insertion. The 4 most common risk factors were gastric acid suppression usage, change in dexterity/vision/mental acuity, hand hygiene / poor technique, and presence of pets.

CONCLUSIONS

Following an iterative process, a standardised peritonitis RCA tool has been developed, rolled out across one network and shared with another. Data collection will continue, possibly including other networks, with biannual reviews of themes identified.

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P-97 – Evaluating The Uptake of Home Haemodialysis Among Individuals on Peritoneal Dialysis: Experience from Imperial College Renal and Transplant Centre

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OBJECTIVES

Transitioning from Peritoneal Dialysis (PD) to Home Haemodialysis (HHD) supports continued home-based care, promoting quality of life, self-management, and autonomy. This study reviews referrals from PD to HHD training, to examines barriers to initiation and completion.

METHODS

A retrospective service evaluation was conducted of all individuals on PD referred for HHD training between March 2023 to February 2025 at Imperial College Renal and Transplant Centre.

RESULTS

A total of 14 patients were referred from PD to HHD. Median age at referral was 53 years (range 30–74); 57% were male; 71% identified as Asian. Median PD duration prior to referral was 31 months. Common referral reasons included loss of residual kidney function (43%) and fluid overload (29%). Of those referred, 7 (50%) commenced HHD training. Four completed training and remain on HHD, two still in training, and one died during training following a stroke. Among the seven who did not start training, five opted for in-centre haemodialysis (ICHD), citing prior negative home therapy experiences, lack of caregiver support, or personal preference. The remaining two were preparing for live donor kidney transplantation. Median time from referral to training start was 7 months (range 3–44). Only one began HHD with an arteriovenous fistula (AVF); delayed maturation postponed training. Six started with a tunnelled dialysis catheter (TDC).

CONCLUSIONS

This real-world evaluation demonstrates that transitioning from PD to HHD is feasible and successful for a significant proportion of patients. Half of those referred began HHD training, with most either completing or continuing it—demonstrating strong engagement and a successful referral process. The findings underscore the value of early identification of motivated candidates, comprehensive pre-training education, timely vascular access planning, and ongoing support to sustain interest in home therapies. Despite challenges, these findings reinforce HHD as a viable and effective home-based option for selected patients transitioning from PD.

P-98 – Use Of SglT2 Inhibitors in Patients Treated with Peritoneal Dialysis – Single Center Experience

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OBJECTIVES

The use of sodium-glucose cotransporter 2 (SGLT2) inhibitors has been shown to have antihypertensive, anemia-reducing, antioxidant, and anti-inflammatory effects in patients with chronic kidney disease. The peritoneal membrane expresses SGLT2. Therefore, the use of SGLT2 inhibitors may have a beneficial effect on the structure and function of the membrane in patients treated with peritoneal dialysis (PD).

METHODS

Here, we present two cases of patients on PD who were treated with SGLT2 inhibitors

RESULTS

Case 1

A 50-year-old patient was initiated on CAPD renal replacement therapy due to end-stage renal graft failure. SGLT2 inhibitor treatment (dapagliflozin 10mg) was initiated 15 years post-transplantation, after a short-term need for hemodialysis due to acute graft dysfunction. After initiation of PD, an SGLT2 inhibitor was maintained. The patient was initially treated with incremental CAPD, which was converted to APD. Six months after the start of PD, the patient had a daily ultrafiltration of approximately 700mL, and maintained a diuresis of 1000mL/day.

Case 2

A 58-year-old female patient was treated with urgent start APD due to the loss of all vascular access for hemodialysis. Shortly after the laparoscopic placement of the PD catheter, CAPD was started and was converted to APD. Initial ultrafiltration of 4,212 mL was accomplished. After the initial unloading, ultrafiltration was maintained at around 2000 mL/day. After 2 months she was hospitalized due to volume overload (uncritical fluid intake). With intensified therapy euvolemia was achieved, dapagliflozin 5mg was introduced with APD protocol. In the 3-month follow-up she has maintained a permanently satisfactory ultrafiltration rate of approximately 2000 mL/day.

CONCLUSIONS

Here, we present the initial results of treating two patients with peritoneal dialysis and SGLT2 inhibitors, which have yielded favourable outcomes, including good daily ultrafiltration in both patients. One patient has remained anuric since the beginning of treatment, while the other has maintained residual renal graft function.

P-99 – Peritonitis 25 Years Ago and Now

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OBJECTIVES

Peritonitis can be a cause of discontinuation of peritoneal dialysis, and in some cases, it may be a primary or contributing cause of death. The results of peritonitis pathogens over five years of treatment are presented for two periods: Group A (25 years ago) and Group B (last-five-years). Group A, 50 patients were observed, with 29 episodes of peritonitis occurring in 16 patients. Exit-site infections were documented in 20 patients.

METHODS

Gram-positive bacteria predominated as causative agents of peritonitis, with 24 isolates accounting for 80% of cases:

- Coagulase-negative staphylococci (8)
- Staphylococcus aureus (5)
- Staphylococcus epidermidis (3)
- Streptococcus species (4)
- Enterococcus species (4)
- Streptococcus haemolyticus group B (1)
- Listeria monocytogenes (1)
- Bacillus species (1)

Gram-negative:

- Escherichia coli (4)
- Klebsiella oxytoca (1)
- Morganella morganii (1)
- Candida species were isolated in 3 patients.

Regarding exit-site infections, Gram-positive cocci and bacilli were predominant (84.4%), while Gram-negative organisms were isolated in 25.6% of cases. Group B, 52 patients were observed. There were 9 episodes of peritonitis, with no recurrences in the same patient during the observation period. The causative organisms were different from Group A, with no predominance of Gram- positive:

- Coagulase-negative Staphylococcus aureus (1)
- Streptococcus species (2)
- Streptococcus haemolyticus group B (2)

Enterococcus species, Listeria monocytogenes, and Bacillus species were not isolated.

Gram-negative bacteria:

- Alcaligenes faecalis and Neisseria saprophytica were isolated.

RESULTS

Escherichia coli, Klebsiella oxytoca, and Morganella morganii were not isolated. Candida species were not detected. Regarding exit-site infections, Gram-positive cocci and bacilli accounted for 11.5% of cases, while Gram-negative pathogens were identified in 5.5%. There were no tunnel infections or fungal peritonitis. Appropriate patient selection and thorough patient education, along with the absence of exit-site and tunnel infections, may contribute to the prevention of peritonitis.

CONCLUSIONS

The use of the “Y-set” system and newer dialysis solutions (such as Physioneal, Extraneal, and Nutrineal), which reduce glucose exposure and glucose degradation products (GDPs) and improve pH balance, help preserve peritoneal membrane integrity and reduce the risk of peritonitis. There was no excessive use of antibiotics, which may have contributed to the absence of fungal peritonitis.

P-100 – Is There Difference in Nutritional Status and Oxidative Stress Parameters Between Hemodialysis and Peritoneal Dialysis Patients?

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OBJECTIVES

Both hemodialysis (HD) and peritoneal dialysis (PD) can lead to increased oxidative stress (OS) in patients with end-stage renal disease (ESRD). Also, the modality of dialysis may affect patients' dietary behavior and nutritional status. Both nutritional status and OS are significantly impacted, and they are interconnected. The aim of this study was to evaluate difference in nutritional status and OS parameters between stable chronic HD and PD patients.

METHODS

For each patients laboratory and anthropometric parameters (waist circumference, hip circumference, waist-to-hip ratio (WHR), Body Mass Index (BMI)), Malnutrition Inflammation Scores (MIS), fat tissue mass (FTM), adipose tissue mass (ATM), lean tissue mass (LTM), lean tissue index (LTI), body cell mass (BCM), overhydration (OH) volume, and OS parameters (blood levels of derivatives of reactive oxygen metabolites (d-ROMs), thiobarbituric reactive substances (TBARS), plasma protein reduced thiol content (THIOLS), and ferric reducing ability of plasma (FRAP)) were assessed.

RESULTS

A total of 45 HD patient, 15 (33.3) females, aged 70 (60.5-76.5) years, on HD for 27 (16-53.5) months and 15 PD patients, 8 (53.3) females, aged 58 (36-71) years on PD for 17 (13-42) months were included in this study. HD patients had significantly higher MIS score ($p=0.02$) and potassium level ($p=0.001$) while PD patients had significantly higher cholesterol level ($p=0.01$) and serum prealbumin level ($p=0.02$). Also, HD patients had higher C-reactive protein (CRP) and high sensitivity CRP (hsCRP) level, but significance did not reach significant level. Furthermore, statistically significant difference in body mass composition parameters and OS parameters was not found between two groups of dialysis patients in this study.

CONCLUSION

MIS score and laboratory parameters showed that HD patients are at higher nutritional risk, but anthropometric and OS parameters did not show difference between two groups clinically stable dialysis patients. Further study with larger study sample should be performed to evaluate possible differences in body composition and OS parameters between HD and PD patients.

P-101 – Correlations Between Long-Term Survival in Peritoneal Dialysis (PD) Patients and Peritonitis Rate: A Single-Center Observational Study

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OBJECTIVES

Peritonitis remains the leading infectious complication in chronic ambulatory peritoneal dialysis (CAPD), directly contributing to both technique failure and patient morbidity and mortality. Numerous studies, have emphasized the importance of early recognition and prompt, appropriate antimicrobial therapy—especially in cases involving methicillin-resistant *Staphylococcus aureus* (MRSA)—to ensure favorable outcomes and prolong technique survival.

METHODS

This retrospective, single-center analysis evaluated all PD patients treated over a 6-year period (2018–2024), spanning both the pre- and post-COVID-19 pandemic periods. During this interval, the number of PD patients decreased from 30 to 16, reflecting changes in modality preference and pandemic-related challenges. We analyzed long-term technique survival, defined as continued PD treatment exceeding the cohort's median PD duration of 7 years. Among the 16 patients, 6 (37.5%) met this criterion. Clinical data collected included peritonitis incidence, timing and type of antibiotic therapy, peritoneal membrane transport characteristics (PET), dialysis adequacy (Kt/V, weekly creatinine clearance), and outcomes following infectious episodes.

RESULTS

All 6 long-term PD survivors experienced at least one episode of infectious peritonitis but did not require transfer to hemodialysis. Contributing factors to their extended technique survival included:

- Immediate hospital presentation and initiation of empiric antibiotic therapy compliant with ISPD peritonitis management guidelines
- Early MRSA coverage, later refined by culture and sensitivity results
- Stable dialysis adequacy post-infection, with no significant decline in Kt/V or ultrafiltration
- Medium-low peritoneal transport status, supporting effective solute clearance and volume control
- High adherence to patient education protocols and infection prevention strategies

The remaining 10 patients experienced technique failure (n=3), underwent kidney transplantation (n=2), or died (n=5). In these cases, delayed presentation, more severe peritonitis, or suboptimal response to antibiotics were observed more frequently.

CONCLUSIONS

Our findings suggest that sustained technique survival in PD is closely associated with effective peritonitis management, including early symptom recognition, timely empiric and targeted antibiotic therapy, and preservation of dialysis adequacy. Consistent patient education, regular follow-up, are critical components of a successful PD program. These results reinforce the value of multidisciplinary PD care teams in optimizing outcomes for patients undergoing home dialysis therapy.

P-102 – Exit-Site Infections in Peritoneal Dialysis: Microbiological Profile and Clinical Impact in a National Program – Retrospective Analysis 2023–2024

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OBJECTIVES

Exit-site infections (ESI) represent a frequent and clinically significant complication in peritoneal dialysis, contributing to increased risk of peritonitis, technique failure, and transfer to hemodialysis. According to the 2 guidelines, the incidence of ESI should remain below 0.4 episodes per patient-year. ESI may range from localized inflammation to systemic infection and may require catheter removal. Risk factors include poor personal hygiene, inadequate exit-site care, and colonization with *Staphylococcus aureus*, particularly methicillin-resistant strains (MRSA). To retrospectively evaluate ESI episodes recorded in the PD program in Diaverum Romania (75 patients) over a 2-year period with a focus on:

- Infection Frequency,
- Microbiological Etiology,
- Antimicrobial Resistance Profile,
- Catheter Removal Rates.

METHODS

We analyzed 32 confirmed ESI episodes. Data collected included type of pathogen (Gram-positive, Gram-negative, fungal), antimicrobial susceptibility, and clinical outcome (catheter retention or removal).

Results

- Gram-positive organisms were the predominant pathogens, including *Staphylococcus aureus*, *S. epidermidis*, and *S. lugdunensis*.
- Gram-negative and fungal agents were rarely isolated.
- Two cases (6%) involved multidrug-resistant organisms (MDROs), though all remained clinically manageable.
- No episodes required catheter removal, and no subsequent peritonitis or infection-related deaths were reported.
- The cumulative ESI rate remained below 0.4 episodes per patient-year, meeting ISPD benchmarks.
- Most Gram-positive isolates were methicillin-sensitive, supporting the continued effectiveness of current empirical antibiotic protocols.

CONCLUSIONS

The low rate and clinical severity of ESI observed in this cohort suggest that preventive strategies were effective. These included patient and caregiver training, routine exit-site care, and MRSA screening and decolonization protocols. Targeted antimicrobial therapy based on culture and sensitivity results contributed to infection resolution without catheter loss. Furthermore, the absence of subsequent peritonitis or infection-related deaths highlights the success of the infection control measures implemented.

P-103 – What When Patient Says No to Transition? – A Case Report: Peritonitis Treatment in Patient with Volume Overload

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OBJECTIVES

Icodextrin (ICO) is an osmotic agent used in peritoneal dialysis (PD) to achieve greater ultrafiltration (UF) as compared to glucose-based solutions. Granudacyn is a wound flushing solution that is used by surgeon for thorough wound cleaning. It relies on the antibacterial effect of hypochlorous acid, which damages the wall of microorganisms causing their destruction. Given the natural presence of hypochlorous acid in our body, our cells are protected.

METHODS

A 71-year-old male with chronic obstructive pulmonary disease, diabetes mellitus, three implanted stent, atrial fibrillation, pulmonary hypertension and severe stenosis of the calcified aortic valve with worsening of kidney function peritoneal dialysis was started in October 2023. He was admitted to hospital in March 2024 as he noticed blurring of dialysate with no temperature or abdominal pain. Upon admission, the patient was hypotensive, volume overload with clinical and laboratory signs of acute peritonitis.

RESULTS

The initial antibiotics therapy was changed to ceftazidim-avibactam once we got peritoneal culture positive (*Pseudomonas* spp.). We have also put intraperitoneal Granudacyn for 30 minutes once daily two days in a row (Chart 1.).

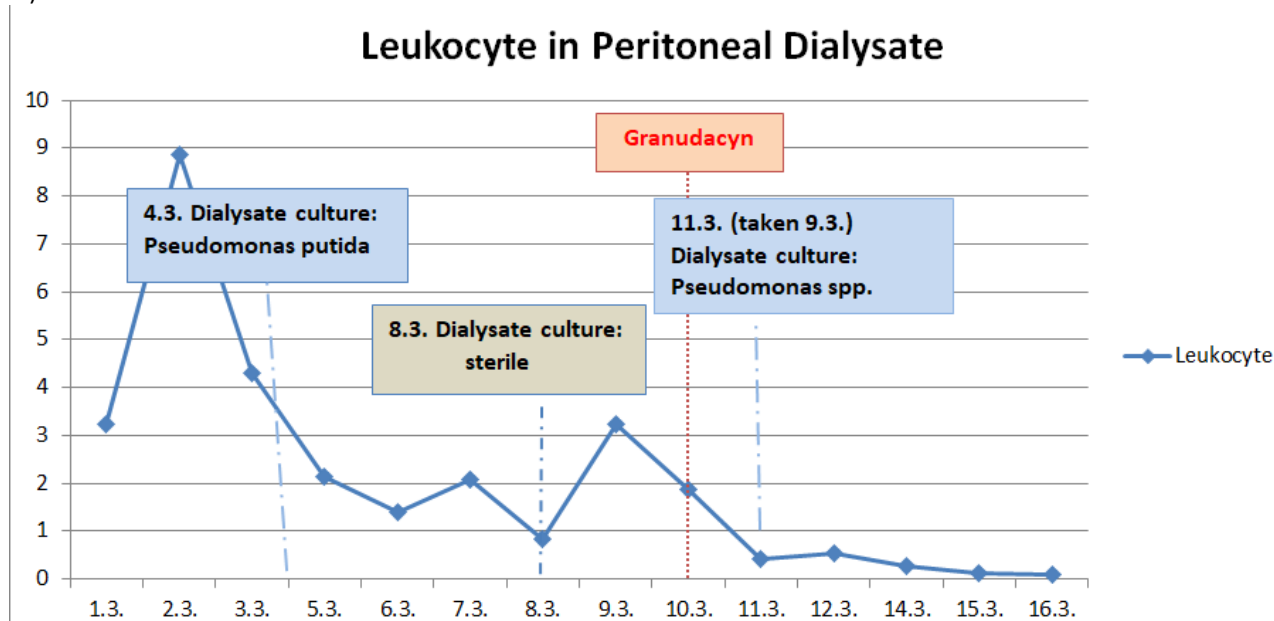


Chart 1. Leukocyte in Peritoneal Dialysate and Granudacyn application

Solutions with highest glucose percentage did not preformed enough UF and patient wasn't willing to reduce fluid intake. He was a candidate for APD or combined peritoneal and hemodialysis but refused both. We have decided to use ICO two times/day. On first day only two ICO alone manage to reach UF 1850 ml, and on second day 1400 ml with added glucose UF (around 150ml/exchange) as well as diuresis left (around 300ml/day) we manage to reduce volume overload.

CONCLUSIONS

A twice daily ICO prescription in selected patients for a short period of time was useful in terms of improving UF and controlling overload without significant adverse effects. But more interesting, is there a place for adding Granudacyn to antibiotic therapy in acute peritonitis?

P-104 – Rationale And Study Design Of EXCITE, A Pilot Study to Evaluate Safety and Efficacy of Polycore, A Ternary Combination of Xylitol, L-Carnitine and Polydextrin, To Treat End-Stage Kidney Disease Patients Starting Peritoneal Dialysis

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OBJECTIVES

Incremental Peritoneal Dialysis (PD) is a strategy that involves starting dialysis with a low number of daily dwells, which may improve dialysis acceptance and patients' quality of life. Incremental PD may also preserve diuresis, lower costs, minimize plastic waste, and contribute to the sustainability of dialysis.

The research for novel osmotic agents capable of providing effective ultrafiltration, while also offering beneficial local and systemic effects, has attracted significant scientific interest. on of the scientific community. Xylitol and L-carnitine are currently undergoing phase III clinical trials as components of crystalloid-based solutions for short-dwell peritoneal dialysis exchanges [1]. With the EXCITE study, we introduce PolyCore: a novel peritoneal dialysis (PD) solution containing 1.5% xylitol, 0.02% L-carnitine, and 4% polydextrin. PolyCore is the first bimodal, glucose-free solution based on osmo-metabolic agents, featuring a reduced concentration of polydextrin. This innovative formulation is designed to support two long-dwell exchanges per day in patients undergoing incremental PD, offering continuous osmo-metabolic therapy. Given its hybrid composition, combining crystalloid and colloidal osmotic agents, it is also expected to provide enhanced flexibility in dwell duration.

METHODS

Single-arm, exploratory study to assess the safety and efficacy of PolyCore in ESKD patients starting incremental CAPD (two CAPD dwells a day).

RESULTS

The study will enroll 28 ESKD patients having recently started incremental PD (less than 6 months), with a residual GFR ≥ 5 ml/min/1.73 m², Kt/V urea ≥ 1.7 , and under treatment with two PD exchanges per day, including icodextrin (7.5%). The main exclusion criteria are primary hyperoxaluria, severe pulmonary/cardiac/hepatic insufficiency, and having experienced a peritonitis in the three months before screening.

After a 28-day run-in to assess the PD treatment adequacy and to genetically test patients for primary hyperoxaluria, patients will be switched to PolyCore for 28 days according to the following schedule:

- PolyCore, two long exchanges [8-12 hours] or
- PolyCore, one long exchange [8-12 hours] and one short dwell [4-6 hours].

The primary objective is to evaluate the safety of PolyCore.

The secondary objective is to evaluate the efficacy of PolyCore in maintaining adequate depuration, ultrafiltration, and sodium removal.

