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ORAL PRESENTATIONS

OP 01
IMPROVING NEONATAL CARE: AN ACTIVE DRY-ELECTRODE BASED EEG MONITORING SYSTEM WITH SEIZURE DETECTION

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Background and Objectives: Neonates are highly susceptible to seizures, which can have severe long-term consequences if undetected. Early detection is crucial and typically requires continuous video electroencephalography (EEG) monitoring in a hospital setting, which is costly, inconvenient, and requires specialized experts for diagnosis. In this work, we propose a new low-cost, active dry electrode-based adjustable EEG headset, a new explainable deep learning model to detect neonatal seizures, and an advanced signal processing algorithm to remove artifacts to address the key aspects that lead to the underdiagnosis of neonatal seizures.

Methods: An active electrode is designed with an opamp buffer and noise reduction techniques to condition the weak EEG signals obtained through dry electrodes. The conditioned signals are processed using a custom-designed Analog Front End that filters and digitises the analog signal. An adjustable low-cost headset is designed using 3D printing and laser cutting to fit a wide range of head sizes. A deep learning model is developed to classify seizure and non-seizure in real-time. A separate multimodal deep learning model is designed to remove artifacts. The device is ethically tested on a paediatric patient with an absence seizure in a hospital setting. Simultaneous recordings were captured using both the custom device and the commercial wet electrode device available in the hospital for comparison.

Results: The proposed system achieves a high correlation (>0.8) with commercial device recordings, demonstrating its reliability. Signal-to-Noise Ratio analysis confirms comparable noise mitigation. The deep learning model improved classification accuracy and recall by 2.76% and 16.33%, respectively, while the artifact removal algorithm preserved seizure patterns effectively.

Conclusions: The proposed system addresses key challenges in neonatal seizure diagnosis. Further refinement and clinical trials involving neonates have the potential to revolutionise the early detection and management of neonatal seizures.

OP 02
EFFICACY OF QUANTIFICATION AND CHARACTERIZATION OF ARTERIAL SPIN LABELLING PERFUSION MRI BRAIN SCANS IN PRESURGICAL ASSESSMENT OF CHILDREN WITH DRUG-RESISTANT EPILEPSY

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Background and Objectives: Arterial Spin Labeling (ASL) is a magnetic resonance imaging (MRI) paradigm, used in MRI negative focal epilepsy to identify the perfusion deficit zone. The objectives were -: (1) Identify the brain region with significant perfusion deficit, (2) Assess the association between (2.1) clinical localisation and lateralisation with the study's findings, (2.2) EEG localisation and lateralisation with the study's findings.

Methods: A retrospective-analysis was conducted using ASL perfusion-weighted and T1-weighted data of two children diagnosed with MRI-negative Drug Resistant-Epilepsy (DRE). Patient-01 underwent epilepsy-surgical-resection with Engle-1a outcome at

more than 12-months. The input data was converted into Neuroimaging Informatics Technology Initiative (NIFTI) format. An extraction was performed to isolate brain tissue from non-brain tissue. The perfusion-weighted images were co-registered on the brain-extracted T1-weighted image, to align perfusion and structural information into the same frame. Normalisation of the co-registered image to Montreal Neurological Institute (MNI) coordinate system was performed to standardize brain anatomy. This pre-processed brain image was segmented into 48 brain regions, taking the Harvard-Oxford Cortical Brain Atlas as a reference. The Average Voxel Intensity (AVI) and the Asymmetry Index (AI) were calculated for each region to compare the left and right brain hemispheres. ASL data were validated with blinded clinical and EEG data.

Results: Patient-01: A significant AVI was shown in the superior frontal gyrus, with a significant AI, depicting a hypoperfusion in the right hemisphere, concordant with the clinical findings. Patient-02: A significant AVI was shown in the superior frontal gyrus, with a significant AI, depicting a hypoperfusion in the left hemisphere, concordant with the clinical findings.

Conclusions: The findings of this study portrayed ASL-MRI's potential in localising and lateralising the perfusion deficit for enhancing precise surgical planning. The use of a small sample size was a limitation of this study. Improving algorithms and data quality could integrate this method into diagnostics, refining surgical outcomes.

