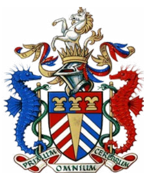

Parallel Session 2: Headache

Wed 6 May, 14:45 - 15:45

Hall 5

1. Management of spontaneous intracranial hypotension: 5-year experience of a specialist multidisciplinary team: **Sanjay Cheema**
2. Experimentally-induced headache reveals an emerging neuroimmune signature in idiopathic intracranial hypertension: **Andreas Yiangou**
3. Cerebrospinal Fluid Constituents and Markers of Superficial Siderosis in Spontaneous Intracranial Hypotension: **Catherine Santucci**
4. Efficacy and Predictors of Response of CGRP Monoclonal Antibodies: A Service Evaluation: **Pubudu Amarasena**
5. Orthostatic headache in migraine: frequency and clinical implications: **Dwij Mehta**
6. Effect of CGRP Monoclonal Antibodies on Most Bothersome Non-Pain Symptoms in Migraine: A Service Evaluation: **Pubudu Amarasena**

Management of spontaneous intracranial hypotension: 5-year experience of a specialist multidisciplinary team

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We report the experience of a neurology-led multidisciplinary team in managing consecutive NHS patients referred with suspected spontaneous intracranial hypotension (SIH) between 2021 and 2025.

Two hundred patients were assessed. MRI brain features of SIH were present in 140 patients and 68 had a spinal longitudinal extradural collection (SLEC) on MRI spine. Fifty-one patients were MRI brain and spine negative, of whom 22 were felt to have a low clinical suspicion of SIH. Most patients had previously failed to respond clinically and/or radiologically to at least one epidural blood patch.

A precise spinal CSF leak site was identified in 39/44 (89%) SLEC-positive patients undergoing myelography (type 1 in 29; type 2 in 10). Among MRI brain-positive but spine-negative patients, a leak was identified in 39/49 (80%), most commonly a CSF venous fistula (CVF; n=38). Only 1/16 (6%) MRI-negative patients had a CVF identified.

Most patients with type 1 or 2 leaks were treated surgically, while CVFs were managed with surgery or transvenous embolisation. Over 90% achieved radiological resolution, with the majority demonstrating significant clinical improvement. No patients achieved combined clinical and radiological resolution following targeted fibrin glue patching.

Specialist multidisciplinary collaboration enables effective diagnosis and management of SIH.

Experimentally-induced headache reveals an emerging neuroimmune signature in idiopathic intracranial hypertension

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Idiopathic intracranial hypertension (IIH) is characterised by raised intracranial pressure and disabling headaches, yet its underlying mechanisms remain poorly understood. Calcitonin gene-related peptide (CGRP) is implicated in migraine and IIH-related headache. Neuroinflammation has been described in IIH but has not been evaluated in headache generation. This study investigated cytokine changes during CGRP-provoked headache in IIH.

In a randomised, double-blind, placebo-controlled, two-way crossover study (IIH Provoke; ISRCTN13251508), sixteen women with IIH attended two inpatient visits and received intravenous CGRP (1.5 µg/min for 20min) or placebo (saline). Blood samples were collected at baseline and either at the peak of a CGRP-provoked headache or, if no headache occurred, at the end of the visit. Serum cytokines were quantified using the Olink® Target 48 Panel.

CGRP induced a typical IIH headache attack (inpatient) in seven participants. Eight cytokines were significantly elevated during CGRP-provoked headache attacks: CCL4, CCL8, IL-6, IL-17C, IL-27, OSM, HGF, and TGF- ($P < 0.05$). These changes were not observed following placebo or CGRP infusion without headache.

CGRP-provoked IIH headaches were associated with a distinct pro-nociceptive and immune-modulatory cytokine profile, supporting a role for neuroinflammation in IIH headache pathophysiology and suggesting immune and glial priming, with CGRP acting as a central trigger.

Cerebrospinal Fluid Constituents and Markers of Superficial Siderosis in Spontaneous Intracranial Hypotension

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Background: The frequency of abnormal cerebrospinal fluid (CSF) constituents and markers of infratentorial superficial siderosis (iSS) in patients with spontaneous intracranial hypotension (SIH) is not known.

Methods: CSF was analysed in consecutive patients undergoing myelography for suspected SIH. Patients were stratified into three groups: Group 1, epidural collection on spinal MRI; Group 2, brain MRI features of SIH with normal MRI spine; and Group 3, normal brain and spine MRI.