CONCLUSIONS

The EXCITE study will provide the first insights into the use of osmo-metabolic agents in combination with polydextrin 4% to treat patients starting with a low dose of CAPD. [1] *Bonomini M, et al. Rationale and design of ELIXIR, a randomized, controlled trial to evaluate efficacy and safety of XyloCore, a glucose-sparing solution for peritoneal dialysis. Perit Dial Int. 2025 Jan;45(1):17-25.* With the EXCITE study we propose PolyCore: a new PD solution containing xylitol 1.5%, carnitine 0.02%, and polydextrin 4%. Polycore is the first bimodal solution based on osmo-metabolic agents, glucose-free, and with a reduced amount of Polydextrin. Such a solution is expected to enable two long-dwell exchanges per day in incremental patients, providing a continuous osmo-metabolic treatment, while also allowing a certain degree of flexibility across exchanges duration, due to its hybrid nature in crystalloid and colloidal agents.

P-105 – Synbiotic Supplementation for Chronic Constipation in Patients under Peritoneal Dialysis: An Italian Multicenter Cohort Study

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OBJECTIVES

Chronic constipation is common in patients undergoing peritoneal dialysis (PD), which can interfere with the proper functioning of the dialysis catheter. Patients under PD show a profound alteration of their intestinal microbiome. Synbiotic supplementation may be a promising therapeutic option to relieve chronic constipation in these patients.

METHODS

Multicenter cohort study designed to evaluate the effectiveness of synbiotic supplementation on chronic constipation in patients receiving PD. The study lasted 16 months to assess the effectiveness of daily administration of synbiotic supplements (one sachet per day) on constipation score (CS) and the reduction in laxative use.

Each sachet contains probiotics: Lactobacillus Casei, Lactobacillus Rhamnosus, Lactobacillus Reuteri, Saccharomyces Boulardii; prebiotics: 800 mg of FOS and 100 mg of betaglucan extracted from Saccharomyces Cerevisiae; trace elements: 50 µg of molybdenum and 5 mg of zinc; and bovine colostrum 200 mg and galactosidase

RESULTS

74/106 (69.8%) patients undergoing PD met criteria for the diagnosis of chronic constipation. 70/74 completed the study. A significant reduction in CS was found after 16 weeks and was not influenced by age, gender, diabetes, type PD, residual diuresis, while a higher effect was observed in laxative users ($p < 0.001$). At baseline, 54 (77.1%) used osmotic laxatives (macrogol) daily at a mean daily dosage of 20.7 ± 11.0 g. After 16 weeks of synbiotic supplementation, 78.9% of laxative users either suspended (21 out of 57) or reduced (24 out of 57) them. Among the 57 laxative users, there was a significant reduction in the mean laxative dose, which decreased by 10.7 ± 7.0 grams ($P < 0.001$).

No adverse reactions were reported over 16 weeks of synbiotic supplementation.

CONCLUSIONS

We found a remarkable improvement in symptoms of chronic constipation associated with a notable decrease in the requirement and dosage of osmotic laxatives after 16 weeks of synbiotic supplementation.

P-106 – Value Of the Nutritional Prognostic Index As An Indicator of Cardiovascular Risk In peritoneal Dialysis

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OBJECTIVES

People undergoing peritoneal dialysis (PD) face a higher risk of major adverse cardiovascular events (MACE) and so, have reduced survival rates compared to the general population. Recently, the importance of non-traditional cardiovascular risk factors, such as changes in inflammatory, immune, and endothelial functions, along with changes in nutritional status, have been highlighted.

METHODS

A single-centre descriptive cross-sectional study was conducted at a tertiary hospital involving patients undergoing peritoneal dialysis (PD) to analyze the relationship between nutritional and inflammatory status and cardiovascular events.

Nutritional status was evaluated using the Prognostic Nutritional Index (PNI) and the Fresenius Body Composition Monitor (BCM). The assessment of pro-inflammatory status included cytokine measurements via Luminex techniques. Major adverse cardiovascular events (MACE) were defined as stroke, acute myocardial infarction (AMI), and severe peripheral arterial disease.

RESULTS

Thirty-six prevalent PD patients (mean age 56.2 ± 13.4 years, 52.8% male, 91.7% with hypertension, and 30.6% with diabetes) were included, with 22% on manual PD and 78% on automatized PD. The median time on dialysis was 9.1 [6, 41] months. Most patients (83%) were overhydrated, with a mean excess fluid volume of 2.1 ± 1.8 L.

The average PNI score was 46.4 ± 4.4 points. PNI showed an inverse correlation with proinflammatory cytokine receptors, including the IL-1 receptor ($P=0.044$) and TNF-alpha receptor ($P=0.02$), as well as with FGF21 ($P=0.046$).

Patients with PNI < 40 points (PNI<40) were classified as severely malnourished ($n=9$, 25%). There were no significant baseline differences between patients with PNI<40 and PNI>40 patients. Severely malnourished patients presented faster baseline peritoneal transport than those with better nutrition (Cr D/P 0.76 ± 0.09 PNI<40 vs 0.67 ± 0.1 PNI>40, $p=0.022$). PNI<40 patients were more overhydrated compared with PNI>40 patients (4.6 ± 2.9 L PNI<40 vs 2.0 ± 1.7 L PNI>40, $p=0.045$), with higher extracellular/intracellular water (ECW/ICW) ratio (1.1 ± 0.1 PNI<40, $p=0.004$).

Moreover, patients with PNI<40 had more MACE comorbidity than better nourished patients (88.9% vs 51.9% respectively, $p=0.048$) and presented more MACE events during subsequent follow-up (33.7±14.4 months) (77.8% PNI<40 vs 22.2% PNI>40, $p=0.022$). Finally, severely malnourished patients showed a significantly impaired inflammatory status, with higher levels of IL6 (0.75 [0.01-23.02] PNI<40 vs 4.37 [1.1-45.99] PNI>40, $p=0.019$) and IL1b (2.1 [0.55-20.7] PNI<40 vs 4.4 [0.01-18.03] PNI>40, $p=0.05$).

CONCLUSIONS

Twenty-five percent of our cohort of prevalent PD patients were classified as severely malnourished. These patients exhibited greater overhydration and a more pronounced pro-inflammatory status, which may explain the higher incidence of MACE events within this group.

P-107 – SGLT2 Inhibitors in Peritoneal Dialysis (PD): Potential Benefits on Fluid Balance and Anemia in Real Clinical Practice. Experience At a Tertiary Center

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OBJECTIVES

To evaluate the impact of sodium-glucose cotransporter type 2 (SGLT2) inhibitors on fluid volume, ultrafiltration (UF), and anemia in peritoneal dialysis (PD) patients in routine clinical practice, given their known cardiovascular and renal benefits in other populations but limited data in PD patients.

METHODS

A single-center, retrospective descriptive study was conducted on seven PD patients (five males, two females; median age 69 ± 11.3 years) treated with SGLT2 inhibitors (six dapagliflozin, one empagliflozin) between February 2023 and March 2025. Indications for SGLT2 inhibitor initiation included increasing diuresis in heart failure (CHF), enhancing UF, addressing peritoneal sclerosis, and preserving residual renal function (RRF). Clinical and analytical data were collected at baseline, 1 month, and 6 months post-treatment.

RESULTS

Median urine output did not change significantly at 1 month (1300 ± 960 mL vs. 1200 ± 1028 mL baseline) but decreased to 900 mL at 6 months. Median 24-hour UF increased from 659 ± 106 mL to 987.5 ± 136 mL. Edema reduction was observed in 60% of patients, and one CHF patient avoided readmission for volume overload. One patient remained off dialysis one year later with an eGFR of 23.89 mL/min. Hemoglobin levels remained stable (11.06 g/dL baseline vs. 11.17 g/dL at six months). One patient experienced temporary renal function deterioration, which resolved. No significant side effects were reported. Two patients with cardiorenal syndrome died 9 and 16 months after starting treatment.

CONCLUSIONS

Despite the small sample size, SGLT2 inhibitor use in PD patients was associated with improved ultrafiltration and stable hemoglobin levels, with no significant adverse events. These preliminary findings suggest a potential beneficial role for SGLT2 inhibitors in managing fluid overload and anemia in this patient population.

P-108 – Resolution of Fungal Peritonitis in Peritoneal Dialysis: A Case Report

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OBJECTIVES

To describe the clinical course and therapeutic management of fungal peritonitis in a patient undergoing peritoneal dialysis (PD), emphasizing the role of systemic antifungal therapy and catheter sealing as an alternative to immediate catheter removal.

METHODS

A 52-year-old man was switched to peritoneal dialysis (PD) due to exhaustion of vascular access sites and initiated automated peritoneal dialysis (APD) with daytime icodextrin exchanges. One month later, he presented with abdominal pain, cloudy dialysate (2,330 leukocytes, 78% polymorphonuclear neutrophils), and hypotension (BP 79/40 mmHg). Fungal cultures identified *Candida parapsilosis*, with susceptibility to Amphotericin B, Fluconazole, Anidulafungin, and Isavuconazole. The exit site and urine cultures were negative.

RESULTS Treatment included conversion to continuous ambulatory peritoneal dialysis (CAPD) and administration of intravenous Anidulafungin, intraperitoneal Fluconazole, and catheter sealing with Amphotericin B. After nine days, peritoneal cell counts normalized, and fungal cultures were negative by day 13. The patient continued intravenous antifungal therapy as an outpatient for 30 days and was transitioned to oral Voriconazole for three weeks. Although clinical improvement was achieved, catheter replacement was not performed due to the patient's poor overall adherence to treatment and reluctance to undergo further interventions. Two months later, he returned with recurrent fungal peritonitis caused again by *Candida parapsilosis*. Antifungal susceptibilities remained favorable, and treatment led to negative cultures within 13 days. However, the patient showed signs of malnutrition, underdialysis, and persistent non-adherence, requiring hospital admission for comprehensive management.

CONCLUSIONS

Fungal peritonitis can be successfully treated with systemic antifungal therapy and catheter sealing, avoiding immediate catheter removal in selected and closely monitored patients. However, delayed catheter replacement and poor adherence may predispose to recurrence. Multidisciplinary management and close follow-up are essential to prevent complications and ensure treatment success.

P-109 – An Unusual Course: Asymptomatic *Streptococcus Pasteurianus* Peritonitis with Early Ultrafiltration Failure

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OBJECTIVES

Peritoneal dialysis (PD)-related peritonitis remains a significant cause of morbidity and mortality. Increased peritoneal vascular permeability, a hallmark of peritonitis, can lead to loss of ultrafiltration (UF).

METHODS

We present a 50-year-old male on automated PD due to autosomal polycystic kidney disease (Fig 1). In February 2025, he presented asymptomatic for a routine appointment. His PD strategy included 15L total volume (7.5L 1.36%, 5L 2.27%, 2.5L amino acid) over 9 hours, with 7 cycles, tidal 85%, and 2100mL infusion volumes (last 500mL icodextrin). His mean UF was +1250mL. His weekly urea KtV had decreased to 1.4, and his creatinine clearance was 58 L/week. After adjusting his strategy to 16L total volume (increased 2.5L 1.36%) over 9h30, his UF remained stable for five days. However, four days before reevaluation, a dramatic drop in peritoneal UF was observed via ShareSource[®] telemonitoring. Upon reevaluation, the patient was hypervolemic (3.9kg weight gain, bilateral pitting edema) and reported cloudy effluent after his night exchange, yet without abdominal pain or other typical symptoms. Peritoneal cytology showed 1919 cells/ μ L with 67% polymorphonuclear cells. Despite the lack of symptoms, the presence of cloudy effluent, positive cytology, and documented UF loss prompted empiric antibiotic initiation. Peritoneal fluid cultures later confirmed *Streptococcus pasteurianus*. Within one day, UF capacity was regained, and cytology normalized within four days.

CONCLUSIONS

Although infrequent, increased peritoneal vascular permeability manifesting as UF loss can be an important, premature sign of peritonitis, particularly in atypical, asymptomatic presentations.

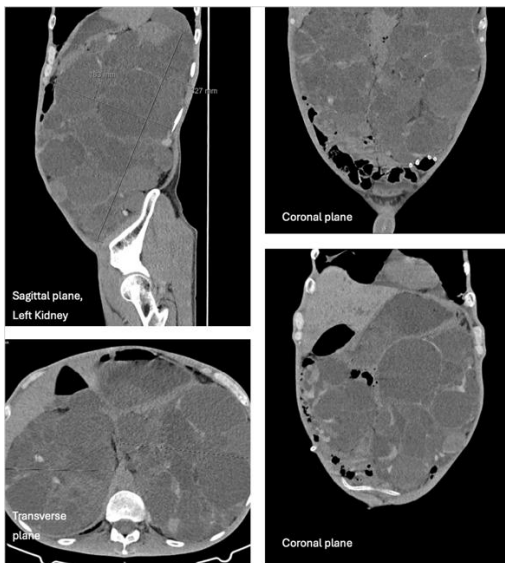


Figure 1

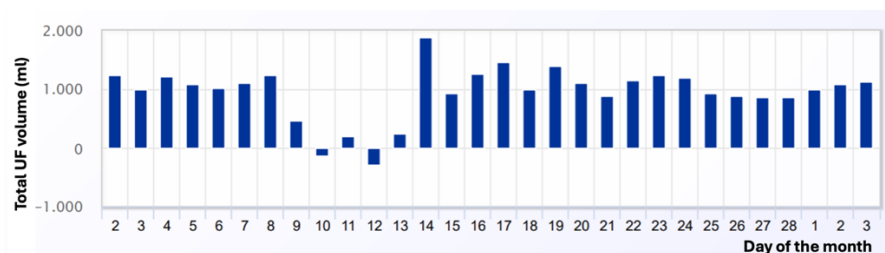


Figure 2

P-110 – Incidence of Mechanical Complications Related to The Type of Peritoneal Catheter for Peritoneal Dialysis in A Single-Center Retrospective Study

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OBJECTIVES

The main causes of failure of the peritoneal dialysis are infectious complications and catheter malfunction. This retrospective study analyzes the mechanical complications of two types of peritoneal dialysis catheters. Data from 315 patients followed at ASST Bergamo Ovest were analyzed. Of these, 196 patients had a self-locating catheter placed, and 119 patients had a Tenckhoff catheter (26 curled and 93 straight. No significant difference between these two groups).

METHODS

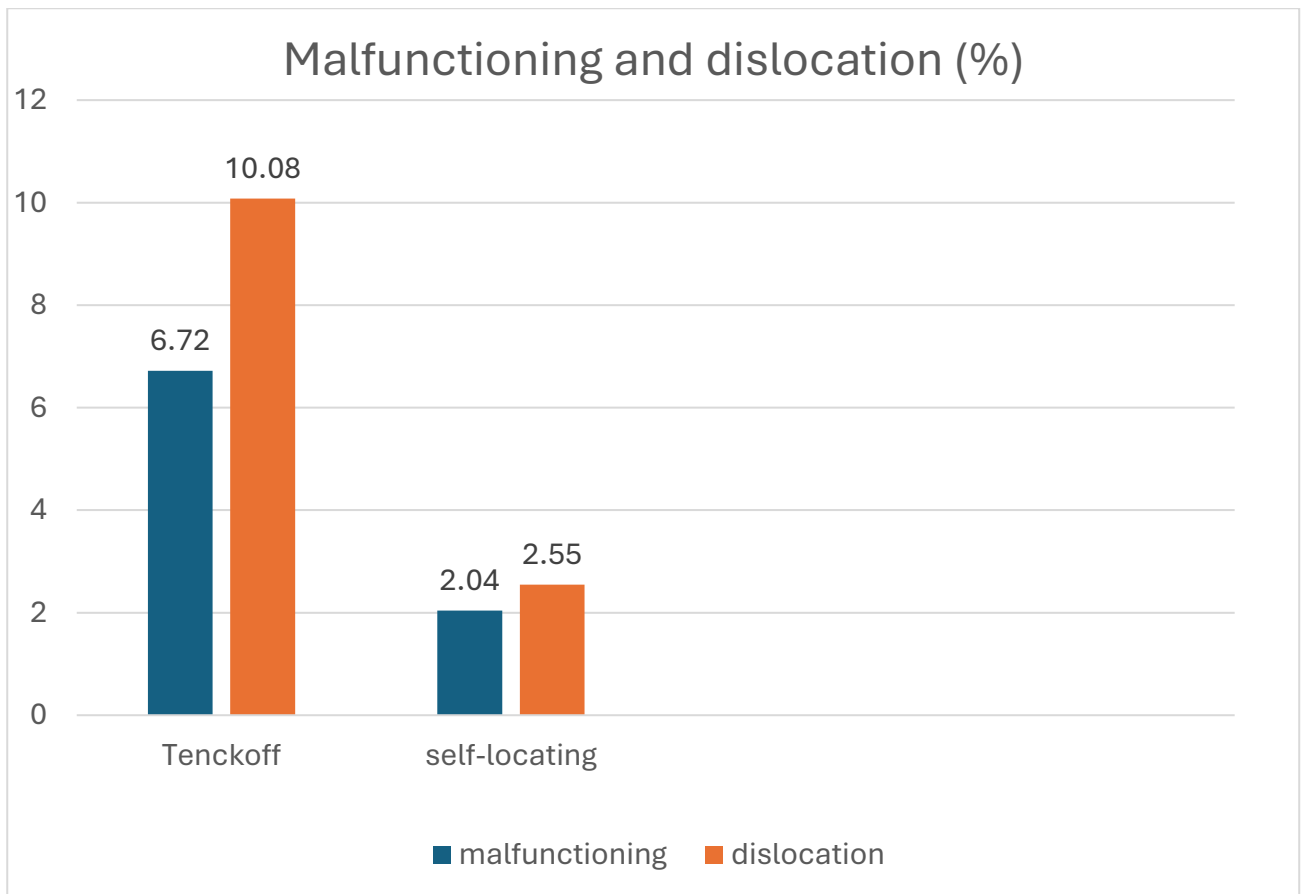
The average observation period was 35.19 months for the self-locating catheter group and 35.66 months for the Tenckhoff catheter group. The total observation for the two groups was 11,139 months. Malfunctioning (difficult drainage, absent drainage, etc.) was recorded in 4 cases in the self-locating catheter group and in 8 cases in the Tenckhoff catheter group. The percentage was therefore 6.72% and 2.04%, respectively for the Tenckhoff group and for the self-locating catheter group, revealing low statistical significance. Statistical significance is present, however, regarding dislocation: 5 cases for the self-locating catheter group and 12 for the Tenckhoff catheter group, showing a percentage of 2.55% and 10.08% respectively. In 15 cases, it was necessary to remove the catheter surgically (3 for the self-locating group and 12 for the Tenckhoff group).

CONCLUSIONS

As already stated in the literature, in this retrospective study, the use of a self-locating catheter for peritoneal dialysis is associated with a lower incidence, compared to the Tenckhoff catheter, regarding mechanical malfunctioning and, above all, dislocation.

REFERENCES

1. Analysis of the impact of peritoneal dialysis catheter tail-end design on catheter-related complications. Hong-chang Zou, Ming-ming Gao, Yan-xia Chen, Cheng-yun Xu, Wei-ping Tu, Xiao-hua Qin. *Ther Apher Dial*, 2023 Oct;27(5):937-948
2. Influence of peritoneal dialysis catheter type on complications and long-term outcomes: an updated systematic review and meta-analysis. Stepan Michran Esagian, Dimitrios Spinos, Anastasia Vasilopoulou, Nikolaos Syrigos, Muath Bishawi, Ruediger Wilhelm Lehrich, John Paul Middleton, Paul Vincent Suhocki, Theodore Nick Pappas, Konstantinos P. Economopoulos. *Journal of Nephrology* (2021) 34:1973–1987



catheter	patients	total observation (months)	average	malfunctioning	dislocation	replacement or removal and transition to HD
self-locating	196	6896	35,19	4	5	3
Tenckpff	119	4243	35,66	8	12	12
Total	315	11139		12	17	15

P-111 – Incidence of Exit Site Infection (ESI) Episodes Related to The Type of Catheter Dressing for Peritoneal Dialysis in A Single Center Retrospective Study

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OBJECTIVES

Exit site infections (ESI) and tunnel infections in peritoneal dialysis (PD) are serious infectious complications that can lead to peritonitis, catheter removal, and abandonment of dialysis. Although guidelines exist, there is no universal agreement on the classification and treatment strategies for infected ESI. This retrospective study analyzes the incidence of ESI in 116 patients on peritoneal dialysis at ASST Bergamo Ovest, divided into two groups. The first group used standard exit site dressing (80 patients), while the second used EXIT-PAD AG dressing (36 patients). The latter device consists of a pad with a silver ion release mesh.