OP 03
RETROSPECTIVE ANALYSIS OF SURGICAL MANAGEMENT IN GLIOMA PATIENTS: INSIGHTS FROM A PRIVATE SECTOR TERTIARY CARE HOSPITAL IN SRI LANKA

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Background & Objectives: Gliomas are a common type of primary brain tumours with significant morbidity and mortality. The aim of this study was to evaluate the demographic, clinical, pathological and management outcomes of patients diagnosed with gliomas presenting to a private tertiary care hospital in Sri Lanka.

Methods: A retrospective analysis was conducted from the Asiri Central Brain Tumour Registry records of 143 glioma adult patients who underwent surgery at the Asiri Central Hospital, Sri Lanka between January 2018 and November 2021, with follow-up duration until November 2024.

Results: Majority of patients were male (68.5%) with a mean age of 44.7 ±17 years. The mean follow-up time after first surgery was 40.8 ±17.5 months. Common symptoms included headache (47.5%), new-onset seizures (32.9%), memory loss (28.2%), and unsteady gait (26.6%). Tumours were most commonly located in the frontal (32.9%) and occipital (29.4%) lobes. Grade IV glioblastoma was the predominant type (44.06%). Gross total resection was achieved in 46.85% of cases, while near-total and subtotal resections were achieved in 25.87% and 27.27% of cases, respectively. Adjuvant therapies included chemotherapy (37%), radiotherapy (46.2%) and combined chemoradiotherapy (23.7%). The mean duration of intensive care unit (ICU) stay post-surgery was 1.73 ±1.72 days. Recurrence occurred in 29.3% of patients post initial surgery, with a mean time to first recurrence of 13.1 ±10.4 months. Among patients who had first recurrence, 88.1% underwent a second surgery and the mean time from first to second surgery was 14 ±10.6 months. Only 10.8% had a recurrence after second surgery. Mortality during follow-up was 25.9%, with a mean time to death of 13.6 ± 9.4 months from the first surgery.

Conclusions: This study provides valuable insights into the clinical and pathological spectrum of gliomas in Sri Lanka and highlights the importance of evaluating local management strategies. Multi-centre studies with a larger sample size are essential to further improve the understanding of the epidemiology and survival outcomes of glioma patients.

OP 04

NEUROLEPTOSPIROSIS AMONG PATIENTS WITH PRIMARY CENTRAL NERVOUS SYSTEM INFECTIONS: A MULTICENTRE STUDY FROM SRI LANKA

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Background and Objectives: Our objective was to identify the occurrence of laboratory-confirmed neuroleptospirosis in primary central nervous system (CNS) infections.

Methods: An observational study was conducted in 3 centres of high leptospirosis prevalence in Sri Lanka, between October 2021-March 2024. Patients with a primary diagnosis of meningitis, meningoencephalitis or encephalitis were recruited. Blood and cerebrospinal fluid (CSF) were tested for pathogenic Leptospira deoxyribonucleic acid (DNA) by real-time polymerase chain reaction (PCR) and serology by microscopic agglutination test (MAT) on admission and after 10-14 days. A confirmed case was defined as a patient with meningitis/ meningoencephalitis/ encephalitis with positive CSF or blood PCR or 4-fold rise/single titre :320 in MAT.

Results: There were 100 patients with a median age of 55 (interquartile range (IQR) 39.7 – 69.7) years and 52 (52%) males. Neurological diagnoses were meningitis (n=69,69%), meningoencephalitis (n=21,21%) and encephalitis (n=10,10%). Eleven (11%) patients were laboratory-confirmed as neuroleptospirosis; meningitis (n=6), meningoencephalitis (n=2), encephalitis (n=3). Three patients had positive blood Leptospira DNA, one had positive blood and CSF Leptospira DNA, three had high initial MAT titres and four had a 4-fold rise in MAT. Neurological manifestations were headache (n=8), seizures (n=2), confusion (n=7), photophobia (n=4), neck stiffness (n=6) and limb weakness (n=5). The majority of patients with positive blood or CSF PCR for Leptospira suggestive of early infection did not have a CSF cellular reaction (n=3/4, 75%) despite the presence of neurological symptoms. One patient had neutrophil predominance in the CSF and 5 patients had lymphocyte predominance. The need for escalation to intensive care was low among the neuroleptospirosis group (1/11, 9%) and all patients made full recovery without any residual neurological disability. There were no deaths among this group compared to 11 (12.4%) deaths in other CNS infections.

Conclusions: Neuroleptospirosis has a favourable outcome, and it should be considered as a cause of primary CNS infections in Sri Lanka.