Results: Eighty-one patients met inclusion criteria (Group 1, n = 29; Group 2, n = 38, and Group 3, n = 14). Elevated CSF protein was observed in 28/75 patients (37%); maximum of 2.6g/L. Mild CSF lymphocytosis noted in 7/77 (9%); maximum of 17 cells/µL. Elevated ferritin was detected in four patients in Group 1 and three in Group 2. Raised bilirubin was noted in one patient in Group 1 and three in Group 2. Four patients demonstrated CSF markers of siderosis without corresponding MRI features. Isolated oxyhaemoglobin was occasionally seen in the absence of red cells, ferritin, or bilirubin, of uncertain significance.

Conclusions: Elevated CSF protein should not dissuade from a diagnosis of SIH. Assessment of CSF siderosis markers may provide additional information when counselling patients regarding long-term risks.

Efficacy and Predictors of Response of CGRP Monoclonal Antibodies: A Service Evaluation

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Introduction: Monoclonal antibodies targeting the calcitonin gene-related peptide (CGRP-mAbs) pathway have now been used in the medium term.

Methods: Patients receiving CGRP-mAbs at King's College Hospital, London, completed a questionnaire, with additional clinical data extracted from records as part of a service evaluation. Predictors of response (>30% improvement) to the first CGRP-mAb was examined using a generalized linear model with binomial distribution and logit link function.

Results: Two hundred and twenty-three patients responded (median age 48 years; 82% female): chronic migraine (62%), episodic migraine (29%), and new daily persistent headache with migraine phenotype (9%).

Fremanezumab (70%) and erenumab (29%) were most commonly initiated first. A >30% response to the first CGRP-mAb was reported in 80% on fremanezumab and 77% on erenumab. Most (80%) required only one CGRP-mAb; 16% switched once and 4% twice.

Response to the first CGRP-mAb was more likely in triptan responders (OR=5.98, P=0 .002) and with later age at initiation (OR=1.08, P=0.01), and less likely with longer migraine duration (OR=0.93, P=0.03), more premonitory symptoms (OR=0.88, P=0.049), and more previously failed preventives (OR= 0.70, P=0.002).

Conclusion: CGRP-mAbs are effective for most patients. Poorer outcomes with longer migraine duration and prior failure of preventives support early initiation of CGRP-mAbs.

Orthostatic headache in migraine: frequency and clinical implications.

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Background: Migraine is considered a key differential in patients with orthostatic headaches (OH), when magnetic resonance imaging is negative for features of spontaneous intracranial hypotension (SIH). However, the validity of this association and the presence of distinguishing clinical features have not been established.

Objectives: To prospectively evaluate the frequency of OH in migraine and characterise its clinical features when present.

Methods: One-hundred consecutive patients with chronic migraine were recruited from a tertiary headache clinic. Individuals with a history of postdural puncture headache, SIH, or postural tachycardia syndrome were excluded. Participants underwent a structured interview assessing headache phenotype, including the presence and characteristics of OH and associated non-headache symptoms.

Results: Median headache frequency was 25 days/month (IQR 10, range 15-30). No participant reported OH, despite 69% preferring recumbency during headache attacks. Among those preferring to remain still during attacks, only 24.2% reported partial improvement in headache severity. Valsalva manoeuvred exacerbated headaches in 79%. Audiovestibular symptoms were common; vertigo, disequilibrium, and non-pulsatile tinnitus were present in over half of patients.

Conclusions: OH is not a feature of migraine and should be differentiated from motion sensitivity, which may mimic OH.

Effect of CGRP Monoclonal Antibodies on Most Bothersome Non-Pain Symptoms in Migraine: A Service Evaluation

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Introduction: Calcitonin gene-related peptide (CGRP-mAbs) may impact most bothersome non-pain symptoms (MBS) to benefit migraine patients.

Methods: Patients receiving CGRP-mAbs at King's College Hospital, London, completed a questionnaire, with clinical data extracted from records as part of a service evaluation. Associations between categorical variables were assessed using Pearson's chi-square tests.

Results: A total of 223 patients responded (median age 48 years; 82% female): chronic migraine (62%), episodic migraine (29%), and new daily persistent headache with migraine phenotype (9%).

Fatigue was the most common MBS (20%), followed by brain fog (17%), neck stiffness (14%), nausea (12%), and photophobia (9%).

Overall, 88% reported >30% improvement in headache with their current CGRP-mAb; however, only 56% of responders reported improvement in their MBS. Improvement in MBS was associated with headache improvement ($\chi^2 = 7.77$, $P = 0.005$). Among those with headache improvement, nausea (77%), photophobia (67%), fatigue (56%), brain fog (58%), were more likely to improve while improvement of neck stiffness (46%) was less frequent.

Conclusion: Fatigue, brain fog, and neck stiffness are the most bothersome non-pain symptoms in migraine. Despite headache improvement with CGRP-mAbs, many patients continue to experience their most bothersome non-pain symptoms, particularly neck stiffness.