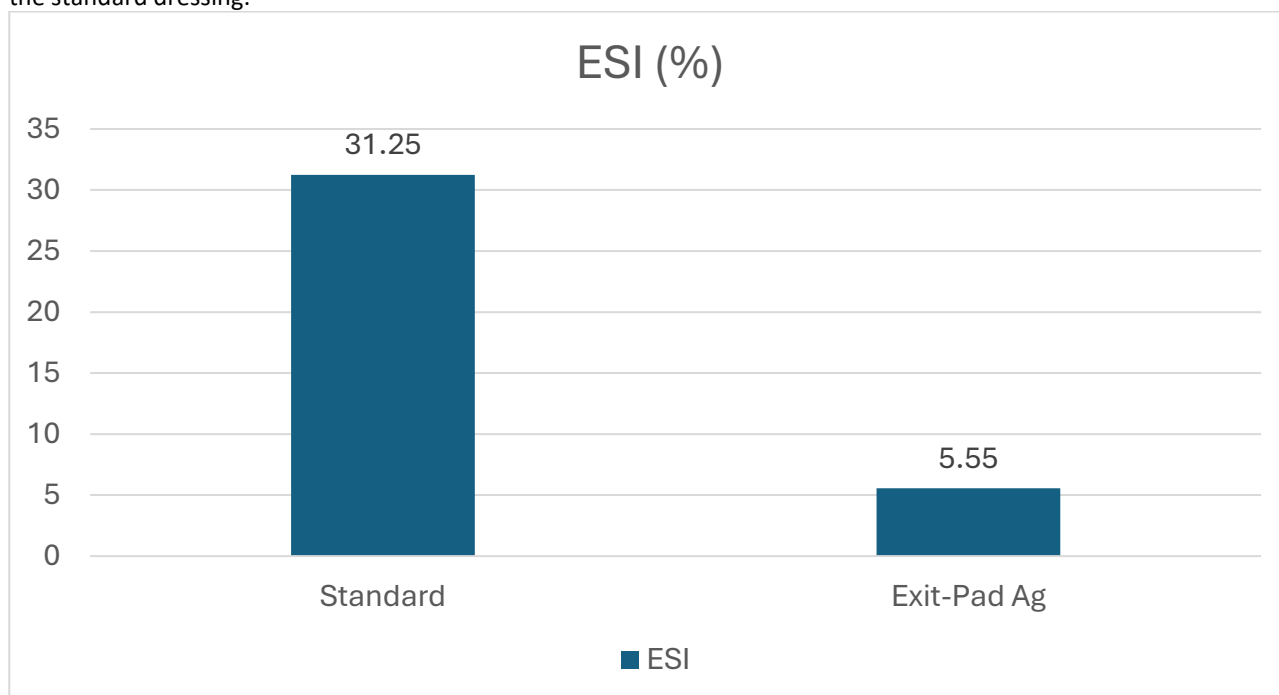
METHODS

The observation period was on average 33.57 months for the standard dressing group and 30.21 months for the Exit-PAD AG dressing group. The total months of observation amounted to 3,772.

The incidence of ESI was 25 cases for the group with standard dressing (percentage of 31.5%) and 2 cases for the group with Exit-Pad AG dressing (percentage of 5.55%), reaching statistical significance. The germs responsible for the ESI found in the standard dressing group were mostly due to Staphylococcus aureus. Two cases were caused by Pseudomonas aeruginosa, one case by Staphylococcus epidermidis, one case by Staphylococcus lugdunensis, and one case by Escherichia coli. In the Exit-Pad AG dressing group, the two cases were caused by Staphylococcus aureus.

CONCLUSIONS

The Exit-Pad AG dressing, in this retrospective study, proved to be significantly effective in reducing ESI, compared to the standard dressing.



dressing	patients	total months of observation	average of months of observation	ESI	%
Standard	80	2685,8	33,57	25	31,25
Exit-Pad Ag	36	1087,63	30,21	2	5,55

P-112 – Peritoneal Dialysis–Related Infection Due To Non-Tuberculous Mycobacteria Over 10 Years: A Single-Center Retrospective Observational Study

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OBJECTIVES

Non-tuberculous mycobacteria (NTM) are rare but increasingly recognized causes of peritoneal dialysis (PD)-related infections, often requiring prolonged treatment and posing risks of catheter removal or transfer to hemodialysis (HD). Because early detection of NTM is crucial, simultaneous bacterial and acid-fast bacilli testing was routinely performed in our hospital when PD-related infection was suspected. This study aimed to evaluate the effectiveness of this early detection strategy for PD-related infection caused by NTM.

METHODS

A single-center, retrospective observational study was conducted at Japanese Red Cross Medical Center, reviewing PD-related infection caused by NTM between January 2013 and December 2022. Cases were identified based on positive acid-fast bacilli cultures, with the exclusion of duplicate or incomplete records. Clinical characteristics, microbiological findings, surgical interventions, and patient outcomes were analyzed.

RESULTS

Among the 23 eligible cases, the mean age was 64.0 ± 11.2 years. Eighteen cases (78%) were male patients. The mean PD vintage was 4.7 ± 3.1 years. In all cases, acid-fast bacilli testing was performed early in the clinical course. Final diagnoses included catheter-related infections in 21 cases and peritonitis in 2 cases. Notably, in 19 cases (83%), patients had left the exit site uncovered during showering. Major causative organisms were *M. chelonae* (52%) and *M. abscessus* (26%). Antibiotic therapies, primarily moxifloxacin, clarithromycin, and amikacin, were administered in all cases. Initial surgical interventions included subcutaneous pathway diversions in 15 cases and catheter removal procedures in 6 cases. Among 9 cases that eventually required catheter removal, 4 underwent reinsertion, and 5 transferred to HD. No significant differences were found in PD vintage, time to diagnosis, or antibiotic duration between those who continued PD and those who transferred to HD.

CONCLUSIONS

Routine mycobacterial testing for suspected PD-related infection may facilitate early diagnosis and intervention, potentially improving catheter preservation and PD continuation rates.

P-114 – Impact of Chromatin Remodeller Pharmacological Inhibition in Mesothelial Cell-Macrophage Cross Talk Upon LPS Stimulation

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OBJECTIVES

Bacterial peritonitis is one of the main determinants of peritoneal damage during peritoneal dialysis, limiting the use of this relevant replacement therapy. It is believed that cross talk between macrophages and mesothelial cells (MCs) is central in the induction and progression of an inflammatory response eventually leading to peritoneal fibrosis.

Epigenetic control of the inflammatory response is a novel level of regulation opening to translational implications. In particular, the study of specific epigenetic pharmacological inhibitors (epidrugs) can lead to the development of new therapies counteracting organ damage and peritoneal fibrosis. We have previously demonstrated that inhibition of class I histone deacetylases deeply impacts on mesothelial cell plasticity leading to the reacquisition of an epithelial-like state and downregulation of extracellular matrix protein (ECM) production. The aim of this study is the analysis of the role of epidrugs in macrophage-MC cross talk.

METHODS

Epidrugs covering major classes of epigenetic regulators (HDAC1-3, EZH2, LSD1, BET bromodomain and PRMT5) were tested in macrophage-like THP1 and MeT5A cells for cell cytotoxic effect. Cells were then pretreated with these epidrugs and then stimulated with LPS to mimic bacterial infections. The production of cytokines modulating the inflammatory/immune response was analysed by qRT-PCR and ELISA. Conditioned medium of treated-THP1 cells was then transferred to untreated MeT5A cells and parameters of cell plasticity were evaluated by qRT-PCR, WB and confocal microscopy.

RESULTS

The pharmacological inhibitors resulted not cytotoxic at the concentrations tested. Preliminary results demonstrated that the treatment with epidrugs differentially modulates the secretion of inflammatory cytokines by THP1 cells. Moreover, MMT markers and the production of extracellular matrix proteins were modulated by conditioned medium produced by epidrug-treated THP1 cells.

CONCLUSIONS

These experiments provide a rationale of further translational studies where epidrugs may be used in vivo to counteract the establishment of peritoneal fibrosis.

P-115 – Peritoneal Dialysis Catheter: Preserving Lifelines by Optimizing Treatment

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OBJECTIVES

Peritoneal dialysis (PD) is a widely kidney replacement therapy for patients with end-stage kidney disease. As with vascular access in hemodialysis, the PD catheter is essential for effective treatment. Catheter complications may require surgical revision. In accordance with the ISPD's 2019 guidelines, our center uses laparoscopic placement with posterior exteriorization and requires inpatient care. This approach allows for optimal surgical planning, close follow-up, and broader patient inclusion. We aim to report our outcomes related to catheter function and revision over a six-year period.

METHODS

This single-center cohort study includes all PD catheter placements from 2018 to 2024. We reviewed data on catheter malfunction, need for surgical revision, causes of failure, and outcomes. Malfunctions were classified as primary (incident patients) or secondary (incident and prevalent patients). Cases resolved conservatively were also included.

RESULTS

Over six years, 51 patients initiated PD, with a median PD population of 18. The majority were male (64.7%), and 31.1% were over 65. Diabetes caused CKD in 15.9% of all patients and 27.6% of new starts. Among newly placed catheters, 42% experienced malfunction requiring inpatient care; however, only 33% of these required surgical revision. Surgical revision restored function in 75% of cases. Mechanical obstruction and poor placement were the main reasons for revision, while infection was the leading cause of catheter replacement.

CONCLUSIONS

PD catheter malfunction is common but often manageable without surgery. Surgical revision is effective when needed, with a high success rate. Mechanical and placement issues are key in failure, highlighting the importance of skilled surgical practice and close postoperative monitoring. Our inpatient approach supports attentive care with timely intervention, to optimize PD outcomes.

P-116 – Challenges and Opportunities in The Aging and Rural Setting

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OBJECTIVES

Peritoneal dialysis (PD) presents both notable challenges and valuable opportunities in rural healthcare, particularly in the context of aging populations with complex comorbidities. As the prevalence of chronic kidney disease (CKD) rises among older adults, rural PD units must adapt to sustain effective care. This review aims to identify barriers and opportunities to inform strategies for optimizing PD outcomes in underserved, aging populations.

METHODS

A retrospective review was conducted of patient records and operational data from a PD unit serving a rural population of approximately 250,000 over a six-year period. Data included patient age, comorbidities, CKD etiology, hospitalization rates, and technique survival. Staff feedback and patient interviews were reviewed to identify logistical and clinical challenges.

RESULTS

The cohort included 63 patients undergoing PD during the study period. On average, 31% were over 65 years of age. Chronic glomerulonephritis was the most frequent cause of CKD, while approximately one-third of patients had diabetic or cardiovascular etiologies. The overall hospitalization rate was 0.17 per patient-year, with 73% of admissions due to causes unrelated to PD. PD-related admissions primarily involved peritonitis and catheter complications. Common challenges associated with PD discontinuation included cognitive decline, inadequate home environments, and lack of caregiver support. Hospitalization rates were higher among patients over 65 with multiple comorbidities. Nonetheless, PD provided reduced travel burden and greater treatment flexibility.

CONCLUSIONS

Peritoneal dialysis offers substantial benefits in rural settings, particularly in improving access and supporting patient-centered care. However, age-related limitations and high comorbidity burdens pose significant challenges to self-management. Success hinges on careful patient selection, caregiver involvement, and sustained community-based support. Expanding telemedicine and mobile care services could further enhance PD sustainability for complex rural populations.

P-117 - PD and the Strength of a Little Heart: A Case of Pediatric Renal Vascular Malformation from a Remote Region of Kazakhstan

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OBJECTIVES

In a remote Kazakhstani village, a 4-year-old girl presented with severe abdominal pain, fever, and profound weakness. Suspected of having acute appendicitis, she underwent urgent surgery, which unexpectedly revealed a retroperitoneal hematoma.

METHODS

As her condition deteriorated, she was transferred to a tertiary nephrology center, where she was diagnosed with malignant hypertension (220/155 mmHg), severe azotemia (creatinine 321 $\mu\text{mol/L}$, urea 36 mmol/L), metabolic acidosis, and oliguria. Contrast-enhanced CT and MRI revealed right renal artery stenosis, bilateral renal artery aneurysms, fibrovascular dysplasia with parietal calcifications, right kidney atrophy, and a subcapsular hematoma on the left. These findings indicated a rare renal vascular malformation. Despite the diagnostic value of imaging, angiography remains the gold standard for confirming vascular anomalies.



Figure 1, Figure 2. Contrast-enhanced CT scan depicting renal artery malformations.

RESULTS

Due to progressive renal failure and hemodynamic instability, the patient underwent left nephroureterectomy with simultaneous placement of a peritoneal dialysis (PD) catheter. Postoperatively, blood pressure stabilized, and PD was initiated after 14 days. More than a year later, the child remains clinically stable and continues home-based PD in her rural setting.



Figure 3. Child with peritoneal dialysis catheter, on home PD for over one year.

CONCLUSIONS

Renal vascular malformations, though rare in pediatrics, should be considered in children presenting with hypertension and abdominal pain. While angiography is the gold standard for diagnosis, contrast-enhanced CT and MRI are valuable alternatives in resource-limited settings. Peritoneal dialysis is not only a therapeutic necessity but also a practical and humanitarian solution for sustaining care in remote areas.

KEYWORDS

Pediatric renal vascular malformation, fibrovascular dysplasia, peritoneal dialysis, chronic kidney disease, rural healthcare, Kazakhstan

REFERENCES

1. Gupta P, Singh A, Singh S. Renal artery stenosis in children: diagnosis and management. *Pediatr Nephrol.* 2020;35(7):1175–1184. doi:10.1007/s00467-019-04412-3.
2. O'Neill WC. Renal artery stenosis: diagnosis and treatment. *Kidney Int.* 2017;92(5):1017-1031. doi:10.1016/j.kint.2017.04.007.
3. Schlondorff D. Fibromuscular dysplasia and other rare causes of renovascular hypertension in children. *Pediatr Nephrol.* 2019;34(6):1037-1044. doi:10.1007/s00467-018-4120-0.

P-118 – Patients Starting Peritoneal Dialysis Because Heart Failure – Results of The 9th National Census (2024) of The Peritoneal Dialysis Study Group – Italian Society of Nephrology

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OBJECTIVES

To analyze the results of the 9th National Census (Cs-24) of Peritoneal Dialysis in Italy (carried out in 2025 and relating to 2024) of patients who were treated with peritoneal dialysis for heart failure in 2024.

METHODS

The Census was conducted by on-line questionnaire in the 228 non pediatric centers which DID PERFORM PD in 2024. The Centers that used DP for heart failure (HF) were 38, equal to 22.4% of the 170 Centers that provided data on the subject.

RESULTS

In 2024, the incidence and prevalence in PD for HF (cardiorenal syndrome type II or refractory congestive HF) were 47 (mean age 74.4 years – CAPD 79.0%) and 72 patients respectively in the 38 Centers considered. Furthermore 62% of the prevalent patients. PD drop out (ep/100 pt-yrs): 4.8 to HD; 38.7 death (none was transplanted). Prevalence and incidence ratio was 18.4 months. The incidence of peritonitis was 0.097 ep/pt-yr.

CONCLUSIONS

For the first time, on a national basis, the Census analyzes patients treated with DP not for renal failure but for refractory heart failure. Survival seems satisfactory, the incidence of peritonitis negligible. The treatment of these patients requires assisted DP.

P-119 – Assessing Sleep Quality in Peritoneal Dialysis A Cross-Sectional Comparison with Hemodialysis

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OBJECTIVES

Poor sleep quality is associated with increased cardiovascular risk and is particularly prevalent in patients with chronic kidney disease (CKD). While sleep disturbances are common among dialysis patients, evidence comparing sleep quality between hemodialysis (HD) and peritoneal dialysis (PD) remains inconsistent. The aim of this study was to assess and compare sleep quality between PD and HD patients using the Pittsburgh Sleep Quality Index (PSQI), and to explore potential differences in sleep duration and overall sleep disturbance scores between the two dialysis modalities.

METHODS

We conducted an observational, cross-sectional, and descriptive study on sleep quality in PD and HD patients from our unit. The PSQI, a validated questionnaire, was used along with clinical data such as comorbidities and medications. A convenience sample was included, based on patients who gave verbal consent. Patients with severe cognitive impairment or significant language barriers were excluded.

RESULTS

PSQI responses were obtained from 34 HD and 19 PD patients, with mean ages of 63 and 57 years, respectively. Poor sleep quality (PSQI ≥ 7) was found in 58.8% of HD patients and 36.8% of PD patients ($p=0.125$). Although this difference was not statistically significant, significant differences were found in total sleep hours (HD: 6.41 ± 2.19 h; PD: 7.58 ± 1.35 h; $p=0.013$) and mean PSQI score (HD: 7.94 ± 4.65 ; PD: 5.42 ± 3.70 ; $p=0.050$).

CONCLUSIONS

Poor sleep quality is frequent in CKD, especially among HD patients. The better sleep outcomes in PD may be related to greater schedule flexibility and quality of life. These findings support the need to assess sleep as a modifiable cardiovascular risk factor in this population.

P-120 – Mathematical Modelling of Acid-Base Status During Peritoneal Dialysis with Different Buffers

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OBJECTIVES

Mathematical models based on 3-pore model (3PM) predict fluid and solute transport across peritoneal membrane with different dialysis fluids but cannot describe changes in acid-base equilibrium in blood. We complemented 3PM with acid-base model (ABM) to describe data from PD dwells with traditional lactate (TL) and bicarbonate/lactate (BL) buffers.

METHODS

Six patients underwent two 4-hour dwells with BL (3.86% glucose, 25 mmol/L bicarbonate, 15 mmol/L lactate) and TL (3.86% glucose, 40 mmol/L lactate) dialysis fluids. Radiolabeled albumin was used as volume marker. Multiple samples of peritoneal fluid and blood were collected during each session to measure intraperitoneal volume and solute concentrations. ABM describes the transport of total CO₂ and O₂ across compartments — central circulation, pulmonary capillaries, tissues, and interstitium — computing changes in the equilibrium of acid-base buffers driven by the transport of bicarbonate, lactate, and dissolved CO₂ across the peritoneal membrane. The traditional 3PM, with vasodilation taken into account, was applied to estimate individual transport parameters.

RESULTS

The applied model accurately described data on peritoneal fluid volume, glucose, sodium, urea, creatinine, phosphate, potassium, lactate, bicarbonate, dissolved CO₂ and pH, with total prediction errors for dialysate concentrations equal to 6.9±1.3% (BL) and 6.7±0.8% (TL). Estimated transport parameters were within expected ranges and were not different between fluids, except for lactate and urea. In BL, plasma bicarbonate and CO₂ predictions had relative errors of 7.5 ± 2.9% and 12.6 ± 7.6%; in TL, 5.7 ± 3.3% and 9.4 ± 3.2%, although ABM was fitted to dialysate data only. We did not observe signs of generation of bicarbonate in peritoneal cavity as observed in animal studies.

CONCLUSIONS

The applied model (3PM combined with ABM) predicted observed changes in dialysate and plasma that were in agreement with currently understood transport kinetics and acid-base homeostasis. We did not observe significant differences in removal of small solutes when using dialysis fluids with different buffer compositions.

P-121 – Expanding the Scope of Interventional Nephrology: PD Catheter Placement at UMC Ljubljana

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OBJECTIVES

To retrospectively evaluate the outcomes of peritoneal dialysis (PD) catheter insertions performed by nephrologists and to assess the impact of this shift in access management on PD uptake at the University Medical Centre (UMC) Ljubljana between 2022 and 2024.

METHODS

We performed a retrospective review of all PD catheter insertions conducted by nephrologists from June 2022 to December 2024. Insertion techniques evolved during the study period, beginning with percutaneous placement under local anesthesia and transitioning to an open surgical mini-laparotomy approach. Regional anesthesia was introduced in late 2023 to enhance procedural safety and patient comfort. We analyzed patient demographics, procedural data, early and late catheter function, and complications. Changes in PD utilization during the study period were reviewed to assess the broader impact on renal replacement therapy (RRT) delivery.

RESULTS

A total of 37 PD catheters were placed by nephrologists. Among 37 patients, 29 (78%) were male, with a median age of 56 years and median BMI of 24.5. Diabetic nephropathy (31%) and IgA nephropathy (28%) were the leading causes of kidney failure. Seventy percent initiated PD as their first RRT modality, and 15% had prior abdominal surgery. Thirty-four catheters were placed via mini-laparotomy and three using a percutaneous modified Seldinger technique. Thirteen procedures were performed under regional anesthesia; the remainder under local. Immediate catheter function was achieved in 36 patients (95%), with one early complication requiring laparoscopic revision. One-year catheter survival was 95%, with no major complications. Two cases of tip migration occurred in the percutaneous group.

CONCLUSIONS

Nephrologist-led PD catheter insertion is safe, effective, and enables timely PD initiation. It has significantly increased PD utilization at our center by over 70%, improving access to home dialysis. This model supports greater autonomy in RRT planning and can be adopted by other centers to expand PD programs.