OP 05

MANAGEMENT GAPS AND OUTCOMES IN SYMPTOMATIC INTRACRANIAL HAEMORRHAGE FOLLOWING THROMBOLYSIS: AN AUDIT FROM A TERTIARY NEUROLOGY CENTRE

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Background and Objectives: Thrombolysis in acute ischaemic stroke is limited by the risk of symptomatic intracranial hemorrhage (sICH). This audit aimed to assess gaps in managing sICH and evaluate clinical outcomes.

Methods: Clinical records of patients with post-thrombolysis sICH from July 2023 to December 2024 were reviewed. Management was compared to American Stroke Association guidelines. Survivors were followed for 90 days to determine the Barthel Index (BI) and modified Rankin Score (mRS).

Results: Among 154 thrombolysed patients, 23 developed sICH (78% male, mean age 61±12 years, median pre-thrombolysis National Institutes of Health Stroke Scale (NIHSS) 11 (9–15), thrombolysed at 212±47 minutes post-symptom onset, and 120±63 minutes post-hospitalisation). Twelve (52%) received tenecteplase. Three had thrombectomy. Ten had old infarcts. Ten took antiplatelets. 21 had properly maintained 24-hour monitoring charts, but no sICH risk prediction tools were used. Pre-thrombolysis blood pressure (BP) >185/110 mmHg, detected in seven, was managed appropriately. Post-thrombolysis BP >180/105 mmHg was noted in 12, with >1-hour delays in eight cases, resulting in fatal outcomes. Two had capillary blood sugar (CBS) >400 mg/dl. Two had >1-hour computed tomography (CT) delays. sICH was

radiologically detected in 11 cases within 6 hours and 10 during routine 24-hour CT. Parenchymal ICH was present in 14, petechial in 18, with 8 midline shifts, 6 intraventricular, and 4 subarachnoid bleeds. Eighteen had anterior and two had posterior circulation large vessel infarcts. Eighteen received mannitol, sixteen received 3% saline, 5 tranexamic acid, 8 cryoprecipitate; 5 had neurosurgery, and 12 were ventilated. 20-day mortality was 6.5% (n=10), with 7 fatalities in the first 5 days. Median 90-day mRS was 1 (0–3), and BI was 95 (73–100).

Conclusions: Deficiencies in early thrombolysis, post-thrombolysis monitoring, and guideline-based management of sICH were identified. Inadequate BP control was linked to poor outcomes.
Training healthcare workers in thrombolysis care is recommended to improve outcomes and complete the audit cycle.

OP 06
A COMPARISON OF ACHIEVING TIME TARGETS IN STROKE THROMBOLYSIS AT TWO DISTRICT GENERAL HOSPITALS IN SRI LANKA. DO THE GROUND PLAN AND STROKE CARE PATHWAY MATTER?

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Background and Objectives: Meeting time targets in stroke thrombolysis is an indicator of the efficiency and quality of hyper-acute stroke care delivery. Stroke care flow at each hospital is different.
According to the internationally accepted time targets, it is aimed to achieve a door-to-needle time (DNT) within 60 minutes in 75% or more. A door-to-Computed Tomography (CT) time (DTC) of 25 minutes or less is considered the best practice.
District General Hospital Embilipitiya (DGHE) is a district hospital that was elevated from a base hospital with a less properly planned structure. DGH Hambantota (DGHH) is a newly built district hospital with a specially designed ground plan. This study aimed to compare the two hospitals.

Methods: Details of patients thrombolysed from August to November 2024 at DGHH were obtained using a printed protocol, which was used for each patient triaged for thrombolysis. Standard time targets of DCT and DNT were obtained. These data were compared with a study conducted in DGHE from December 2022 to November 2023 using the same data collection protocol.

Results: In DGHE, the total number of patients triaged was 22, and 11 were thrombolysed with a mean DCT of 45 minutes (SD = 46.48) and a mean DNT of 84 minutes (SD = 41.04). The percentage of thrombolysis patients within 60 minutes was 37.5%.
In DGHH, the total number of patients thrombolysed was 11, with a mean DCT of 17 minutes (SD = 10.85) and a mean DNT of 49.6 minutes (SD = 20.8). The percentage of thrombolysis within 60 minutes was 72%. The p value in DCT between DGHE and DGHH was 0.0594.