P-122 – Immunophenotype Changes of Lymphocytes In Hemodialysis Patients Following Vaccination With Recombinant Adjuvanted Herpes Zoster Vaccine

Mrs Maria Tsiatsiou¹, Mr Achilleas Karras¹, Mrs Evaggelia Gkroumtsia¹, Mrs Alexandra Fleva¹, Mr Evaggelos Memmos¹, Mr Panagiotis Pateinakis¹, Mrs Anastasia Giannakou¹, Mrs Dorothea Papadopoulou¹

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OBJECTIVES

To describe alterations in the immunophenotype of lymphocytes after vaccination with the recombinant adjuvanted herpes zoster vaccine (Shingrix®; GlaxoSmithKline Biologicals SA)

METHODS

Adult patients on hemodialysis, willing to be vaccinated against herpes zoster, received intramuscularly two 50 mcg doses of Shingrix® four to five weeks apart. Immunophenotyping by flow cytometry was performed to analyze lymphocyte subsets, before vaccination and one month after each dose.

RESULTS

Eighty-five dialysis patients received two doses of Shingrix®. Sixty-two were male, age 74 (43-92) years, BMI 26.1 (17.8-37.6) Kg/m², URR 70.9±7.9 % and dialysis vintage 83.4±66.6 months. NKT cell (CD3+CD56+) percentage significantly increased from baseline to as early as one month after the first dose (5.71±3.60 to 7.00±4.65, p<0.0001), and remained at the same levels after the second dose (6.53±4.58). Memory B cell percentages (CD19+CD27+IgD-) decreased significantly one month after completion of both doses (31.55±19.70 vs 20.79±13.37, p<0.001). Patients with episodes of shingles in their past (n=13) developed a significant rise in the percentage of CD3+CD4+ cells (p=0.01) and in CD4/CD8 ratio (p=0.03) as well, following vaccination.

CONCLUSIONS

Vaccination against herpes zoster induced changes in lymphocyte immunophenotype in dialysis patients. History of shingles seemed to influence some of these changes.

P-123 – Immunogenicity of the Recombinant Adjuvanted Herpes Zoster Vaccine In Dialysis Population

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OBJECTIVES

To check the serological response of dialysis patients to the recombinant herpes zoster vaccine (Shingrix®; GlaxoSmithKline Biologicals SA)

METHODS

Adult patients on hemodialysis, willing to be vaccinated against herpes zoster, received intramuscularly two 50 mcg doses of Shingrix® four to five weeks apart. Patient characteristics were recorded at baseline. IgM and IgG antibodies against varicella-zoster virus (anti-VZV) were assessed by SERION ELISA classic panel (Institut Virion/Serion GmbH, Germany) before vaccination. IgG were reassessed twice, one month after each dose. The threshold level for IgG seropositivity was 150 mIU/ml.

RESULT

Eighty-five dialysis patients received two doses of Shingrix®. Sixty-two were male, age 74 (43-92) years, BMI 26.1 (17.8-37.6) Kg/m², URR 70.9±7.9 % and dialysis vintage 83.4±66.6 months. Pre-vaccination IgM levels (2.77±2.58 mIU/ml) were below seropositivity threshold in all patients, while IgG levels were below 150 mIU/ml in only two patients. Eighty-three patients had positive pre-vaccination anti-VZV IgG levels (426.77±234.53 mIU/ml). Despite vast pre-vaccination IgG seropositivity, there was a significant increase in IgG levels even at one month after the first dose (789.08±295.62 mIU/ml), and an even greater increase one month after the second dose (882.86±165.30 mIU/ml) (p<0.0001). The IgG rise was not correlated to any patient characteristic. Thirteen (15.3%) patients with a prior history of shingles had higher pre-vaccination levels of IgG antibodies (593.24 vs 396.71 mIU/ml, p=0.003). However, their post-vaccination rise of IgG antibodies was lower when compared to patients with no history of shingles (284.1 vs 478.34 mIU/ml, p<0.01).

CONCLUSIONS

The majority of dialysis patients were IgG seropositive for herpes zoster. However, the administration of the recombinant vaccine induced a significant rise in their levels.

P-124 – Analysis of Lymphocytic Immunophenotype in Dialysis Population

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OBJECTIVES

To describe the percentages of lymphocyte subsets in dialysis patients and compare them to reference limits.

METHODS

B and T Lymphocyte subsets (CD3+, CD3+CD4+, CD3+CD8+, CD3+CD4+CD8+, CD3+CD56+, CD19+), natural killer cell subsets (CD3-CD16+, CD3-CD56+, CD3-CD16+CD56+) and CD4/CD8 were assessed by flow cytometry in adult dialysis patients. Patients' general characteristics were recorded at baseline.

RESULTS

Eighty-five dialysis patients (62 males), with median age 74 (43-92) years, median BMI 26.1 (17.8-37.6) Kg/m², mean URR 70.9±7.9 % and mean dialysis vintage 83.4±66.6 months were included in the immunophenotyping analysis. CD3+ (67.93%) και CD19+ (6.08%) cell percentages were significantly lower than reference limits (p<0.05). On the other hand, CD3-CD16+CD56+ cell percentage (22.48%) was significantly higher (p<0.05). Subsets of CD3+CD4+ and CD3+CD8+ and CD4/CD8 ratio were within normal limits. Diabetics had higher levels of CD3+ and CD3+CD8+ (70.65±12.47 vs. 64.44±13.48, p=0.036/ 29.53±10.57 vs. 24.69±10.23, p=0.037), but lower levels of CD3-CD56+ (17.93±11.14 vs 22.97±11.40, p=0.015). Patients with shingles in their past had lower percentages of CD3+CD4+ (33.01±9.95 vs 40.09±10.23, p=0.027) and lower CD4/CD8 ratio (1.24±0.56 vs 1.85±0.97, p=0.018).

CONCLUSIONS

Lymphocytic immunophenotype of dialysis patients diverged from reference limits. It was different in diabetics and patients who had shingles in their past, but it was not influenced by age, sex, BMI or dialysis vintage.

P-125 – Shower Water Exposure without Dressings Is Associated with Increased Catheter-Related Infection in Peritoneal Dialysis: A Retrospective Cohort Study

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OBJECTIVES

Prevention of catheter-related infection (CRI) and catheter-related peritonitis remains a major challenge in peritoneal dialysis (PD). This study aimed to investigate the risk of CRI associated with leaving the exit site uncovered during showering in patients undergoing PD.

METHODS

This single-center retrospective cohort study was conducted between January 2019 and December 2022. Among all patients undergoing PD at the beginning of the study or initiating PD during the study period, participants were divided into two groups: those who covered the exit site with waterproof dressings during showering to prevent exposure to shower water (dressing group), and those who left the exit site uncovered during showering (uncovered group). The primary outcome was the CRI-free survival time. The secondary outcome was catheter-related peritonitis.

RESULTS

Of the eligible 188 patients, 42 patients were excluded. Among 146 patients analyzed, 54 were in the dressing group, and 92 were in the uncovered group. The mean age was 70.4 ± 11.1 years in the dressing group and 63.3 ± 12.9 years in the uncovered group. The proportion of male patients was 59% and 71%, respectively. CRI occurred in 29 patients in the dressing group and 76 patients in the uncovered group during the study period. Survival analysis showed a significantly higher risk of CRI in the uncovered group than the dressing group by the log-rank test ($p < 0.01$) and by the Cox proportional hazards regression model adjusting for potential confounders (hazard ratio 2.29, 95% confidence interval 1.40–3.76, $p < 0.01$). Multivariate analysis revealed that prior CRI history and uncovered showering were independently associated with CRI. There were no cases of catheter-related peritonitis during this study period in both groups.

CONCLUSIONS

Leaving the exit site uncovered during showering is associated with an increased risk of CRI in patients undergoing PD.

P-126 – Comparative Analysis of Frailty and Nutritional Risk in Peritoneal versus Hemodialysis Patients: Insights from a Geriatric Assessment

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OBJECTIVES

To compare the prevalence of frailty and nutritional status, by evaluating sarcopenia and nutritional risk, between peritoneal dialysis (PD) and hemodialysis (HD) patients using a structured geriatric assessment.

METHODS

A cross-sectional study was conducted including adult patients undergoing PD and HD. Frailty was assessed using the Edmonton Frail Scale (moderate-to-severe defined as ≥ 10) and the Clinical Frailty Scale (CFS > 6). Sarcopenia was defined as a SARC-F score ≥ 4 . Nutritional risk was considered present when self-reported weight loss exceeded 5% over the past year. The prevalence of each condition was compared between HD and PD groups.

RESULTS

A total of 107 patients were included (90 on HD, 17 on PD). Moderate-to-severe frailty by the Edmonton Frail Scale (≥ 10) was observed in 12.2% of HD patients and 5.9% of PD patients. Frailty defined by Clinical Frailty Scale (CFS > 6) showed the opposite trend, being more common in PD (17.6%) than in HD (2.2%). Sarcopenia risk (SARC-F ≥ 4) was identified in 27.8% of HD and 23.5% of PD patients. No patients in either group reported unintentional weight loss $> 5\%$. Although these trends suggest different profiles of frailty and sarcopenia between modalities, no statistically significant differences were found between HD and PD groups across the geriatric syndromes analyzed.

CONCLUSIONS

Geriatric syndromes are highly prevalent in dialysis populations. While frailty measured by the Edmonton scale tended to be more common in HD patients, the CFS identified a higher proportion of frail individuals among PD patients. This discrepancy likely reflects the multidimensional nature of the Edmonton score versus the functional emphasis of the CFS. Although not statistically significant, these patterns may indicate different frailty phenotypes across dialysis modalities. Sarcopenia was prevalent in both groups, reinforcing the need for routine screening. No relevant weight loss was identified in either group, suggesting limitations of this isolated marker to detect nutritional risk. Overall, these findings support the use of complementary geriatric tools to guide clinical management in dialysis patients.

P-127 – Impact Of Osmosis on Diffusion According to A New Formalism Derived from Linear Non-Equilibrium Thermodynamics (LNT): Application to Diffusion Across the Peritoneum

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OBJECTIVES

The standard equations for transmembrane solute and fluid transport based on the classical Kedem-Katchalsky (KK) formalism are derived from LNT and predicts nonlinear equation for diffusive transport; however, this disagrees with common approach used in physiology and medicine. We revisited the basis for transport equations and proposed an alternative linear equation for diffusion but with a nonlinear term in the osmotic milieu, and examined the new formalism for the transport across the peritoneum in vitro.

METHODS

The general method for the derivation of “practical” transport equations was proposed and its specifications yielded, dependent on additional assumptions, the classical KK expression for non-linear diffusion and a new one for linear diffusion but with additional non-linear term valid in permselective membranes. The transport in diffusion chamber was expressed in closed formulas and the new formalism was tested using published data on glucose transport across the peritoneum in diffusion chamber with three glucose concentrations like in peritoneal dialysis fluids (Czyzewska et al, Med Sci Monit 1997).

RESULTS

The new formalism predicts that the additional (osmotic) term depends on the second power of the Staverman reflection coefficient and fluid hydraulic conductivity and decreases the rate of diffusion in proportion to solute concentration, i.e., diffusivity should be lower for higher solute concentrations. In contrast, the classical KK formula predicts increase of diffusivity with solute concentration. The measured values of glucose diffusivity across the peritoneum for three different glucose concentrations had tendency to decrease with concentration confirming the new formalism and remaining in contradiction with the classical KK formula. However, the slope of diffusivity decrease with concentration was low suggesting low Staverman reflection coefficient in those experiments.

CONCLUSIONS

The new formalism for solute and fluid transport retains important features of the classical KK approach although with much modified description of diffusion, and should be subject for further experimental and clinical tests.

P-128 – The Gender Influence on Peritoneal Membrane Transport

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OBJECTIVES

Twardowski introduced the classification of peritoneal dialysis (PD) patients based on their peritoneal transport analysing a cohort of 86 PD patients, where gender was not specified.

METHODS

Aiming to analyze gender differences in the interpretation of peritoneal transport outcomes, we completed a single-center cross-sectional study of 143 incident patients starting PD between 2015 and 2022. We also assessed differences in their follow-up outcomes until the cessation of PD(21.2 ± 17 months).

RESULTS

We analyzed 143 patients (55.3 ± 15.5 years, 92% hypertension, 25.5% diabetic, Charlson index 5.9 ± 2.4 points), corresponding to 85 men (M) and 58 women (W). M were older (M 56.4 ± 15.4 years vs. W 53.7 ± 15.7 years, NS) and associated higher comorbidity (hypertension M 95.8% vs. W 86.4%, $p=0.04$ and diabetes M 33.7% vs. W 13.6%, $P=0.007$, NS on Charlson index) compared to W. The peritoneal transport of creatinine in W was slower than in M (D/P Cr M 0.73 ± 0.1 vs W 0.69 ± 0.1 , $p=0.017$), but no differences in the glucose transport were observed. Although most patients were classified as medium-high transporters, the percentage of M was significantly higher than W (H 71.1% vs M 52.6%).

In our cohort, initial adequacy tests using incremental PD reveal that W have a higher total Kt/v (M 2.2 ± 0.5 vs W 2.8 ± 1.9 , $p=0.021$) attributed to a higher peritoneal Kt/v (M 0.95 ± 0.41 vs. W 1.3 ± 1.1 , $p=0.035$) and renal Kt/v (NS).

Despite W presented lower residual renal function (NS) and lower residual diuresis (H 1.5 ± 0.7 L vs. M 1.3 ± 0.6 L) compared with M. There was no gender difference in average duration of PD (M 22.4 vs. W 21.5 months). However, most W ended PD to receive a kidney transplant (46.8%), while most M transitioned to haemodialysis (41.3%). Nineteen patients died during follow-up (68.4% being M) (NS).

CONCLUSIONS

Differences in D/P Cr and normal distribution curves between M and W suggest significant differences in peritoneal membrane transport. Classical methods of assess PD quality and adequacy may need to be corrected by gender, further studies are needed to determine these differences

P-129 – The Importance of Determining the Ratio of Glucose in Serum and Lymphocytes as a Prognostic Marker in Patients on Peritoneal Dialysis - Our Experiences

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OBJECTIVES

Elevated serum values of the biomarker glucose-lymphocyte ratio (GLR) are associated with unfavorable prognosis in various diseases. The aim of this study was to examine the relationship between serum GLR and the outcome of patients treated with peritoneal dialysis (PD).

METHODS

The study included a group of 40 patients treated with PD, average age 53.28 ± 13.54 , more often 55% were women, compared to 45% men. According to GLR values, patients were divided into two groups: group G1, $GLR \leq 3.90$, and group G2, $GLR > 3.90$. We retrospectively analyzed the outcome of patients on PD. The fatal outcome was verified in 11 (27.5%), more often in patients with higher GLR values. One patient was transplanted, his GLR was 2.51, and one was transferred to hemodialysis (GLR 2.69). We examined the relationship between GLR and mortality in both groups of PD patients.

RESULTS

Fatal outcome was more prevalent in G2, 8 (44.44%), versus G1, 3 (13.63%). GLR values were statistically significantly higher in G2, ($p < 0.001$). Patients with fatal outcome were statistically older ($p < 0.5$), (60 ± 11.86 vs. 50.10 ± 13.04 years), with longer time spent on PD ($p < 0.5$), (78.27 ± 37.71 vs. 45.93 ± 32.88 months). A significant statistical difference was also verified for inflammation biomarkers neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) between G1 and G2 ($p < 0.01$). The cause of death was: cardiovascular diseases (CVD), 8 (44.44%), PD peritonitis 2 (18.18%), breast tumor 1 (9.09%).

CONCLUSIONS

Our results indicate that elevated serum GLR levels may serve as a prognostic factor for all-cause mortality in peritoneal dialysis patients.

P-130 – Peritoneal Dialysis as A Therapeutic Option in Refractory Heart Failure: Real-World Data from A Single-Center Experience

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OBJECTIVES

Refractory congestive heart failure (RCHF) poses a growing clinical challenge, especially in patients with coexisting chronic kidney disease, where fluid overload and diuretic resistance complicate management. Peritoneal dialysis (PD) has been proposed as a therapeutic option in this setting, but evidence remains scarce. This study aimed to assess the safety, clinical impact, and outcomes of PD in patients with advanced RCHF, focusing on cardiac function and hospitalization burden.

METHODS

We conducted a prospective observational study at a tertiary PD center, including all patients with RCHF who initiated PD between January 2020 and October 2024. Clinical and laboratory data were collected at baseline and after 6–12 months. All patients underwent manual PD with icodextrin-based solutions. Statistical analysis was performed using SPSS v29.

RESULTS

Thirteen patients were included (mean age 69.7 ± 13.1 years; mean eGFR 16.0 ± 5.5 mL/min/1.73m²). Heart failure etiology was mainly ischemic (54%). At baseline, mean LVEF was $36.1\% \pm 17.1$, most patients were NYHA class III, and NT-proBNP averaged 13,670 pg/mL. In the 12 months before PD, patients had a mean of 2.46 HF-related hospitalizations and 0.92 major adverse cardiovascular events (MACE). After 6–12 months on PD, significant improvements were observed in LVEF ($p=0.036$), NYHA class (69.2% in class \leq II; $p<0.001$), HF-related hospitalizations (mean 0.69; $p<0.001$), and MACE (mean 0.23; $p=0.016$). Excluding two outliers, complication rates were low (0.31 peritonitis, 0.60 exit-site infections, 0.15 other complications per patient/year). Most events were managed outpatient. There were 3 deaths and 1 switch to hemodialysis, none related to PD.

CONCLUSIONS

PD appears to be a safe and effective strategy in advanced RCHF, with improvements in cardiac function, symptoms, and reduced hospitalizations. These real-world findings support its broader consideration in patients refractory to conventional therapy. Larger studies are needed to confirm these results.

Characteristic	n=13	Before PD	After PD	Paired Student's t-test p-value
Age, years	69.69 ± 13.054			
Creatinine, mg/dL	3.81 ± 1.502			
eGFR, mL/min/1.73m ²	16.00 ± 5.538			
BUN, mg/dL	95.62 ± 41.886			
BUN/Creatinine	28.06 ± 17.812			
Albumin, mg/dL	3.79 ± 0.506			
Hemoglobin, g/dL	11.19 ± 1.78			
Systolic pressure, mmHg	110.77 ± 12.077			
NTproBNP, pg/mL	13669.77 ± 12466.72			
LVEF, %	36.08 ± 17.149			
Residual Diuresis, Liters	1.469 ± 0.395			
MACE events	0.92 ± 1.18			
Hospitalizations	2.46 ± 1.188			
NYHA stage				
II	1			
III	7			
IV	5			
Heart Failure Etiology				
Ischemic	7			
Valvular	1			
Hypertensive	3			
Alcoholic	1			
Albumin, mg/dL		3.79 ± 0.506	3.59 ± 0.499	<0.127
Hemoglobin, g/dL		11.19 ± 1.78	11.585 ± 1.647	<0.240
Urinary Output, L		1.469 ± 0.395	1.33 ± 0.762	<0.127
LVEF, %		36.08 ± 17.149	39.92 ± 15.430	<0.036
NTproBNP, pg/mL		13669.77 ± 12466.72	9624.38 ± 4648.64	<0.091
NYHA stage				<0.001
≤ 2		1	9	
≥ 3		12	4	
MACE events		0.92 ± 1.18	0.23 ± 0.439	<0.016
Hospitalizations		2.46 ± 1.188	0.69 ± 0.855	<0.001
Ultrafiltration rate, mL/day		-	490.38 ± 329.7	-
Complications				
Peritonitis		-	0.31 episodes/patient/year*	-
Exit Site Infection		-	0.6 episodes/patient/year*	-
Other		-	0.15 episodes/patient/year	-
Deaths on the follow up period		-	3	-

Table 2 - Clinical and analytic differences between before starting peritoneal dialysis and 6 to 12 months after. *Excluding 1 patient with 4 peritonitis; #Excluding 1 patient with 6 exit site infection

Table 1 - Patients demographics, clinical and analytical characteristics

P-131 – Pioneering short frequent low-dialysate flow home hemodialysis in Portugal: early results of a pilot project

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OBJECTIVES

To report the launch of the Valongo Hemodialysis Center's home hemodialysis (HHD) program and its outcomes after 6-months. This project is financed by our *Centro de Responsabilidade Integrado*, as there is no specific reimbursement for HHD in Portugal.

METHODS

Single-center prospective case-series. HHD treatment reports, blood analysis, ultrasound (US) and monthly clinical evaluations were recorded.

RESULTS

Two female patients were enrolled in 2024, currently under five x 2.5-hour HHD sessions per week.

Case 1: 48-year-old, CKD G5D due to AA Amyloidosis, previously on incremental HD with a brachiocephalic AVF. Comorbidities: Obesity, Obstructive Sleep Apnea. Home therapy was associated with significant improvements in sleep quality and post-dialysis fatigue, enabling the patient to resume caregiving duties for her husband. After six months in HHD, blood pressure (BP) and volume control were optimized, with simultaneous improvements in albumin (31.4 » 36.4g/L), phosphate control, PTH (850 » 369 pg/mL) and iron kinetics, despite a reduced pill burden (sevelamer 3.6 » 1.6 g/d).

Case 2: 58-year-old, CKD G5D due to chronic pyelonephritis, previously on in-center HD after renal graft failure with a brachiobasilic AVF. Comorbidities: Ischemic Heart Failure, Peripheral Neuropathy. The patient noted an early improvement in quality of life, associated with pruritus control, and reduced asthenia and post-dialysis fatigue. After six months in HHD, the patient registered significant improvement in BP and volume control (NtproBNP 4740 pg/mL; CA 125 11 U/mL; no lung US B-lines), an increase in albumin, better phosphate control and PTH stabilization. No symptomatic intradialytic hypotension or access complications occurred.

CONCLUSIONS

Short frequent low-dialysate flow HHD is feasible, safe, and associated with improvements in patient-reported outcomes, BP and volume control, and clinical biomarkers. Our data supports wider adoption of HHD technology, but sustainable reimbursement mechanisms are needed to scale patient accessibility.

P-132 – Can Hematologic Inflammatory Markers Predict Response to Treatment and Mortality in Peritoneal Dialysis-Associated Peritonitis?

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OBJECTIVES

Peritoneal dialysis-related peritonitis (PDRP) is an important complication in peritoneal dialysis (PD) patients and a leading cause of PD discontinuation. It causes more than %15 of PD patient deaths. This study aimed to evaluate whether hematologic inflammatory markers (HIM) can predict treatment response and mortality in PDRP.

METHODS

Our study is a single-centre retrospective, observational study. Between 01/01/2012 and 31/09/2024, 114 episodes of PDRP were analysed. HIM and biochemical parameters were recorded at the diagnosis of peritonitis. Outcomes included refractory peritonitis and peritonitis related mortality.

RESULTS

HIM showed significant correlation with dialysate white blood cell count at presentation (all P values <0.05). None of the HIM predicted refractory peritonitis or mortality. However, we noticed that Low PTH (404.96±278.2 vs 305.84±246.39; P=0.026) and creatinine (7.32±2.64 vs 6.03±2.54 P=0.017) levels have been found to be associated with refractory peritonitis. Logistic regression revealed that serum creatinine and PTH levels were predictors of treatment response. Additionally, factors associated with mortality included low serum urea (77.71±13.58 vs 102.53±34.39, P=0.010), creatinine (5.31±2.34 vs 7.15±2.65, P=0.022), phosphate ((3.46±0.99 vs 4.38±1.35, P=0.013), and LDL-c (75.46±39.06 vs 99.62±39.4, P= 0.025) levels. Cox regression analysis confirmed urea as a significant predictor for mortality (Table 1).

CONCLUSIONS

HIM was not predictive for poor outcomes. However, low PTH and creatinine were associated with refractory peritonitis and low serum urea, creatinine, phosphate, LDL-c was associated with peritonitis related mortality.

Table 1. Cox regression analysis of risk factors for treatment response and mortality

Treatment response	Univariate		Multivariate	
	OR (95 % CI)	P Value	OR (95 % CI)	P Value
Creatinine >6.585	0.410 (0.175-0.959)	0.040	0.339 (0.140-0.817)	0.16
PTH >312.25	0.322 (0.135-0.766)	0.010	0.438 (0.183-1.048)	0.64
Mortality	HR (95 % CI)a		HR (95 % CI)	
Phosphate <4.025	4.276	0.064	0.865	0.877
Creatinine <6.16	0.305	0.087	0.487	0.330
Urea <93.5	0.91	0.022	0.132	0.089
LDL-c <63.5	0.308	0.054	0.474	0.245

P-133 – Clinicodemographic Factors as Predictors of Peritoneal Solute Transport Type Among Peritoneal Dialysis Patients in A Tertiary Government Hospital

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OBJECTIVES

In low-resource settings, the Peritoneal Equilibration Test (PET) is often unavailable, despite its essential role in tailoring peritoneal dialysis (PD) prescriptions. This study aims to evaluate whether modifiable and non-modifiable clinicodemographic factors can help predict solute transport type, particularly in identifying patients at risk for higher mortality associated with high transporters.

METHODS

A retrospective cross-sectional study was conducted on peritoneal dialysis patients enrolled from 2023 to 2024 in a tertiary government hospital. PET results and clinicodemographic data were analyzed.

RESULTS

Among 53 patients who underwent PET, 50% were classified as low transporters and 15% as high transporters. No clinicodemographic variable significantly predicted high transport status. However, predictors of high-average transporters included elevated 2-hour D/P creatinine ratio ($p = 0.027$), low serum albumin ($p < 0.01$), hyponatremia ($p < 0.018$), low peritoneal fluid glucose at 4 hours ($p < 0.01$), lymphocytosis ($p < 0.01$), hypokalemia ($p < 0.042$), and neutropenia ($p < 0.047$).

CONCLUSIONS

Hypoalbuminemia, electrolyte disturbances, and altered peritoneal transport parameters were significantly associated with high-average transporters. This study is the first to suggest that lymphocyte count and neutropenia may serve as additional predictors. These findings provide practical value for PD management in resource-limited settings lacking access to PET.

P-134 – Non-Surgical Management of a Damaged Peritoneal Dialysis Catheter in a Patient Undergoing Regular Automated Peritoneal Dialysis Treatment

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OBJECTIVES

Infectious and mechanical issues concerning the peritoneal dialysis catheter (PDC) are the primary causes of peritoneal dialysis (PD) failure. However, prompt and appropriate management can salvage many of these catheters.

METHODS

We present the case of an elderly patient who inadvertently cut the PDC during the initiation of APD.

RESULTS

An 85-year-old patient with end-stage kidney failure, arterial hypertension, chronic heart failure, ischaemic cardiomyopathy, and mitral regurgitation with mild pulmonary hypertension, presented unannounced at our dialysis centre due to damage to his PDC. On that day, the PDC was accidentally cut by his wife approximately 8 centimetres from the insertion site whilst initiating the APD. As a result of this cut, the patient lost about 500 millilitres of clear effluent; however, he remained asymptomatic. The patient was hospitalised, where he received intravenous prophylactic antibiotic treatment with 1g of cefazolin. Since he required chronic kidney replacement therapy, a haemodialysis catheter was inserted into his left jugular vein, and he was temporarily switched to haemodialysis. Given the patient's multiple comorbidities, he was considered unfit for further surgery. With his wish to resume APD, the remaining PDC was shortened by one centimetre under sterile conditions, and a new PD transfer set was attached. The patient was discharged and continued his regular haemodialysis regime. He was instructed not to use the PD catheter, which was routinely maintained throughout the process. Seven days later, the patient was successfully transitioned back to APD, the haemodialysis catheter was removed, the effluent was clear, and he continued with regular APD until his passing one year later.

CONCLUSIONS

The damaged PDC can be managed non-surgically, allowing the patient to resume regular APD. The patient-centred approach improved the patient's quality of life.

1. Crabtree JH, Shrestha BM, Chow K-M, Figueiredo AE, Povlsen JV, Wilkie M, et al. Creating and maintaining optimal peritoneal dialysis access in the adult patient: 2019 update. *Peritoneal Dialysis International*. 2019;39(5):414-36.
2. Cullis B, Al-Hwiesh A, Kilonzo K, McCulloch M, Niang A, Nourse P, et al. ISPD guidelines for peritoneal dialysis in acute kidney injury: 2020 update (adults). *Peritoneal Dialysis International*. 2021;41(1):15-31.

P-135 – Supporting Individualised Shared-Decision Making in Incremental Peritoneal Dialysis

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OBJECTIVES

Incremental peritoneal dialysis (PD) allows people to start on a 'less than full-dose' dialysis regimen. However, patients are often reluctant to increase their dialysis regime; understanding the time to increment supports shared decision-making. The aim of this study was to assess time to increment on PD in a local cohort.

METHODS

This retrospective, single-centre, cohort study included all patients on PD between 1st January 2012 and 31st December 2023. Only those incident to PD and on less than full dose prescriptions at PD start were included for subsequent analysis. Amongst others, individuals treated with PD with palliative intent, were excluded. Individuals were advised to increment their dialysis regime due to either uraemic symptoms, decline in urine output or biochemical markers.

RESULTS

During this period 820 patients were identified of whom 529 patients were eligible for analysis. Main reasons for exclusion were prior transplantation (66/820), palliative approach (109/820) and starting on a full dose regime (45/820). Of the 529 patients starting incremental PD (mean age 59 ± 15.5 years, 60% male), 43% had diabetes. Starting eGFR was 7.0 ± 3.0 ml/min/1.73m². CAPD was the predominant initial therapy (76%), using two to three exchanges per day, between five and six days per week.

CONCLUSIONS

After censoring, 65% (95%CI 60-69%) had not required incrementation at one year, falling to 36% (95%CI 31-42%) at two years. In multivariate analysis, male sex, a rapid decline in GFR, lower starting GFR and serum albumin as well as younger age were all associated with a reduced time to incrementation. Many individuals commencing PD with an incremental prescription are able to continue this regime for at least two years without a requirement to increase their dialysis dose. This data will support individualised shared-decision making at the start of dialysis and help set appropriate patient expectations.

P-136 – Post-Endoscopic Tattooing Peritonitis

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OBJECTIVES

In patients with specific risk factors such as those undergoing peritoneal dialysis (PD), antibiotic prophylaxis prior to colonoscopy may help prevent serious complications like peritonitis. We present a case of peritonitis in which prophylaxis played a key role in ensuring a more favorable outcome.

METHODS

An 80-year-old male with chronic kidney disease on PD underwent a colonoscopy due to severe anemia despite treatment with iron and erythropoietin. Intraperitoneal antibiotic prophylaxis was administered before the procedure, which was performed with an empty peritoneal cavity. During the colonoscopy, a suspicious lesion was identified in the sigmoid colon, and an endoscopic tattoo was performed. Tattooing is a technique used during colonoscopy to mark lesions that may require surgery or subsequent endoscopic follow-up. Endoscopic markers containing carbon particles are injected beneath the colonic mucosa. Four hours later, the patient developed abdominal pain and the peritoneal effluent appeared cloudy and greenish-black. Chemical peritonitis secondary to colonic microperforation and leakage of the tattoo marker into the peritoneal cavity was suspected. The peritoneal fluid (PF) progressively cleared, and the leukocyte count decreased rapidly (*Fig. 1*). Cultures were negative. The course of peritonitis was favorable, likely due to the prior administration of prophylactic antibiotics. Empirical treatment with intraperitoneal vancomycin and ceftazidime was completed.



Figure 1: PF after 4, 12 and 16 hours post endoscopic tattooing

CONCLUSIONS

This case illustrates how antibiotic prophylaxis can be critical in preventing severe complications in PD patients undergoing colonoscopy. Although uncommon, procedures such as endoscopic tattooing may lead to peritonitis or colonic perforation. Proper antibiotic prophylaxis, accurate technique execution, and careful patient monitoring are essential to minimizing these risks.

P-137 – Reducing The Harm from Aminoglycoside Exposure in People Treated with Peritoneal Dialysis Through Screening For MT-RNR1

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OBJECTIVES

Aminoglycoside antibiotics, such as gentamicin, are highly effective against Gram negative organisms, and are central to PD peritonitis treatment, particularly as therapeutic dose-monitoring accounts for differences in residual kidney function. However, aminoglycosides can cause ototoxicity, either via a cumulative dose or due to a single administration in those with a variant in the mitochondrial gene *MT-RNR1*. A single nucleotide substitution in this gene predisposes individuals to aminoglycoside-induced ototoxicity, and in some cases bilateral hearing loss. The NHS Genomic Medicine Service offers testing for three *MT-RNR1* variants as part of the National Genomics Test Directory, with active encouragement of NHS trusts to implement this service. We introduced a nurse-led pharmacogenetic screening program for all people incident to PD within our unit, with the aim of minimising the risk of aminoglycoside-related ototoxicity.

METHODS

A multi-disciplinary quality improvement team, including the local genomics service, pharmacists from the antimicrobial stewardship program, and home dialysis team, developed a local guideline including steps to be taken in the event of a positive result. All incident PD patients from February 2025 onwards were verbally consented for *MT-RNR1* testing. Blood sampling was carried out prior to PD catheter insertion during a nurse-led assessment.

RESULTS

To date 17 people have been tested with a turn-around time of approximately 14 days. All patients thus far have tested negative for the *MT-RNR1* variants, in line with the low 0.2% population prevalence.

CONCLUSIONS

MT-RNR1 genetic testing is now embedded in routine care for all incident PD patients in our unit. While *MT-RNR1* variants predisposing to ototoxicity are reportedly seen in <0.2% of the population, our local diverse PD population may have different rates. This screening program will ensure those at highest risk of developing single-dose aminoglycoside-induced ototoxicity are identified at the start of dialysis, enhancing safer antimicrobial prescribing in suspected peritonitis.

P-138 – Point-Of-Care Ultrasound in Peritoneal Dialysis Catheter-Related Infections

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OBJECTIVES

The utility of Point-of-care ultrasound (POCUS) in peritoneal dialysis (PD) is increasing and has been included in the latest guidelines. This study aimed to investigate the utility of POCUS in diagnosing PD catheter-related infections (CRI).

METHODS

This single-center retrospective study included 12 PD patients diagnosed with exit-site infection (ESI) evaluated by POCUS between January and May of 2025. ESI was diagnosed through physical examination, with inflammatory signs and purulent discharge. POCUS was performed by a Nephrologist with ultrasound experience, using a portable device with a linear probe, on the day of ESI diagnosis. A positive POCUS examination was considered as any anechoic collection related to the external cuff, catheter tunnel, or internal cuff, with a diameter ≥ 1 mm, suggesting tunnel infection. Demographic and clinical data were obtained from electronic records.

RESULTS

Twelve patients were diagnosed with ESI, of which 10 (83%) were male. The mean age was 55.8 ± 11.1 years, with a mean time on PD of 49 ± 20 months. Four patients (33%) had diabetes, and four (33%) had a previous CRI diagnosis. A positive POCUS examination and tunnel infection were present in 10 patients (77%). Microbiological culture was positive in 11 patients (92%), with five having multiple microorganisms (42%). The isolated bacteria were methicillin-sensitive *Staphylococcus aureus* (n=5), *Corynebacterium sp.* (n=3), methicillin-resistant *Staphylococcus aureus* (n=1), other Gram-positive (n=4), and Gram-negative (n=4). Four patients (33%) presented with concurrent peritonitis, and two required hospitalization and catheter removal. Two isolated ESI were treated with a two-week antibiotic regimen, while the remaining six patients with ESI and tunnel infections received antibiotics for three weeks. Furthermore, one required external cuff shaving.

CONCLUSIONS

POCUS enhances the accuracy of physical examination in identifying tunnel involvement in CRI. Regular use by Nephrologists could represent a paradigm shift in optimizing therapy goals and progressing patient-centered care.

P-139 – Does Peritoneal Dialysis Have an Actual Impact on Normal Respiratory Physiology? Our First Experience with Nocturnal Polygraphy Monitoring

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OBJECTIVES

Patients undergoing nocturnal APD experience fluctuations in intra-abdominal pressure due to the cyclic loading and unloading of dialysate. These fluctuations may impact diaphragmatic and pulmonary function, supporting the rostral fluid shift hypothesis as a contributing factor to sleep apnea. This study aims to evaluate the impact of peritoneal dialysis on various polysomnographic parameters.

METHODS

We analyzed data from 18 out of 60 patients (30%) undergoing APD for at least six months at our center, all with a BMI between 25 and 30 kg/m². 17 patients were on APD, while one was on continuous ambulatory peritoneal dialysis (CAPD). We assessed underlying kidney disease, polygraphy results (cardiorespiratory nocturnal monitoring), intra-abdominal pressure measurements, and dialysis treatment settings.

RESULTS

In our cohort, 22.2% of patients had autosomal dominant polycystic kidney disease (ADPKD). Patients had been on APD for an average of 30 ± 36 months, with mean dialysate volumes of 1655 ± 409 mL, an average BMI of 25,6 ± 4,5 kg/m², an IPP of 15 ± 3,7 cmH₂O, and an average Kt/V of 2 ± 0.5.

OSA was detected in all patients:

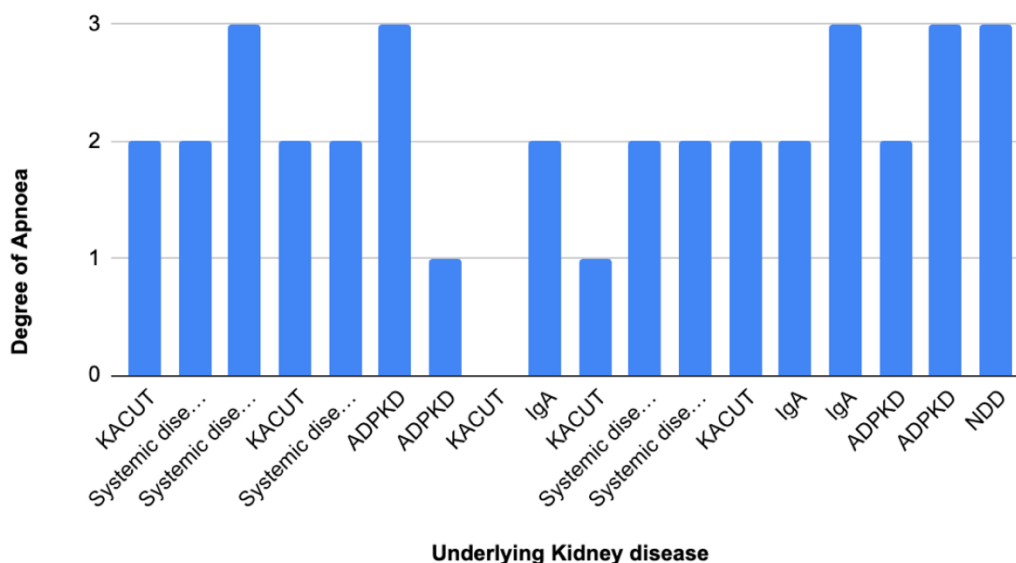
- 62.5% had moderate sleep apnea (mean apnea-hypopnea index [AHI]: 23.35 ± 3.5 events/hour).
- 25% had severe sleep apnea (mean AHI: 41.7 ± 2 events/hour).
- The remaining patients had mild sleep apnea (mean AHI: 8.6 ± 4.1 events/hour).

In 61% of cases, the supine AHI/non-supine AHI ratio exceeded 2, indicating positional sleep apnea.

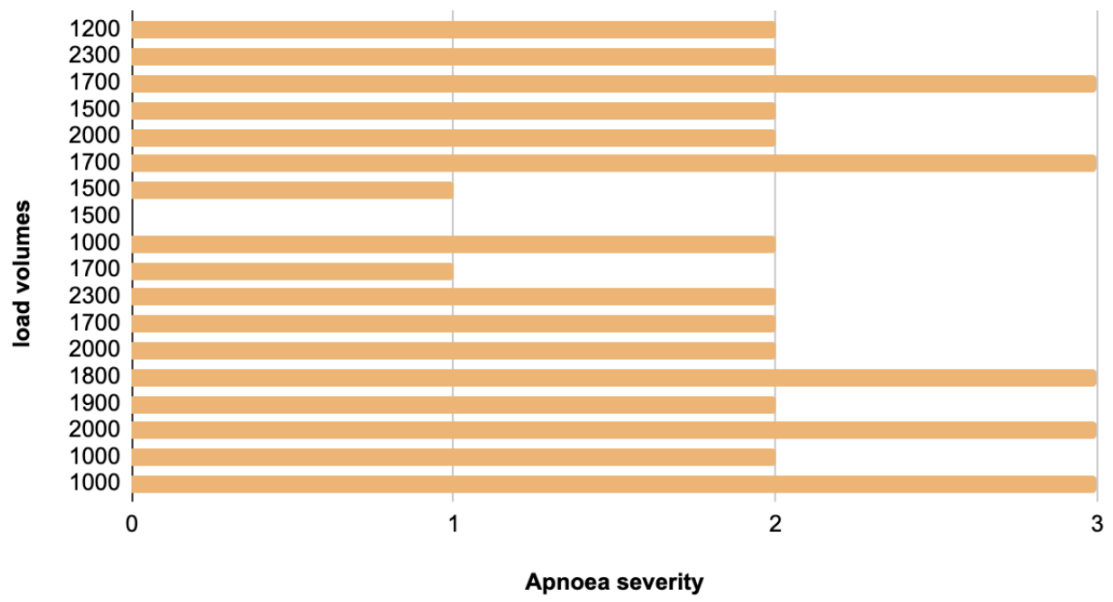
CONCLUSIONS

Our findings indicate that all patients in this study had OSA, highlighting the potential underdiagnosis of sleep apnea in this population. Given these findings, we recommend routine screening for sleep apnea in all patients under renal replacement therapy, not only those on APD, even in the absence of overt symptoms.