Conclusions: There is a borderline reduction of the DCT in DGHH when compared to DGHE. DGHH had met better time targets. The exact reasons behind this are multifactorial. It is important to restructure the stroke care flow to minimise the time taken for imaging and transportation when establishing hyperacute stroke care and radiology suites.

OP 07
GUILLAIN-BARRE SYNDROME IN SRI LANKA: A MULTI-CENTRE STUDY

The ASN GBS Study Group*

Background and Objectives: There is little data on Guillain-Barre Syndrome (GBS) in Sri Lanka. We aimed to study the clinical characteristics, subtypes and outcomes in patients with GBS in Sri Lanka.

Methods: We conducted a prospective multicentre study on GBS patients in state-sector hospitals in Sri Lanka. Data on demographic factors, clinical presentation, progression, investigations and management were collected over a period of 2 years. Demographic and disease related variables were analysed.

Results: Data was provided by 22 investigators from 13 centres. 224 patients with GBS were studied (50.0 % female; mean age 43.2 (Standard Deviation (SD) 21.2) years; 35 (15.6%) children, 189 (84.4%) adults). 66.1% of the overall cohort (91.4% of children) reported an antecedent illness (mean duration 10.4 days before symptom onset, 38.8% respiratory infection, 14.3% diarrhoea).

62.1% initially presented with sensory symptoms, which included pain (33.0%), numbness (51.3%), paraesthesiae (35.7%) and distal sensory loss (15.2%). 38.4% had motor symptoms at onset, which included upper limb weakness – proximal (44.8%), distal (55.2%); lower limb weakness – proximal (82.6%), distal (82.1%). Initial presentation was more commonly with sensory symptoms in adults (66.7%), and motor features in children (71.4%). Maximum deficit was noted at a mean of 8.02 (SD 8.82) days from onset. Additional features reported included ataxia (26.8%), dysphagia (25%), neck muscle weakness (23.7%) and facial weakness (29%). 15.2% had respiratory muscle involvement, 24.9% required ICU admission, and 13.6% required mechanical ventilation.

Cerebrospinal fluid (CSF) analysis was done in 181 (80.8%): mean CSF protein- 117.41 ng/dl, 82.1% had cytoalbuminological dissociation.
89.7% of patients had neurophysiology data: 49.8% had a demyelinating subtype, 20.4% axonal and 2.5% inexcitable nerves. The axonal subtype was more common in children (34.4% vs. 17.8% adults; p=0.05); demyelinating subtype was more common in adults (53.3% vs. 31.3% children; p=0.03).
91.5% of patients received specific treatment for GBS: 71.4% IVIg only; 2.7% plasma exchange only; 17% both.
Mean GBS Disability score on discharge was 2.42 (SD 1.26). On regression analysis, its main determinants were age, GBS Disability score on admission, lower limb onset and presence of nasal regurgitation. Intensive care and ventilation were associated with antecedent respiratory infection, nasal regurgitation, dysarthria, neck and respiratory muscle weakness and heart rate fluctuations during admission. The axonal subtype was significantly associated with younger age and motor symptom onset.

Conclusions: This is the first multi-centre study on GBS in Sri Lanka. Preceding infection, presentation with motor symptoms and axonal subtype were more often seen in children. The higher proportion of the axonal subtype is similar to other Asian populations.

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POSTER PRESENTATIONS

PP 01
MELIOIDOSIS: A SPINAL SURPRISE

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Background: Melioidosis is an emerging infection endemic to the tropical countries. Neurological complications of melioidosis are rarely encountered. We report a lady with diabetes mellitus, who had an infective myelopathy secondary to melioidosis.

Case Presentation: This 40-year-old lady had a clinical picture suggestive of an acute myelopathy with a thoracic (T7) sensory level. Magnetic resonance imaging (MRI) revealed a long-segment myelitis with ring-enhancing lesions in the lower cord. She did not respond well to conventional immunosuppression. As the cerebrospinal fluid (CSF) was suggestive of an infection, she was commenced on anti-tuberculous therapy as well. However, a subsequent blood culture revealed that the infective organism was Burkholderia pseudomallei. This was further established with a high titre of antibodies against B. pseudomallei. Even though she was given appropriate antibiotics, she continued to have persistent residual neurological deficits.