Underlying kidney disease in relation to the degree of apnoea



Apnoea severity in relation to load volume



P-140 – Assisted Home Hemodialysis in Spain: A Nationwide Survey of Current Practices

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OBJECTIVES

Home Haemodialysis (HHD) is a growing dialysis modality in Spain, although its implementation varies across autonomous communities. Among its benefits are improved quality of life, shorter recovery time, and better treatment tolerance. Therefore, even when patients are not self-sufficient, the technique is often delegated to a caregiver giving rise to Assisted HHD (aHHD). The aim of this survey was to describe the current state of aHHD in Spain, focusing on practices, patient and caregiver profiles, as well as perceived advantages, barriers, and challenges.

METHODS

A national survey was designed and distributed to healthcare professionals involved in HHD programs between May 15 and May 31, 2025. This initiative was promoted by “Spanish Working Group on Support and Promotion of HHD”

RESULTS

A total of 37 HHD units participated. The total number of HHD patients was 273, with a median of 4 [IQR 3–11] per center. Of these, 28% (n=77) were receiving aHHD, with a median of 1 [IQR 1–3] per center. Caregivers were mainly family members (68.2%), compared to 5.4% who were paid caregivers. Women represented 73.8% of caregivers. The most frequently reported advantages of HHD were greater convenience, improved quality of life, and patient empowerment. The main challenges in implementing aHHD were caregiver burnout and the lack of support from the public healthcare system. Key barriers included a shortage of trained staff, associated costs, and family reluctance to take on technical responsibilities. The 81% of respondents believed aHHD should be offered from the start of treatment or when patients are unable to perform it themselves. Caregivers’ training was reported to be faster, although it was often accompanied by specific fears.

CONCLUSIONS

aHHD is a well-regarded modality but remains underdeveloped in Spain. Standardized protocols and increased public system support are needed to promote its expansion and prevent caregiver overload.

P-141 – Application of Nutritional Ultrasound in Peritoneal Dialysis Patients

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OBJECTIVES

The aim of this study is to assess the diagnostic accuracy of nutritional ultrasound (NU) for sarcopenia.

METHODS

A retrospective analysis was conducted using NU in prevalent peritoneal dialysis (PD) patients (2023-2024). Patients with cardiorenal syndrome were excluded. Sarcopenia was diagnosed according to EWGSOP2 (reduced handgrip strength and appendicular skeletal muscle mass index [ASMI]). NU (measurement of quadriceps rectus femoris (QRF) and adipose tissue) was performed following standardized protocols.

RESULTS

A total of 59 patients were analyzed, with a mean age of 64.2 years. The average time on PD was 1.5 years (SD2.2). 33.9% were diabetic, 86.4% had hypertension, and 20.3% had ischemic heart disease (IHD). The mean Y-axis of QRF was 11.14mm, and QRFarea was 3.5cm². Adipose tissue in the thigh and abdomen were higher in women, except for preperitoneal visceral adipose tissue (PPT) (Table1). Patients with IHD had lower Y-axis (11.6 vs. 9.47 mm, p = 0.008) and PPT (5.4 vs. 3.7 mm, p = 0.01). The Y-axis correlated with lean tissue index (LTI), phase angle, and ASMI (p < 0.001), and subcutaneous fat in the thigh and abdomen with fat tissue index (FTI) (p < 0.001), but not with PPT. The QRF area and QRF/height ratio correlated with LTI, phase angle, and ASMI (p < 0.001). We classified 15.3% of the patients as sarcopenic. The Y-axis cutoff point ≤ 10.22 mm showed good discrimination for sarcopenia (AUC=0.77). This cutoff point remained applicable for men, but not for women. For reduced ASMI, the cutoff for men was Y-axis ≤ 10.21 mm (AUC=0.83), and for women, Y-axis ≤ 9.06 mm (AUC=0.83).

CONCLUSIONS

NU has excellent discriminative capacity for detecting sarcopenia. Patterns differ between sexes, although further studies are needed to define specific cutoff points.

	Women	Men	Total	p
n	23	36	59	
Age	60.1 (SD 14.7)	66.9 (SD 13.0)	64.2 (SD 14.0)	0.08
APD (%)	77.27	63.89	68.97	0.285
RRF (ml/min/1,73 m ²)	5.9 (SD 2.8)	5.3 (SD 3.1)	5.5 (SD 3.0)	0.455
Kt/V	2.6 (SD 0.6)	2.3 (SD 0.5)	2.4 (SD 0.6)	0.118
nPCR (g/kg/D)	0.98 (SD 0.2)	0.96 (SD 0.3)	0.97 (SD 0.2)	0.789
Handgrip (kg)	22.9 (SD5.6)	30.5 (SD 8.5)	27.5 (SD 8.4).	<0,001*
Reduced Handgrip (%)	8.7	30.6	22.0	0.05
ASMI (Kg/m ²)	5.80 (SD 1.20)	6.96 (SD 0,9)	6.51 (SD 1,17)	<0,001*
Sarcopenia (%)	4.4	22.2	15.3	0.063
Reduced ASMI (%)	39.13	52.78	47.46	0.306
Nutritional Ultrasound				
Quadricep Rectus Femoris				
Y-axis (mm)	10.8 (SD 2,7)	11.345 (SD 3.2)	11.1 (SD 3.0)	0.5
X-axis (mm)	32.5 (SD 8,1)	38.34 (SD 6.5)	36.1 (SD 7.7)	0.003*
Y-axis _{Height} (mm/m ²)	4.3 (SD 1.2)	3.8 (SD 1.1)	4.0 (SD 1.2)	0.162
X-axis _{Height} (mm/m ²)	12.7 (SD 3.1)	12.9 (SD 2.1)	12.8 (SD 2.5)	0.765
QRF area	3.0 (SD 1.2)	3.8 (SD 1.3)	3.5 (SD 1.4)	0.014*
QRF area _{height} (Cm ² /m ²)	1.2 (SD 0.5)	1.3 (SD 0.4)	1.2 (SD 0.5)	0.318
Thigh subcutaneous fat (mm)	11.8mm (SD 4.3)	6.2 (SD 2.2)	8.4 mm (SD 4.2)	<0,001*
Ultrasound of the abdominal area				
Total subctaneous adipose tissue (mm)	18.1 (SD 7.4)	11.79 (SD 5.2)	14.3 mm (SD 6.84)	<0,001*
Superficial subcutaneous adipose tissue (mm)	8.1 (SD 3.5)	5.87 (SD 3.4).	6.8 mm (SD 3.56)	0.019*

Preperitoneal visceral adipose tissue (mm)	5.1 (SD 2.3)	5.1 (SD 3.9)	5.1 (SD 3.3)	0.92
Body Composition				
LTI (kg/m ²)	12.0 (SD 2.7)	13.9 (SD 2.8)	13.1 (SD 2.9)	0.01*
FTI (kg/m ²)	12.5 (SD 6.3)	9.8 (SD 3.9)	10.8 (SD 5.1)	0.07
Phase angle 50 Hz	4.7 (SD 0.9)	4.7 (SD 1.0)	4.7 (SD 1.09)	0.89
Laboratory parameters				
Albumin (g/dl)	3.8 (SD 0.4)	3.8 (SD 0.4)	3.8 (SD 0.4)	0.997
Prealbumin (mg/dl)	31.0 (SD 8.6)	31.2 (SD 10.2)	31.1 (SD 9.5)	0.956
Phosphorus (mg/dl)	5.0 (SD 1.3)	5.4 (SD 1.0)	5.2 (SD 1.19)	0.215
Total cholesterol (md/dl)	148.2 (SD 36.9)	128.6 (SD 22.5)	136.2 (SD 30.2)	0.03*
LDL (md/dl)	73.0 (SD 30.4)	61.4 (SD 19.6)	65.9 (SD 24.8)	0.111

Table 1: Nutritional ultrasound values, laboratory parameters, and bioelectrical impedance analysis (BIA) stratified by sex.

PD: peritoneal dialysis; DM: diabetes mellitus; HTN: hypertension; IHD: ischemic heart disease; QRF: quadriceps rectus femoris; PPF: preperitoneal fat; LTI: lean tissue index; FTI: fat tissue index; ASMI: appendicular skeletal muscle mass index; SD: standard deviation; APD: automated peritoneal dialysis; RRF: residual renal function; nPCR: normalized protein catabolic rate. * p < 0.05.

P-142 – Nutritional Ultrasound: Sonographic Monitoring of Muscle Mass and Adipose Tissue in Peritoneal Dialysis (PD)

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OBJECTIVES

Patients on PD are exposed to pathological processes that may worsen their nutritional status and functionality. The aim of this study is to evaluate changes in muscle mass and adipose tissue through nutritional ultrasound (NU)

METHODS

A retrospective study was conducted with a 6-month follow-up using NU (measurement of the quadriceps rectus femoris (QRF) and adipose tissue) and bioimpedance (BIA), laboratory tests, FRAILscale, and the Short Physical Performance Battery (SPPB) functional test in prevalent PD patients.

RESULTS

Out of 59 patients with a mean age of 64.2 years (SD14.0), 40 completed a second evaluation. Reasons for not having a second evaluation: 47.37% were transplanted, 15.79% switched to hemodialysis (HD), 5.26% switched to Home-hemodialysis (HHD), and 31.58% remained on PD but had not yet completed the second evaluation. After 6 months, handgrip values were maintained, functional capacity remained stable, and there was an improvement in the frailty scale (1.3 vs 1.0, $p=0.032$), Y-axis (10.4vs11.7 mm, $p=0.002$), and QRF area ($p=0.030$). No significant differences were observed in the X-axis, phase angle, lean tissue index (LTI), or Malnutrition Inflammation Score (MIS). When comparing first and second evaluations, those with a second evaluation showed significantly higher Y-axis values (12.62 vs 10.44 mm, $p=0.008$). Regarding adipose tissue, there was an increase in the fat tissue index (FTI) (11.1 vs 12.1, $p=0.001$) and subcutaneous fat in the thigh (8.7 vs 9.5mm, $p=0.025$). However, no differences were found in abdominal subcutaneous adipose tissue (total or superficial) or pre-peritoneal visceral adipose tissue. The remaining parameters are summarized in Table 1.

CONCLUSIONS

In our cohort, NU allowed us to detect changes in muscle mass and adipose tissue in prevalent PD patients, with an increase in FTI. There was an improvement in frailty, and functional capacity was maintained.

P-143 – Peritoneal Protein Loss (PPL): Is It Associated with Sarcopenia in Patients on Peritoneal Dialysis (PD)?

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OBJECTIVES

Peritoneal protein loss (PPL) ranges from 2 to 15g/day. Our objective was to analyze the association between PPL and sarcopenia.

METHODS

We conducted an observational study in prevalent PD patients, with a minimum follow-up period of 6 months. We collected clinical, efficacy, laboratory, and nutritional parameters, along with frailty status (FRAIL scale), malnutrition risk (Malnutrition Inflammation Score, MIS), peritoneal and urinary protein losses. Disability risk was assessed using the Short Physical Performance Battery (SPPB). Patients were classified as at risk of sarcopenia according to reduced handgrip strength and appendicular skeletal muscle mass index (ASMI), following the EWGSOP2 criteria.

RESULTS

We evaluated 40 patients with an average time on PD of 1.67 years (SD 2.48). 55% were male, 67.5% were on automated peritoneal dialysis (APD), and 35% were diabetic. Sarcopenia was present in 25% of patients, 15 were non-frail, 23 pre-frail, and 2 frail. Sarcopenic patients had lower residual renal function (RRF): 2.5 (SD 3.2) vs. 5.4 (SD 3.1) mL/min/1.73m², $p = 0.02$. Mean PPL was 6g/day (SD 2.52). No significant associations were found between PPL and peritoneal transport type or PD modality (CAPD vs. APD). Diabetic patients had significantly higher peritoneal transport rates: 0.72 (SD 0.079) vs. 0.65 (SD 0.08). Mean PPL was 5.18 g/day (SD 2.83) in the lowest tertile and 6.99 g/day (SD 2.67) in the highest tertile. Women had lower PPL compared to men: 5 g/day (SD 1.91) vs. 6.75 g/day (SD 2.76), $p = 0.04$. Greater frailty was associated with higher PPL: mean 10.95 g/day (SD 3.74) in frail vs. 6.55 (SD 2.21) in pre-frail vs. 4.6 (SD 1.7) in non-frail patients. A negative correlation was found between PPL and serum albumin ($r = -0.36$), and between frailty and SPPB score ($r = -0.7$).

CONCLUSIONS

We found a positive correlation between PPL and frailty, and negative correlations with serum albumin and SPPB score.

P-144 – Is Your Pet a Potential Killer? A Case of Pasteurella Multocida Peritonitis in A Peritoneal Dialysis Patient

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OBJECTIVES

Pasteurella multocida is a Gram-negative opportunistic pathogen, that can cause rare peritonitis in patients undergoing peritoneal dialysis (PD), who have contact with cats and dogs (1-5).

METHODS

Our patient, a 54-year-old woman who had a dog and a cat, started PD because of kidney failure related to bilateral thrombosis of the renal arteries. Her APD program was on 5 days, with 15 Liters of 1.36% bags, a first dwell of 2000cc, and a last dwell of 800cc of isotonic solution during the day.

RESULTS

After one year of therapy she developed abdominal pain, vomiting and diarrhoea, associated with a cloudy effluent, and a leucocyte count of 17057/mm³ in peritoneal fluid. Her blood test showed leucocyte blood count of 5290/mm³, and a PCR of 10.7 mg/dl. She was put on CAPD and started an empiric antibiotic therapy with intraperitoneal cefotaxime for 14 days, according to our Centre protocol (6). The peritoneal fluid culture grew for *Pasteurella multocida*. Upon discharge from hospital the patient has a normal leucocyte counts in peritoneal fluid, negative PCR and three negative peritoneal culture. One week later, she developed a relapsing (6) *Pasteurella multocida* peritonitis. She was put on intraperitoneal cefotaxime and oral ciprofloxacin. We did an upper airway swab to both animals and the cat resulted positive for *Pasteurella multocida*: we treated both the patient and her pets with the same antibiotics, according to veterinary opinion. After 14 days of therapy the patient remained negative, in the subsequent follow up she has not new peritonitis and was successfully transplanted five months later.

CONCLUSIONS

In Italy in 2023 there were about 65 million of pets, approximately 4.7 million more dogs and cats than before the pandemic. About 40% of families own at least one pet (7), therefore prevention strategies of zoonotic infection must be included in peritoneal dialysis (PD) training.

P-145 – Immersive Innovation in Peritoneal Dialysis: A Dual-Theory Evaluation of Virtual Reality – Based Clinical Training in Challenging Contexts

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OBJECTIVES

Timely and competent peritoneal dialysis (PD) catheter insertion remains a clinical barrier in many regions where PD is underutilised. This mixed-methods study evaluated a bespoke Virtual Reality (VR) training tool for PD catheter insertion, applying two complementary frameworks: the Technology Acceptance Model (TAM) and Kolb's Experiential Learning Theory (ELT). Together, they provided both behavioural and pedagogical lenses to address deficits in clinician confidence and procedural training access.

METHODS

Fifty-three renal clinicians participated in a structured survey measuring current PD training exposure, guideline familiarity, and openness to immersive learning. Fifteen multi-professional stakeholders; including nephrologists, PD nurses, and educators, engaged in qualitative interviews evaluating the VR prototype.

- TAM constructs—Perceived Usefulness (PU), Ease of Use, and Behavioural Intention were assessed pre- and post-exposure.
- VR content was intentionally designed to align with Kolb's four-stage experiential cycle: Concrete Experience, Reflective Observation, Abstract Conceptualisation, and Active Experimentation. A conceptual framework diagram (Figure 1) illustrates the integration of TAM and Kolb's theory, showing how immersive VR serves as a bridge between theory, user acceptance, and clinical skill development.

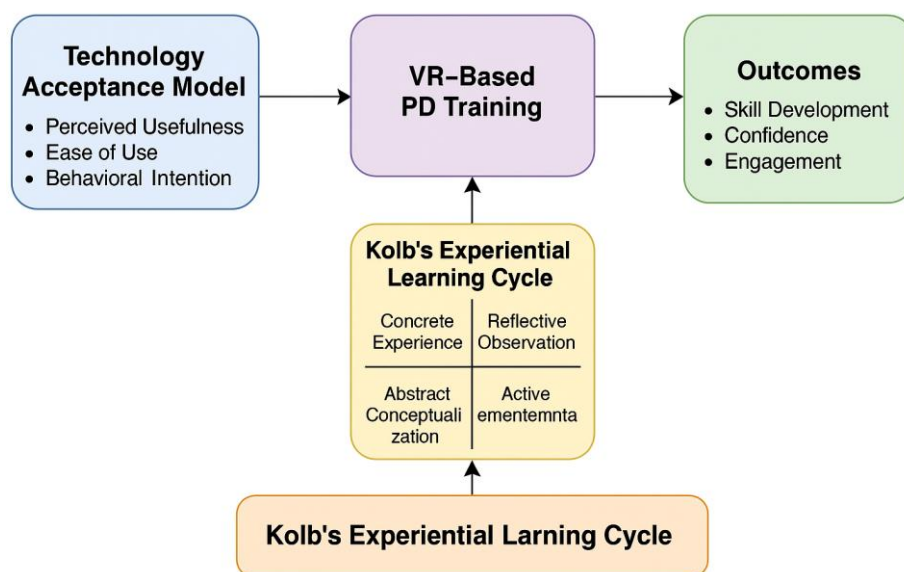


Figure 1: Integrated Model of TAM and Kolb's ELT in Immersive PD Training.

RESULTS

PU scores improved significantly post-training (mean increase from 3.2 to 4.6; $p < 0.001$). 85% of clinicians reported an intention to adopt VR tools in clinical training. Thematic analysis revealed enhanced procedural confidence, realism, and learner engagement, especially in settings lacking access to specialist-led workshops.

CONCLUSIONS

This is the first study to integrate TAM and Kolb's learning theory in evaluating immersive training for PD catheter insertion in real-world, resource-challenged clinical contexts. VR proved a safe, repeatable, and pedagogically robust tool to address key training barriers. Immersive education technologies can significantly improve clinical readiness and widen equitable access to PD where conventional training infrastructure is limited. This work directly supports the EuroPD 2025 theme "Widening Horizons in Dialysis" by demonstrating how innovation and educational theory can transform the future of nephrology training.

P-146 – A Case Report of a Diabetic Nephropathy Patient with Cirrhotic Ascites and HIV Recommended for Peritoneal Dialysis

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OBJECTIVES

One of the most common and serious complications of type I Diabetes Mellitus (T1DM) is diabetic nephropathy. Diabetic nephropathy is an established cause of chronic kidney disease (CKD), other comorbid conditions, particularly chronic viral infections such as HIV and hepatitis C can significantly impair kidney function. In patients with an HIV infection, chronic inflammation and dysregulation in immune mediators can significantly contribute to kidney damage, often manifesting as HIV-associated nephropathy (HIVAN).

METHODS

A 46 year old male was admitted to the UMC hospital because of anuria, abdominal fullness, hypotension, exertional dyspnea, and peripheral edema. He was diagnosed with type 1 diabetes mellitus in 2007 and hypertension stage 3 in 2019. Furthermore, in 2020, he was found to have liver cirrhosis as a result of chronic hepatitis C infection, and tested positive for an HIV infection. In 2023 his blood results revealed azotemia. In April 2024 GFR was detected to be 27 ml/min. In August 2024 he was admitted to the ICU for acute decompensation, presenting with reduced urination, worsening of edema, nausea, and vomiting. Lab analysis results showed increased creatinine 587µmol/L, azotemia 38mm/L, hyperkalemia 7.2 and metabolic acidosis pH 7.181. Based on these clinical findings and anuria, he received 10 sessions of hemodialysis during his hospitalization. In September 2024, he was admitted on a planned basis to UMC for the insertion of a PD catheter. Upon admission, physical examination showed ascites, peripheral edema, and jaundice. Laboratory studies demonstrated hemoglobin of 84 g/L, MCH of 28.10 pg, RBC of 2.99x10¹²/L, and platelets of 94.0x10¹²/L. Biochemistry analysis depicted a creatinine of 378.70 µmol/L, urea of 14.40 mmol/L, CRP of 23.80 mg/L, and albumin of 30 g/L. His electrolytes were as follows: sodium - 134 mmol/L, potassium - 4.40 mmol/L, total calcium - 2.10 mmol/L, ionized calcium - 1.01 mmol/L, magnesium - 0.89 mmol/L and phosphate - 2.01 mmol/L.

RESULTS

In order to address his hypervolemia and electrolyte derangements, continuous renal replacement therapy was performed with ultrafiltration at the rate of 500 ml/hour and anticoagulation using heparin (1000 IU/hour). Additionally, 20% albumin infusion was administered to manage his hypoalbuminemia (albumin level 26 g/L) which was contributing to his hypervolemia. Due to his worsening anemia (hemoglobin level 56 g/L), he received a transfusion with two doses of packed RBCs, along with epoetin beta. Furthermore, to reduce his risk of bleeding from thrombocytopenia (56x10⁹/L), he underwent platelet transfusion twice. Insertion of the PD catheter was performed via laparotomy under general anesthesia. Upon entering the abdominal cavity, a large amount of clear ascitic fluid was observed and 5 liters were aspirated. The patient then began PD: Physioneal 2.27% - 1.36%, 4-hour dwell cycle, and a fill volume of 1500 mL per exchange.

CONCLUSIONS

While PD is generally avoided in patients with cirrhosis and ascites due to the fear of higher risk of complications, current research indicates that this may not be the case. Thrombocytopenia and hemodynamic instability in these patients might even make PD the better choice. In our case report, we have presented a patient with a unique set of comorbidities who successfully underwent the initiation of PD.

P-147 – Monitoring The Dialysate of Peritoneal Dialysis Patients Using Online Optical Measurement Methods

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OBJECTIVES

Peritoneal dialysis as CAPD or APD is a simple procedure for the treatment of patients with chronic renal insufficiency. Technical possibilities for online monitoring of therapy effectiveness are limited. An important sign of changes or problems is discoloration of the eluate; a cloudy or even yellowish purulent eluate can be a sign of peritonitis. Blood may also be present. Early detection of changes in the leaking dialysate is an important part of monitoring and early diagnosis.

METHODS

We have established an optical measurement of the turbidity and color of the eluate and integrated this into a tubing clip. Changes in the eluate can thus be detected in a standardized way. Initial tests on patients have so far shown a comparable sensitivity in the detection of turbid dialysate and a more sensitive detection of color differences. While changes in turbidity can be a sign of an incipient infection, changes in the color of the dialysate are rather unspecific and also more difficult to classify in the individual course.

CONCLUSIONS

Further studies on the clinical applicability of the procedure are in preparation. In principle, it would also be possible to control the dialysate flow rate and dwell times during automated peritoneal dialysis. This will be presented as a concept.

P-148 – Leukopenia and Neutropenia Associated with Extraneal: A Case Report

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OBJECTIVES

The use of biocompatible solutions such as Extraneal is widely extended due to their lower concentration of glucose degradation products (GDPs), advanced glycation end products (AGEs), and their ultrafiltration capacity, which is especially useful in anuric patients. Adverse events related to its use have been reported, such as skin reactions, hyponatremia, altered glucose measurements, chemical peritonitis, and eosinophilia, among others. We present a rare adverse event associated with its use: leukopenia and neutropenia.

METHODS

This is the case of a 70-year-old male with a medical history of hypertension, poorly controlled type 2 diabetes mellitus, dyslipidemia, obesity, and chronic kidney disease attributed to a clustering of cardiovascular risk factors. Renal replacement therapy with peritoneal dialysis was started in May 2024. After one week of PEN regimen use, routine testing revealed leukopenia (2,600/mm³) and neutropenia (450/mm³). Possible causes were investigated: no recent pharmacological changes were found, but the patient had a mild dental infection, which was initially considered the origin. He received a course of antibiotics with Augmentin, with no impact on the resolution of leukopenia.

RESULTS

Toxicity from Extraneal was considered, given previously reported hematological adverse effects. Upon its discontinuation, the white blood cell count completely normalized. Two weeks after normalization, Extraneal was reintroduced to confirm this possible adverse event. Six days after restarting, a new blood test again showed leukopenia and neutropenia, similar to the initial findings, leading to the definitive discontinuation of Extraneal. A labeled leukocyte scintigraphy was performed, ruling out peritoneal sequestration.

CONCLUSIONS

Leukopenia and neutropenia are adverse effects of Extraneal not described in the literature, but the absence of evidence does not exclude the possibility. In our case, the event appeared after exposure, resolved upon withdrawal, and recurred with re-exposure. The adverse event was reported to Baxter (currently Vantive) and to the Spanish Agency for Medicines and Medical Devices (AEMPS).

P-149 – The Impact of Pre-Transplantation Nephrectomy in ADPKD Patients on Peritoneal Dialysis: a Single-Center Experience

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OBJECTIVES

ADPKD, the most common hereditary kidney disease, is the 4th leading cause of kidney replacement therapy (KRT). Although peritoneal dialysis (PD) is a feasible option, kidney transplantation is preferred. Pre-transplant nephrectomy is often needed due to space constraints and may compromise PD by reducing residual function or injuring the peritoneum. To assess the impact of pre-transplant nephrectomy timing on residual diuresis and need for hemodialysis and to evaluate the role of peritoneal laceration in these outcomes

METHODS

We performed a single-center retrospective study of ADPKD patients on PD who underwent pre-transplant nephrectomy between 2009 and 2024. Residual diuresis was measured at nephrectomy referral and at transplantation. Patients were classified by nephrectomy timing: early (≥ 12 months) and late (< 12 months).

RESULTS

Twenty-four patients were included. Median residual diuresis at the time of nephrectomy referral was 1500 mL. Complications occurred in 12 patients: 9 (37.5%) had peritoneal laceration, 2 (8.3%) developed peritoneal leak, and 1 (4.2%) hemoperitoneum. After nephrectomy, 3 patients (12.5%) required permanent hemodialysis, 7 (29.2%) needed temporary hemodialysis, and 6 (25.0%) resumed PD but later switched due to inadequate efficacy. Median time to transplant was 20.5 months. Residual urine output decreased significantly to 350 mL at transplantation ($p < 0.0001$). Early nephrectomy was associated with lower diuresis at transplant (200 vs. 750 mL; $p = 0.021$) and more frequent hemodialysis (6 vs. 0; $p = 0.039$). ABO group distribution was similar between groups. Peritoneal laceration was associated with worse outcomes: increased temporary hemodialysis (8 vs. 0; $p < 0.001$) and lower diuresis at transplant (100 vs. 500 mL; $p = 0.002$).

CONCLUSIONS

Timing of nephrectomy in PD patients with ADPKD influences residual function and dialysis outcomes. Timing should be individualized, considering factors like ABO blood group and expected waiting time, as it directly impacts dialysis trajectory and patient outcomes.

P-150 – Dry Versus Wet Day in Patients on Automated Peritoneal Dialysis: Ultrafiltration Evaluation Based on Continuous Monitoring Cycle-By-Cycle

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OBJECTIVES

Peritoneal ultrafiltration is influenced by numerous factors and remains difficult to predict. Remote continuous monitoring (RCM) of patients undergoing automated peritoneal dialysis (APD) offers a new, valuable opportunity to examine ultrafiltration cycle-by-cycle. We analysed ultrafiltration data from APD patients with RCM.

METHODS

Ultrafiltration was analysed in two groups of patients: 1) without daytime fluid exchange (dry-day, n = 64) and 2) with daytime exchange (wet-day, n = 15). Age (63±14 vs. 62±18 years), percent of males (55% vs. 73%), body mass index (25±5 vs. 26±5 kg/m² and dialysate-to-plasma concentration ratio of creatinine from peritoneal equilibration test (PET D/P: 0.64±0.13 vs. 0.61±0.09) did not differ between groups (all p≥0.05). Ultrafiltration for each APD exchange was recorded for 29±3 days and the mean values for each patient were used for further evaluation.

RESULTS

Values (mL) for dry-day and wet-day groups were as follows - nightly: 748±475 vs. 1209±554 (p<0.01), daily: 38±45 vs. -321±236 (p<0.001) and total peritoneal ultrafiltration: 786±487 vs. 888±502 (p=0.469); diuresis: 910±731 vs. 243±364 (p<0.01) and 24-hour water removal: 1696±596 vs. 1131±545 mL (p<0.01), respectively. During the first night cycle, dry-day patients had negative ultrafiltration (-58±148 mL) while it was positive (169±149 mL, p<0.001) in wet-day patients. During the second night cycle, ultrafiltration was also lower in dry than in wet-day patients (166±121 vs. 249±132, p<0.05). Consecutive night cycles (from 3 to 6) did not differ between the groups. All cycles showed high variability of ultrafiltration.

CONCLUSIONS

Utilizing the APD-RCM system, this exploratory study revealed a significant difference in ultrafiltration between dry and wet-day patients. Notably, dry-day was associated with negative and lower ultrafiltration during the first and second night cycle, respectively. Potential explanations for this observation include interstitial dehydration, enhanced lymphatic drainage, reduced aquaporin activity or increased glucose uptake (compare Stachowska-Pietka et al, Sci Rep 2021).

P-151 – Taurolidine-Citrate-Heparine Catheter Locks Help to Prevent Relapsing Peritonitis Caused by Staphylococcus Spp, Pseudomonas Sp, Acinetobacter Sp. One Peritoneal Dialysis Center Experience

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OBJECTIVES

Relapsing peritonitis is defined as reinfection by the same pathogen or sterile peritonitis that occurs within 4 weeks of completion of the first episode treatment. Current ISPD guidelines indicate catheter removal and temporary haemodialysis conversion or simultaneous reimplantation along with antibiotic course as a treatment of choice.

METHODS

This is due to bacterial adhesions and their extracellular matrix which create a therapeutic-resistant biofilm on the catheter surface. The taurolidine-citrate-heparin (Taurolock-HEP 500 by TauroPharm GmbH) has been proven to prevent haemodialysis catheters from bacterial burden and occlusion.

RESULTS

In our Peritoneal Dialysis Division, we have created a protocol in case of relapsing peritonitis. It was applied in 3 patients with the relapse caused by 3 different bacteria: Staphylococcus aureus, Pseudomonas spp. And Acinetobacter baumannii. After the targeted treatment according to ISPD Guidelines had been completed, 8 catheter locks of 5 ml unsoluted Taurolock-HEP 500 for 8-12 hours were given twice a week. In all patients treated according this protocol, we have observed no next relapsing or recurrent peritonitis.

CONCLUSIONS

In case of clinically non-dramatic relapsing peritonitis, it is worth to consider such a Taurolock routine before catheter removal.

P-152 – Acute Asymptomatic C-Reactive Protein Elevations Predict Short-Term Adverse Events in Peritoneal Dialysis Patients

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OBJECTIVES

C-reactive protein (CRP) is a well-established marker of inflammation, increasing in response to both acute and chronic inflammatory conditions. While the long-term effects of chronic CRP elevation have been extensively studied in dialysis patients, the prognostic significance of acute, asymptomatic CRP elevations in these individuals remains unclear. This study aimed to determine whether acute, asymptomatic increases in CRP levels could predict short-term adverse events in patients undergoing peritoneal dialysis (PD).

METHODS

Cases of acute serum CRP elevation observed during routine PD patient visits, in the absence of clinical signs of inflammation or infection, were collected. Follow-up analyses were conducted to assess the occurrence of adverse events within one month following the CRP elevation.

RESULTS

CRP elevations associated with adverse events in the subsequent month were significantly higher than CRP elevations without adverse events: for any event - 58.97 ± 58.29 mg/l versus 31.67 ± 24.57 mg/l ($p=0.004$), for severe event - 70.28 ± 62.26 mg/l versus 31.16 ± 24.67 mg/l ($p=0.001$), for peritonitis - 54.95 ± 28.28 mg/l versus 37.81 ± 39.96 mg/l ($p=0.024$), and for hospitalization - 81.03 ± 72.27 mg/l versus 35.79 ± 32.91 mg/l ($p=0.010$). Acute CRP elevations above 50 mg/L were strongly associated with increased risk of short-term adverse events: Odds ratio (OR) was 3.119 ($p=0.004$) for any event, 4.727 ($p=0.000$) for severe event, 3.091 ($p=0.038$) for PD-related peritonitis, 5.023 ($p=0.017$) for hospitalization. Receiver operating characteristic (ROC) curve analysis demonstrated AUC 0.737 (95% CI: 0.606–0.869, $p=0.007$) PD-related peritonitis, 0.771 (95% CI: 0.639–0.902, $p=0.005$) for hospitalization and 0.768 (95% CI: 0.664–0.873, $p<0.001$) for severe adverse event. Multivariate analysis confirmed that CRP levels above 50 mg/L independently predicted short-term adverse outcomes: OR was 2.769 ($p=0.016$) for any event and 4.065 ($p=0.002$) for severe adverse event.

CONCLUSIONS

Acute serum CRP elevations exceeding 50 mg/L in asymptomatic PD patients are strongly associated with an increased risk of short-term adverse events, including hospitalization and PD-related peritonitis. These findings suggest that routine CRP monitoring during follow-up visits may help identify patients at higher risk and facilitate timely interventions.

P-153 – Determining The Prognostic Nutritional Index (PNI) In Predicting Mortality in Patients On Peritoneal Dialysis

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OBJECTIVES

Malnutrition is a very serious problem for dialysis patients, especially for patients treated with peritoneal dialysis (PD). The prognostic nutritional index (PNI) indicates nutritional-inflammatory status, and lower values potentially predicting poorer outcomes in various diseases. The aim of our study was to determine the association between PNI and mortality in patients treated with PD.

METHODS

The study included a group of 58 patients with end-stage renal disease treated with PD (average age was 53.79 ± 14.64 years, 31 (54%) were female and 27 (46%) male). In addition to basic clinical and biochemical parameters, we determined the PNI for each patient ($PNI = 10 \times \text{serum albumin (g/dL)} + 0.005 \times \text{total lymphocyte count (/mL)}$, cut-off value for $PNI < 49.0$).

RESULTS

In patients treated with PD, the average BMI was 26.16 ± 5.86 . CRP 20.36 ± 33.12 , Hb 101.94 ± 12.72 , glucose 6.26 ± 3.89 , albumin 36.18 ± 4.91 , cholesterol 4.73 ± 1.12 , triglycerides 1.76 ± 0.84 , and the average PNI 35.73 ± 5.73 . During the follow-up of patients with PD (56.43 ± 37.83 months, range from 7 to 144 months), lethal outcome was recorded in 41.37% (24) of patients. Patients with an unfavorable outcome had a PNI of 35.41 ± 5.21 , and a statistically significant correlation was observed for PNI with BMI ($r = 0.5832$, $p < 0.000$), age ($r = 0.439$, $p < 0.001$), glucose ($r = 0.444$, $p < 0.001$) and with residual diuresis ($r = 0.471$, $p < 0.000$).

CONCLUSIONS

Our results indicate that PNI are generally lower in PD patients. They also suggest that initial attention should be paid to the nutritional status of PD patients, especially in older groups, with lower BMI values and lower residual diuresis.

P-154 – IL-17 Contributes to Peritoneal Vascularization by Stimulating VEGF Production by Mesothelial Cells Via IL-6 Trans-Signaling

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OBJECTIVES

Vascular endothelial growth factor (VEGF) a key mediator of adverse angiogenesis and peritoneal membrane remodeling during peritoneal dialysis (PD). The effect of interleukin 17 (IL-17) on peritoneal vasculature and VEGF synthesis has long been postulated but not been fully characterized yet. Here, we have examined the mechanisms by which IL-17 modulates VEGF production by human peritoneal mesothelial cells (HPMCs).

METHODS

Peritoneal biopsies from PD patients were obtained from the International Peritoneal Biobank and analyzed by immunohistochemistry. HPMC were isolated from normal non-uremic human omentum. VEGF mRNA and protein levels were measured by RT-qPCR and ELISA, respectively. The involvement of transcriptional factors was assessed by transient transfections with VEGF promoter constructs, EMSA, ChIP, and siRNA silencing.

RESULTS

Although expression of IL-17 in peritoneum of PD patients was scarce, its expression level correlated significantly with more abundant expression of IL-6 and VEGF, and with the density of CD31-positive microvessels. Since HPMC are the main source of both IL-6 and VEGF in the peritoneum, and can respond to IL-17, the effects of IL-17 on IL-6 and VEGF production by HPMC were analyzed. IL-17 was found to stimulate the expression and secretion of IL-6, but not VEGF. However, when combined with soluble IL-6 receptor (sIL-6R), IL-17 increased VEGF gene promoter activity, VEGF mRNA expression and VEGF protein release, suggesting that the effect is mediated through IL-6 trans-signaling involving the complex of IL-6+sIL-6R. This was confirmed when the effect of IL-17+sIL-6R was abolished by IL-6 suppression. Moreover, we found that the effect of IL-17+sIL-6R was controlled by transcription factors STAT3, AP-1, and NF-κB. Interestingly, NF-κB activated in response to IL-17+sIL-6R induced also IL-6 mRNA expression.

CONCLUSIONS

IL-17 contributes to VEGF production in HPMC by inducing IL-6, which acts together with sIL-6R to stimulate VEGF synthesis through a mechanism controlled by STAT3, AP-1, and NFκB. This complex signaling axis explains the association between IL-17 expression and peritoneal vascularization, even though there is no direct effect of IL-17 on VEGF production.

P-155 – Related Factors with A Quality Indicator in Home Hemodialysis (HDD): Days with Native Access Versus Total HDD Days

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OBJECTIVES

Native vascular access is a priority in our HDD unit. We improve our practice analysing the results and factors involved and creating a quality indicator.

METHODS

Retrospective analysis of demographic and clinical variables in HDD trained patients since 2022. N = 25
We designed a quality indicator: proportion of days with native vascular access (NVA) relative to total days on HDD and its related factors.

RESULTS

We examine 25 patients: men 76%, mean age 63.2 years.
Mostly affected by polycystic kidney disease 24%. 32% had cardiovascular disease, 36% diabetic and Body Index Mass 28,28 mean. Despite high comorbidity (Charlson score 6.68) still employed 32%. Although not very frail with Frailty Index VIG 0.16 (mean), 40% required caregiver assistance particularly for connecting a central venous catheter (spouse 80%)
Mean time on HDD:267 days. HDD termination: kidney transplant 33,4%, transfer to dialysis centre 41,6% especially for visual impairment ,*exitus* 25%. Majority of patients start HDD with NVA :72% (radiocephalic 77,7%) but in some NVA was converted to catheter. We created a quality indicator: proportion of days with NVA relative to total days on HDD: out of every 100 days of HDD, 78 were days with a NVA in our patients. The Frailty Index VIG was significantly related to that indicator after adjusting for other covariates such as age, sex, Charlson score, cardiovascular disease, or obesity in a linear regression model with logit transformation (P=0.044) with Beta<0.

CONCLUSIONS

Guidelines recommend native fistula in home haemodialysis; its use should be a quality indicator. In our unit, the proportion of days with a NVA is high: 78 of 100 days on HDD. Frailer patients would have a worse proportion due to their clinical conditions.

P-156 – Effect Of Peritoneal Fluid Buffers on The Kinetics of Ions and Acid-Base Regulation During Peritoneal Dialysis

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OBJECTIVES

In peritoneal dialysis patients, metabolic acidosis is controlled by buffers added to the dialysis fluid, which replenishes the natural buffer system, influencing local and systemic electrolyte and acid–base balance in the patient’s fluids. We investigated the impact of buffer composition on the kinetics of ions and the acid-base regulation in plasma and peritoneal fluid during peritoneal dwells.

METHODS

Paired four-hour dwell studies were performed in six dialysis patients using 3.86% glucose solution containing either BL (25 mmol/L bicarbonate, 15 mmol/L lactate) or L (40 mmol/L lactate) buffer. ¹³¹I-albumin was used as volume marker; multiple samples were taken during dwell studies. Plasma and dialysate concentration of small neutral solutes (urea, creatinine, glucose), electrolytes (sodium, potassium, chloride, phosphate, bicarbonate, lactate), and pCO₂ and pH were measured.

RESULTS

Water removal, as well as the removal of non-electrolytes, chloride and potassium were similar in BL and L solutions, whereas significant ($p < 0.05$) differences were found in dialysate levels of bicarbonate, lactate, pCO₂ and pH (all $p < 0.05$ except pCO₂ and pH at $t = 240$ min) related to the difference in fresh dialysis fluid composition. For BL, a decrease of pCO₂ and bicarbonate concentration in dialysate (solute dip) was found during the initial hour, probably due to dilution by ultrafiltered water. Plasma concentrations of electrolytes and non-electrolytes, as well as the kinetics of dialysate-to-plasma ratio (D/P) for neutral solutes, potassium (except $t = 240$ min) and phosphate, were similar between solutions. Differences between fluids in D/P for pCO₂, pH and bicarbonate disappeared after four hours. Initial tendency for difference in D/P for sodium and chloride ($p < 0.08$) disappeared after first hour. The ratio of dialysate concentration to the initial concentration (D/D₀) for glucose and lactate were similar between fluids.