Discussion: Among neurological manifestations of melioidosis, myelitis is rarely reported. Two of the handful of reported cases are from Sri Lanka. Quite often, complicated cases of melioidosis are seen among diabetic patients, as in our case. It is important to consider melioidosis as an infective cause of myelopathy, especially in this context as well as in an instance where there is not much response to conventional immunosuppression. Prompt initiation of treatment with appropriate antibiotics, is vital in order to reduce residual neurological deficits in these patients. Therefore, the requirement of a high index of suspicion to diagnose melioidosis, as well as significance of a simple investigation such as a blood culture in evaluation of a myelopathy is highlighted in our case.

PP 02
AUTONOMIC FUNCTION TEST DATA IN A COHORT OF HEALTHY SRI LANKAN UNIVERSITY STUDENTS - A PILOT STUDY

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Background and Objectives: Autonomic functions (AF) are fundamental in maintaining many key physiological processes in the body. Normative data for AF are not yet available for the Sri Lankan population. This pilot study aims to explore the feasibility, identify challenges of conducting autonomic function tests (AFTs), and gather preliminary AFT data in a cohort of healthy university students in Sri Lanka.

Methods: A cross-sectional study was conducted among 30 healthy (16 males,14 females) Sri Lankan university students between the ages of 18 and 25. Various AFTs were performed, including heart rate variability (HRV) measurement using the HRV Module for LabChart, which analyses beat-to-beat (RR) interval variation in electrocardiogram (ECG) recordings. Heart rate response to deep breathing (HRDB), HR changes in the Valsalva maneuver (VM), heart rate response to standing, and sustained hand grip manoeuvres were assessed. Descriptive statistics including 95% confidence intervals with the bootstrapping method and gender-based differences were calculated for the main AFs. A p-value of <0.05 was considered significant.

Results: Resting systolic and diastolic blood pressure and systolic blood pressure response to sustained handgrip, were higher in males with statistical significance ($p<0.001$, $p=0.007$, $p=0.010$ respectively). 30:15 heart rate ratio and HR response to deep breathing, although variable, did not show statistical significance between the genders. All autonomic functions were assessed successfully. However, the recruitment of healthy volunteers was the main challenge.

Conclusions: This pilot study indicates the feasibility of collecting normative data on autonomic functions

among the young Sri Lankan population. Preliminary data signifies gender-based differences in AFTs. Pilot data will aid in designing larger-scale studies. The recruitment process needs to focus on methods to enhance voluntary participation.

PP 03
GUILLAIN-BARRÉ SYNDROME WITH TRANSIENT SYPHILIS SEROPOSITIVITY: A CASE REPORT

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Background: Confirmatory tests for syphilis are highly specific, yet conflicting results can pose diagnostic challenges. We describe a case of a 43-year-old female with Guillain-Barré Syndrome (GBS) who demonstrated transient syphilis serological reactivity after intravenous immunoglobulin (IVIg) therapy.

Case Presentation: A previously healthy lady presented with three days of progressive numbness and weakness in her lower limbs, extending to the fingertips. Clinical examination and cerebrospinal fluid (CSF) analysis showed elevated protein levels, while electromyography (EMG) revealed acute motor neuropathy with resolving conduction blocks, consistent with GBS. She received IVIg at 25 g/day for five days, with complete clinical recovery.
Five days post-IVIg, syphilis and human immunodeficiency virus (HIV) screening at the STD clinic showed a weakly reactive Venereal Disease Research Laboratory (VDRL) test and a positive Treponema pallidum particle agglutination (TPPA) test, suggesting possible syphilis. The patient, asymptomatic with no risk factors, underwent further evaluation. Ten days after IVIg, repeat VDRL and TPPA tests showed non-reactive VDRL but persistently positive TPPA. Treatment was withheld due to suspicion of IVIg-induced interference. Two months later, repeat testing revealed non-reactive VDRL and TPPA, confirming the absence of syphilis.

Discussion: This case highlights the potential for IVIg to cause false-positive syphilis serological results. IVIg, derived from pooled plasma, may contain donor antibodies against Treponema pallidum, leading to transient reactivity. The initial TPPA positivity and weakly reactive VDRL likely resulted from passive antibody transfer rather than infection. Subsequent negative results and the patient's clinical history support this hypothesis.
False-positive syphilis serological results can occur post-IVIg therapy. Clinicians should cautiously interpret these tests, prioritise clinical correlation, and consider repeat testing to avoid misdiagnosis or unnecessary treatment.

PP 04
SPINAL MUSCULAR ATROPHY TYPE 0 WITH ARTHROGRYPOSIS MULTIPLEX CONGENITA

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Background: Spinal muscular atrophy (SMA) is a fatal neuromuscular disorder with a genetic basis, classified into five types, with Type 0 being the rarest. We report a case of a neonate diagnosed with Type 0 SMA, presenting with reduced foetal movements, polyhydramnios, respiratory distress from birth, ventilator dependency, arthrogryposis, and feeding difficulties.

Case Presentation: A male neonate was delivered via emergency caesarean section at 34+3 weeks gestation due to preterm pre rupture of membranes and cord prolapse. Despite a normal Apgar score, the neonate developed severe respiratory distress and required ventilatory support. Examination revealed generalised hypotonia, absent tendon reflexes, and multiple joint contractures, including static and dynamic arthrogryposis. Liver function tests, brain and abdominal ultrasounds were normal, while nerve conduction and electromyography (EMG) suggested neurogenic pathology without myopathic features. Genetic testing, including polymerase chain reaction/restriction fragment length polymorphism (PCR-RFLP) for SMN1 gene deletions, was negative, though further sequencing could not be performed due to financial constraints. This case underscores the

importance of considering SMA, especially Type 0, in neonates presenting with respiratory distress, hypotonia, and congenital contractures.

Discussion: SMA Type 0, accounting for less than 1% of SMA cases, typically presents with features such as reduced foetal movements, polyhydramnios, and multisystem involvement, including respiratory distress and feeding difficulties. The prognosis for SMA Type 0 is poor, with most affected neonates requiring ventilator support and having a short lifespan. The genetic hallmark of SMA is a homozygous deletion of the SMN1 gene, but in cases like ours, where genetic testing is inconclusive, a diagnosis of compound heterozygosity or a non-5q SMA variant should be considered. The case highlights the necessity of early recognition of SMA Type 0 in neonates with severe hypotonia, arthrogryposis, respiratory distress and ventilator dependency and the importance of genetic counselling for affected families.

PP 05
THE UNEXPECTED TWIST: FEMORAL PLASMACYTOMA UNMASKED DURING CIDP EVALUATION

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Background: Chronic inflammatory demyelinating polyradiculoneuropathy (CIDP) is recognized as a possible marker of an underlying myeloproliferative condition such as multiple myeloma. In rare instances, as in the patient we came across, CIDP has been found to be the presenting feature of a plasmacytoma.

Case Presentation: This 48-year-old lady with poorly controlled diabetes mellitus presented with a 3-week history of progressive, symmetrical bilateral lower limb weakness. During the hospital stay she continued to develop upper limb weakness as well. The crucial finding on examination was global areflexia. Neurophysiological studies revealed evidence of a motor-predominant demyelinating polyneuropathy. Her cerebrospinal fluid analysis revealed a cyto-protein dissociation with a protein of 154 mg/dl. Serum protein electrophoresis did not reveal a monoclonal gammopathy. However, there were raised lambda light chain levels in serum. She underwent a contrast-enhanced computed tomography (CT) scan, which incidentally detected a lytic lesion in the right proximal femur. Histological examination of this lesion was hypercellular with increased plasmacytoid cells, suggesting a plasmacytoma. There was no supportive evidence for a diagnosis of multiple myeloma. She was then handed over to the haemato-oncology team for radiotherapy and further care. With regard to the CIDP, she was treated with a course of intravenous methylprednisolone and intravenous immunoglobulin to which there was a minimal clinical response.

Discussion: In patients with treatment-refractory, rapidly progressive CIDP it is important to actively investigate for an underlying paraproteinaemic condition. Multiple myeloma is the more commonly recognised condition. However, there are few reported cases in the literature, where solitary plasmacytomas were unveiled while investigating patients with CIDP. Therefore, this case highlights the importance of extending investigation in patients with CIDP to find a cause.

PP 06
DROPPED HEAD SYNDROME WITH A PROXIMAL MYOTONIC MYOPATHY: PROMM – A RARE DISEASE

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Background: Myotonia is commonly associated with distal rather than proximal myopathies.