CONCLUSIONS

In addition to expected initial changes in bicarbonate, lactate, pCO₂ and pH levels, buffer composition of dialysis fluid did not significantly influence kinetics of electrolytes.

P-157 – Baseline Urinary Osmolality and Systemic Immune Inflammation Index Correlate with Mortality in A Cohort Of 41 Patients on Peritoneal Dialysis

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OBJECTIVES

Residual kidney function (RKF) decline and mortality are two important parameters in peritoneal dialysis patients. In this study we analysed the role of baseline fasting urinary osmolality and systemic immune inflammation index (SII) and their correlation with the two above-mentioned variables.

METHODS

We collected data regarding 41 patients on peritoneal dialysis in our center, followed-up for up to 10 months with blood and urine examinations (also 24h urine collection) every two months. The analysis comprehended also the routine laboratoristic examinations of peritoneal dialysis patients. The statistical analysis was performed with SPSS.

RESULTS

Our analysis showed a positive correlation between baseline urinary osmolality and mortality ($p = 0.045$) and between baseline SII and mortality ($p = 0.039$); SII was also positively associated with peritonitis rate ($P = 0.001$), whereas urinary osmolality was also positively associated with age ($p = 0.001$). With a linear regression analysis, the only significant predictor of faster RKF decline resulted baseline RKF (higher baseline RKF predicted faster RKF decline, as already known in the literature).

CONCLUSIONS

Baseline urinary osmolality and systemic immune inflammation index appear to be correlated with mortality in a cohort of peritoneal dialysis patients. We confirmed the association between higher baseline RKF and faster RKF decline.

P-158 – A Systematic Evaluation of Laparoscopically Placed Peritoneal Catheter Function Over A 3 Years Time Span

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OBJECTIVES

Peritoneal dialysis (PD) offers flexibility and autonomy to patients with ESKD. However, catheter dysfunction can cause unexpected interruptions or discontinuation of therapy. Timely diagnosis and resolution are key factors to prevent modality change to hemodialysis. We aimed to systematically evaluate PD catheter function directly after laparoscopic PD catheter operation in order to improve PD catheter technique survival.

METHODS

We retrospectively identified all patients receiving a PD catheter between 1st of January 2022 and 31st of December 2024 at the Sahlgrenska university hospital, Gothenburg, Sweden and collected demographic information, information on catheter placement method, catheter type, early (<3 months) and late catheter complications, catheter dysfunction type, catheter infection rates, catheter patency, reasons to discontinue peritoneal dialysis were analyzed. Early surgical complications were classified as catheter infection/tunnel infection/peritonitis/visceral injury/hemorrhage < 30 days postoperative; Mechanical complications were classified as leaks, PD hydrothorax, hernias. Catheter malfunction was classified as flow problems caused by either migration, entrapment, mispositioning, fibrin cloths.

RESULTS

Of 68 patients who received a PD catheter, 5% had early postoperative surgical complications, 9 (13%) had mechanical complications, 23 (37%) experienced catheter dysfunction and 17 (27%) of these patients underwent reintervention because of catheter dysfunction (13 early, 4 late). Catheter patency increased from 73% to 88% after reintervention. 15% had persistent catheter failure and changed to other dialysis modality. Main reasons for catheter failure (PD failure or after reintervention) were intraabdominal adhesions 4 (6,7%), omental wrap 1 (1,7%) and infection (3,4%). The main other reason to discontinuation of PD was leakage/hernias (5%).

CONCLUSIONS

Increasing catheter patency is an important goal within PD. Catheter dysfunction in PD is common, in both early and later stages, with a diverse etiology. Reintervention is common but can yield improved catheter patency. Systematical review of catheter functioning allows problem solving and implementation of improvement measures.

P-159 – New Exchange Resins: Are They Free of Adverse Effects?

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OBJECTIVES

The treatment of chronic hyperkalemia in patients on peritoneal dialysis (PD) or those with advanced chronic kidney disease (ACKD) may necessitate the use of exchange resins. While their efficacy is well established, the potential adverse effects are less understood due to their relatively recent introduction to the market.

METHODS

This is a single-center retrospective study conducted from January 2021 to February 2025. We gathered demographic and analytical data at baseline and throughout the treatment. We analyzed clinical and biochemical changes, along with any adverse events.

RESULTS

Table 1 presents demographic and biochemical data for patients treated with Cyclosilicate Zirconium (CSZ) and Patiromer (PTM).

Adverse Effects Recorded:

- CSZ Group (n=24): 9 patients (37.5%) experienced volume overload (2 of whom were anuric), leading to drug discontinuation or necessary treatment adjustments (such as diuretics, changes in dialysis regimen, or antihypertensives). In three patients, the dose had been increased to 10 g/24h. Two patients discontinued treatment due to gastrointestinal effects (1 had diarrhea, and 1 had constipation). PTM Group (n=8): 2 patients (25%) required discontinuation of the drug, one due to severe constipation and the other due to gait instability.
- Normalization of Kalaemia: Both treatment groups achieved 100% normalization of kalaemia. No statistically significant differences were found in natremia or systolic blood pressure between the start and end of treatment in either group.

CONCLUSIONS

1. In our experience, CSZ was associated with a higher incidence of volume overload (37.5%), which required discontinuation of the drug and modifications to treatment, while PTM resulted in cases of constipation.
2. In 33% of cases, volume overload coincided with an increase in drug dosage.
3. Both treatments are effective and well-tolerated, highlighting the importance of individualizing prescriptions based on each patient's characteristics, particularly for anuric patients and those with heart disease.

Table 1. Patient Demographic Data

	CSZ (n=24)	PTM (n=8)	P-value
Mean age (years)	59,3 ± 15	65,5 ± 20	0.440
Sex (%) (F/M)	41,7% / 58,3%	50% / 50%	0.703
Previous HTN (%)	91%	100%	1.000
DM (%)	37%	12,5%	0.380
Previous CHF(%)	25%	25%	1.000
Post CHF (%)	4%	0%	
Edema after treatment (%)	25%	0%	
Mean weight gain (kg)			
Mean residual diuresis (%)	83%	87%	1.000
Anuria (%)	16,6%	12,5%	
Oral bicarbonate (%)	75%	37%	0.088
Pre PD (%)	58%	37%	0.423
Mean treatment time (months)	6 ± 5	5 ± 4	0.337
Initial Systolic BP (mmHg)	134 ± 18	151 ± 24	0.097
Last Systolic BP (mmHg)	137 ± 22	141 ± 13	0.540
Initial Sodium (mmol/L)	138 ± 3	136 ± 3	0.128
Last Sodium (mmol/L)	136 ± 5	136 ± 3	1.000

P-160 – Microbiological Profile and Risk Factors of Catheter-Related Infections in Peritoneal Dialysis: a Study from a Tertiary Center

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OBJECTIVES

Catheter-Related Infections (CRIs) are common complications in Peritoneal Dialysis (PD), contributing to patient morbidity and technique failure. Understanding the microbiological profile of CRIs and identifying associated risk factors are crucial for improving outcomes.

METHODS

This retrospective, single-center study included all adult patients who initiated PD between January 2010 and December 2024 at a tertiary nephrology unit in southern Portugal. Clinical and microbiological data were collected regarding Exit-Site Infections (ESIs) and Tunnel Infections (TIs). Logistic regression was used to identify risk factors associated with CRIs, while univariable and multivariable Cox regression analyses were performed to determine factors associated with overall mortality in this population.

RESULTS

A total of 181 patients initiated PD during the study period, with a mean age of 56.1 ± 17.5 years; 63% were male. Of these, 34.8% experienced at least one CRI, with an overall rate of 0.61 episodes per patient-year. Gram-positive and Gram-negative bacteria accounted for 59.6% and 33.3% of ESIs, respectively. *Staphylococcus aureus* was the most commonly isolated agent (57.6%). For TIs, *Staphylococcus aureus* (36.4%) and *Pseudomonas aeruginosa* (18.2%) were the most frequently isolated pathogens. During follow-up, 75.6% of patients were hospitalized, and 17.1% died, with 0.6% of deaths being attributed to peritonitis-related sepsis. Peritonitis (OR 2.854, 95% CI 1.410-5.776; $p=0.004$) and longer PD duration (OR 1.022, 95% CI 1.008-1.036; $p=0.002$) were associated with increased risk of CRIs, while diabetes was not shown to have a significant association. Age (HR 1.074, 95% CI 1.039-1.111; $p<0.001$) and diabetes (HR 2.763, 95% CI 1.314-5.811; $p=0.007$) were independent predictors of mortality.

CONCLUSIONS

CRIs are frequent in PD and predominantly caused by Gram-positive bacteria, especially *Staphylococcus aureus*. Peritonitis and longer time on PD have been shown to be key risk factors. These findings underscore the need for early detection and infection control strategies to improve technique survival.

P-161 – Peritoneal Dialysis-Associated Peritonitis: Microbiological Characterization, Risk Factors and Clinical Implications

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OBJECTIVES

Peritoneal dialysis (PD)–associated peritonitis is the most common complication of PD and has a significant impact on morbidity and technique failure. The primary aim of this study was to characterize the microbiological profile of peritonitis, identify associated risk factors, and determine predictors of all-cause mortality in this population.

METHODS

This retrospective, single-center study included all adult patients who initiated PD between January 2010 and December 2024 at a tertiary nephrology unit in southern Portugal. Clinical and microbiological data were collected. Logistic regression was used to identify risk factors for peritonitis, while univariable and multivariable Cox regression analyses were performed to determine factors associated with overall mortality.

RESULTS

A total of 181 patients initiated PD during the study period (mean age of 56.1 ± 17.5 years; 63% male). The average duration of PD was 27.0 ± 26.4 months. Peritonitis occurred in 56.9% of patients, with a mean rate of 0.49 ± 0.13 episodes per patient-year. A total of 213 microbiological agents were isolated from PD effluent: 53% were Gram-positive, 18% Gram-negative, and 26% of cases had sterile cultures. During follow-up, 75.6% of patients were hospitalized, and 17.1% died, with 0.6% of deaths being attributed to peritonitis-related sepsis. Catheter-related infections were associated with an increased risk of peritonitis (OR 1.474, 95% CI 1.035–2.098; $p = 0.032$). Age (HR 1.076, 95% CI 1.040–1.113; $p < 0.001$) and diabetes (HR 2.870, 95% CI 1.344–6.128; $p = 0.006$) were independent predictors of mortality, while initiating PD as the first modality showed a significant protective trend (HR 0.372, 95% CI 0.153–0.905; $p = 0.029$).

CONCLUSIONS

This retrospective study underscores the burden of peritonitis, with catheter-related infections identified as significant risk factor. Gram-positive organisms were the most frequently isolated pathogens. The low peritonitis-related mortality rate highlights the effectiveness of current treatment protocols, emphasizing the importance of early antibiotic intervention and ongoing surveillance of microbial resistance patterns to optimize patient outcomes.

P-162 – Is Hyponatremia at The Beginning of Peritoneal Dialysis Relevant?

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OBJECTIVES

Hyponatremia is a electrolyte disorder in peritoneal dialysis (PD) and has been identified as a poor prognostic factor and an independent mortality predictor. We aimed to analyze the impact of hyponatremia on mortality among PD patients.

METHODS

A single-center retrospective study of incident PD patients treated at tertiary hospital between August 2015 to December 2024. We analyzed the epidemiologic data, along with baseline plasma sodium (Na) levels, adequacy and the results of the baseline peritoneal equilibration test (PET).

RESULTS

We studied 154 incident PD patients (mean age $55,9 \pm 14,7$ years, 60,4% male, 93,5% with hypertension, and 26% with diabetes) followed during a mean of $24,4 \pm 18,5$ months. Patients were divided according to plasma Na levels as normonatremic (Na >135 mEq/L) and hyponatremic (≤ 135 mEq/L). Hyponatremia was found in 20 patients (13%) with a mean plasma Na of $131 \pm 4,5$ mEq/L. Hyponatremic patients were older ($63.2 \pm 15,9$ vs $54.86 \pm 14,3$ years, $p 0.017$), were also more frequently anuric at baseline (25% vs 8.2% $p 0.022$), and associated more comorbidities (Charlson index $6,8 \pm 2,4$ vs $5,6 \pm 2,3$, $p 0,04$). Although total y renal KTV were similar in both groups, total baseline peritoneal KTV was significantly higher in hyponatremic patients ($1,5 \pm 1,8$ vs $1,03 \pm 0,4$; $p 0,01$). Hyponatremic patients presented higher baseline peritoneal transport (41% vs 14, $p 0,001$), as well as higher sodium sieving ($12,2 \pm 7,7$ vs $8,67 \pm 6$ mEq/L, $p 0,04$) and lower total ultrafiltration (428 ± 282 vs $667,3 \pm 249,6$ ml,

CONCLUSIONS

Baseline hyponatremia in patients undergoing peritoneal dialysis appear to be an early marker of poor prognosis. Patients with hyponatremia were older and more frail, which can explain its association with higher mortality. Hyponatremic patients presented higher baseline peritoneal transport, higher sodium sieving and lower total ultrafiltration compared with normonatremic patients. Further studies should explore the effectiveness of an early approach in PD patients with baseline hyponatremia.

P-163 – The Role of Telemedicine in improving Care for Home Dialysis Patients: A Before-and-After Analysis

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OBJECTIVES

Telemedicine may improve adherence and satisfaction in home dialysis by enabling remote monitoring, facilitating medication adjustments, and reducing patient travel and associated costs. We evaluated acceptance of a tablet-based telemedicine tool in home dialysis patients and analyzed its clinical, psychosocial, economic and environmental impact.

METHODS

Twenty patients from the home dialysis unit received a 5G-enabled tablet with a remote telemonitoring application (4Remote, Zerintia). This pilot, quasi-experimental before-and-after study, used each patient as their own control. Primary outcomes included quality of life (KDQOL-36) and digital health literacy (eHEALS). Secondary outcomes included emergency visits, calls to the home dialysis service, healthcare costs and estimated carbon footprint. Assessments were performed at baseline, 3 and 6 months.

RESULTS

Seventeen patients completed the study (3 withdrew: 1 relocation, 2 clinical reasons). Mean age was 58 years; 29% female. Dialysis modality was 58% HHD and 41% PD. Telemedicine reduced calls to the dialysis service ($p < 0.005$) and eliminated emergency visits during the 6-month follow-up ($p < 0.026$). Estimated CO₂ emissions decreased from 0.05 tons at baseline to 0.04 tons at 3 months and 0 tons at 6 months. Healthcare costs decreased by approximately €12,500 over the study period.

CONCLUSIONS

Tablet-based telemedicine was well accepted by home dialysis patients and associated with fewer emergency visits, reduced healthcare costs and decreased estimated carbon emissions.

P-164 – A Strange Cause of Peritoneal Dialysis Catheter Malfunction

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OBJECTIVES

We present the case of a 64-year-old woman with ESKD from an unknown cause, who has been on APD since 2021 and, in particular 75% Tidal with a daytime stop of 7.5 % icodextrin 2 L; the night-time regime included 5 cycles with 1.36 % glucose solution of 1.8 L. His dialysis history was characterised by two episodes of peritonitis.

METHODS

For repeated alarms reported by the cyclor, further tests (abdominal X-rays, manual exchanges, technical check and replacement of the cyclor) were performed with negative results. By performing the exchanges manually we noticed that at approximately 1.2 L of loading volume it was not possible to continue further. So, CT-scan was performed, which showed a peritoneal 'pocket' confined superiorly by the large epiploon and inferiorly above the Douglas' cavity, probably secondary to adherential bridging. In fact, the dialysis fluid was neither disposed in the parieto-colic douches nor in the Douglas' cavity nor in the perihepatic-perisplenic spaces, causing a net reduction in the surface area available for exchanges. In order to avoid a switch to HD, we modify the dialysis regime by reducing the overnight total volume to 7 L Tidal 50% with 8 cycles of 1.1 L and a daytime stop with icodextrin 7.5% 1 L. After this change, blood tests showed a discrete hydro-electrolyte and metabolic compensation with a total weekly Kt/V of 1.7, slightly reduced compared to the previous control (2.1). No malfunctioning of the peritoneal catheter has occurred since this change.

CONCLUSIONS

Peritoneal adhesions are a frequent complication in PD, but in this patient we were unable to identify an obvious cause, and the reduction of the peritoneal surface area assumed a characteristic "rounded pouch" appearance. We resolved, ensuring adequate dialysis efficiency, by reducing the loading volume according to what was verified by manual exchanges.

P-165 – The Protective Effect of Xylocore in Diabetes Mellitus: Pre-Clinical And Clinical Evidences

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OBJECTIVES

Chronic exposure to glucose-containing solutions in patients on peritoneal dialysis determines in the long term, local and systemic consequences. Peritoneal inflammation, fibrosis and neoangiogenesis occurs by the time. The glucose absorption from the dialysate has detrimental effects worsening the glucose metabolism in diabetics and increasing the cardiovascular risk. We have performed pre-clinical and clinic experiments in diabetic rats and patients to test the benefit of a glucose-sparing dialysate, XyloCore, in which the osmotic power of glucose is substitute by xylytol and carnitine.

METHODS

We performed a pre-clinical study on streptozotocin-induced diabetes rats in order to evaluate the effects of XyloCore or conventional dialysates on the peritoneal membrane. After developing diabetes, the rats were randomly assigned to four groups receiving a daily ip administration of Physioneal 3.86%, XyloCore, Balance 1.5% or saline 0.9% for 15 days. By multi-photon microscopy we investigated *in vivo* the degree of fibrosis and the vascular capillaries distribution. Furthermore, we performed a preliminary analysis of the glycemic control from three diabetic patients enrolled in the ELIXIR trial and treated with XyloCore for 6 months (EU CT 2024-513562-19-00).

RESULTS

On diabetic rats the treatment with XyloCore was associated with a better dialytic capacity of membrane considering the reduction of sub-mesothelial thickness, a lower collagen fiber density and a reduced neoangiogenesis when compared to rats treated with commercial solutions. XyloCore treated rats showed also a preserved glycemic control. Two diabetic patients assigned to XyloCore, achieved a significant reduction in insulin dosage of 100% and 30% respectively, after one month of treatment. At the end of trial, when the two patients returned to standard dialysate, an increasing dosage of insulin was observed.

CONCLUSIONS

The glucose-sparing XyloCore protects from glucotoxicity both at local and systemic level. Additional data are required to further investigate the mechanisms behind this protective effect.

P-166 – Nutritional Assessment in Home Hemodialysis

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OBJECTIVES

Frailty and sarcopenia are highly prevalent in dialysis patients. Although the profile of patients on home hemodialysis (HHD) is different, they are also exposed to these syndromes. It is crucial to explore new tools that support early diagnosis. In recent years, nutritional ultrasound—assessment of the Quadriceps Rectus Femoris (QRF) and the subcutaneous (superficial and deep-layer) and visceral adipose tissue—has been proposed as a promising option for nutritional evaluation.

METHODS

We conducted in HHD patients a nutritional assessment using ultrasound (measuring Y-axis, X-axis, QRF area and the subcutaneous and visceral adipose tissue), along with frailty scores, SPPB, handgrip strength, bioimpedance analysis (BIA), and laboratory data.

RESULTS

We analyzed 17 patients (70.6% male), with a median age of 59.9 years [47.8–66.9]. The median time on HHD was 16.6 months [6.1–24.6]. Median handgrip strength was 27.1kg [24.6–29.4]. 23% were frail. For ultrasound parameters, the median Y-axis thickness was 12.2mm [10.2–12.9], and QRF area was 3.7cm² [3.2–4.8]. Other BIA, FRAIL, SPPB, and laboratory values are summarized in Table1. We found a negative correlation between the Y-axis and MIS score ($r=-0.61$), and a positive correlation with phase angle ($r=0.59$, $p=0.01$). Similar correlations were observed with Y-axis/height² and QRF area ($r=0.54$, $p=0.03$). QRF area also correlated positively with SPPB score ($r=0.55$, $p=0.02$). BMI showed a strong correlation with FTI ($r=0.91$, $p<0.001$), but not with LTI or any ultrasound parameters. It correlated negatively with SPPB and Barthel Index, but not with handgrip strength. Regarding abdominal fat, preperitoneal fat correlated positively with handgrip strength ($r=0.58$, $p=0.02$).

CONCLUSIONS

Nutritional ultrasound may serve as a valuable tool for assessing and monitoring nutritional status in HHD patients. Further studies are needed to validate its diagnostic capacity and usefulness for follow-up in this population.