Case Presentation: A sixty-eight-year-old woman presented with a progressive head drop over four years, weakness of proximal lower limbs over three years and proximal upper limbs with truncal instability over one-year, palpitations, and shortness of breath at rest for 3 months. There was no family history of muscle disorders. She had absent neck extensor power, wasted proximal muscles with a power of two, and a distal power of four. There was no fatiguability or myotonia clinically. She had bilateral cataracts and an irregular pulse. Creatinine phosphokinase (CPK) was 61 IU/L. Thyroid function tests and HbA1c were normal. She also had a Type 2 respiratory failure; sinus pauses on electrocardiogram (ECG) and an ejection fraction of 50%. Electromyography (EMG) showed motor unit potentials, polyphasic and myotonic discharges with a dive-bomber sound, suggestive of a myotonic myopathy. Her muscle magnetic resonance imaging (MRI) revealed diffuse atrophy with sparing

of rectus femoris, adductor magnus and sartorius, without diffusion weighted imaging (DWI) enhancement. Muscle biopsy showed focal areas of muscular atrophy with minimal lymphocytic inflammation. Management included head drop orthosis, home non-invasive ventilation, oral amiodarone and physiotherapy. Oral prednisolone and phenytoin were given for relief of myotonia.

Discussion: With proximal muscle weakness and EMG evidence of myotonia, a diagnosis of PROMM was made. The cardiac arrythmias, respiratory failure, cataracts were attributed to the multisystemic involvement of PROMM. Inheritance is autosomal dominant, linked to an unidentified gene. Other differentials were Myotonic Dystrophy Type 2 and Limb Girdle Muscular Dystrophy which may have myotonic discharges, but neither present with a head drop. A higher CPK could be expected in the latter. Morbidity may be significant in PROMM, but studies on mortality are lacking due to the rarity.
PROMM must be considered in presentations of head drop with proximal myopathy and myotonia.

PP 07
BURDEN OF RESIDUAL NEUROLOGICAL SYMPTOMS IN PATIENTS RECOVERING FROM GUILLAIN-BARRE SYNDROME – FINDINGS FROM A PROSPECTIVE STUDY

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Background and Objectives: Residual symptoms of Guillain-Barre syndrome (GBS) cause significant morbidity. To identify the prevalence and associations of residual neurological symptoms of GBS patients.

Methods: Information on neuro-psychiatric symptoms, GBS Disability Score (GDS), and Neurological Symptom Score (NSS) were obtained at 1, 3, and 6 months since symptom onset, from consecutive treated GBS patients at a tertiary care neurology centre, from April 2023 to July 2024. Statistical associations were made using Spearman's rho and Chi-square tests.

Results: We recruited 48 patients with a mean age of 43±17 years (50% males), hospitalised for an average of 15±14 days. 21 (45%) had demyelinating and 15 (32%) had axonal pathophysiology. 41 (85%) were treated with intravenous immunoglobulin, 2 received plasma exchange, and 3 received both. At nadir, 27 (56%) were bedridden or chair-bound with a median GDS of 4 (3-4), and 5 (10%) required ventilation. 3 patients were lost to follow-up. Median GDS at 1-, 3- and 6-month follow-up were 2 (1-3), 2 (0-2) and 1 (0-2) respectively. Median NSS at 1-, 3- and 6-month follow-up were 4 (2-6), 2 (0-3) and 1 (0-2) respectively. Between 1 and 6 months, complaints of limb weakness reduced from 60% to 24.4%, and complaints of sensory symptoms reduced from 87% to 53%. At 1-month follow-up, 27% required assistive ambulatory devices, and 34% lost their job. At 6-month follow-up, 60% (n=27) had at least one residual symptom, the commonest being pain or paresthesia, affecting 24 (53%). There was no significant association between variables such as age, gender, diabetes, triggers, cerebrospinal fluid (CSF) protein, ventilatory support requirement, GBS-related complications, GDS at nadir, and outcome variables such as NSS and the presence of residual symptoms at follow-up.

Conclusions: Residual sensory symptoms are common in patients recovered from GBS, regardless of demographic characteristics, disease severity, or initial therapy.

PP 08
POSTERIOR REVERSIBLE ENCEPHALOPATHY SYNDROME AND PARALYTIC ILEUS IN A PATIENT WITH GUILLAIN-BARRE SYNDROME – A DIAGNOSTIC CHALLENGE

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Background: Autonomic dysfunction is a known complication in Guillain-Barre syndrome (GBS). It is rare to have both gastrointestinal dysautonomia manifesting as paralytic ileus (PI) and high blood pressure presenting with posterior reversible encephalopathy syndrome (PRES) in a single patient with GBS.

Case Presentation: We report a 63-year-old lady with well-controlled diabetes and hypertension who had progressively worsening bilateral hand and feet numbness and band like abdominal pain. Five days later, she presented with ataxic gait. There was symmetrical bilateral lower limb (LL) weakness, global areflexia, down going plantars and loss of pin prick and joint position sense in the distal LL. Bowels were not opened since day 3. On day 6 she was

diagnosed with PI as she developed vomiting and abdominal distension. She was kept nil orally and had a nasogastric tube on free drainage.
A rising trend of blood pressure (BP) was noted with a maximum of 200/110mmHg and on day 7 she developed an episode of generalised tonic clonic seizure and altered conscious level. BP was controlled by intravenous (IV) labetalol. There was worsening bilateral LL weakness, and she was commenced on intravenous immunoglobulin on day 8 following which she started showing improvement in the LL power. However, on day 11 she developed a right side lower motor neuron facial nerve palsy. Nerve conduction and lumbar puncture supported GBS. Magnetic resonance imaging of the brain showed evidence of PRES. She had a near complete recovery with the above management and physiotherapy.

Discussion: So far only a few cases have been reported in the literature highlighting the co-occurrence of either PI or PRES with GBS. This is a unique case as both complications occurred with GBS in the same patient. They can precede or follow the GBS symptoms. Clinicians must therefore be aware so that prompt measures are taken to identify and manage them appropriately.

PP 09
A RARE CASE OF 'MYASTHENIA GRAVIS – INFLAMMATORY MYOPATHY' PRESENTING WITH HEAD DROP AND RESPIRATORY INSUFFICIENCY TREATED WITH INTRAVENOUS RITUXIMAB THERAPY

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Background: Myasthenia gravis and inflammatory myopathy are both immune mediated disorders, whose concurrent occurrence is extremely rare. Here we report such a case of Myasthenia Gravis – Inflammatory Myopathy (MG-IM) presenting with head drop syndrome and hypercapnic respiratory insufficiency.

Case Presentation: A 38-year-old female with hypothyroidism presented with a 1-year history of sub-acute onset progressive proximal upper and lower limb weakness, and later head drop from neck weakness. In the subsequent months she developed dysphagia and dyspnoea and presented with type 2 respiratory insufficiency. She had no ocular symptoms, muscle pain, tenderness or fatiguability. She had a proximal predominant limb weakness, neck extensor power of Medical Research Council (MRC) grade 0/5, neck flexor power of MRC 4/5. Creatine phosphokinase was 1100 U/L (<150), acetylcholine receptor (AChR) antibodies level were 0.72 nmol/L (< 0.5), and she had a negative Muscle-Specific Kinase (MuSK), extended nuclear antibody and paraneoplastic antibody panel. Electromyography demonstrated myopathic changes of short duration polyphasic, low-amplitude motor unit action potentials and early recruitment. Histopathology of the thigh muscle revealed endomyseal and perivascular lymphocytic inflammation. Chest imaging excluded thymic lesions. A diagnosis of MG-IM was made, and was treated with anticholinesterases, intravenous followed by oral corticosteroids, and therapeutic plasma exchange. Currently she is on intravenous rituximab for the last 2 years, remaining ambulant and with no progression of disease. However, she requires nocturnal non-invasive ventilatory support for the respiratory insufficiency.

Discussion: MG-IM is characterized by an inflammatory muscle pathology, elevated CPK, elevated AChR antibodies or thymoma, and a favorable response to immunosuppressive therapy. Rituximab seems to be effective in refractory cases. Head drop may require physical support, but surgical fixation can be tried in difficult cases. MG-IM is a rare, diagnostically challenging condition that warrants early and aggressive immunotherapy.

PP 10
HMG-COA REDUCTASE (HMGCR) ANTIBODY MEDIATED NECROTISING MYOSITIS IN A STATIN NAÏVE PATIENT MIMICKING GUILLAIN-BARRE SYNDROME (GBS): THERAPEUTIC CHALLENGES

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Background: Immune mediated necrotising myopathy (IMNM) presents as subacute symmetrical proximal muscle weakness. The fulminant progression, absence of cutaneous manifestations of dermatomyositis and stigmata of inflammatory arthritis makes IMNM more likely.
The rapid progression of weakness including bulbar muscles in inflammatory myopathies have led to misdiagnoses as Guillain-Barre Syndrome (GBS) in

many previously reported cases. The importance of making this distinction lies in the need for prompt combined immunotherapy in IMNM as opposed to GBS.
Therapeutic challenges of treating a fulminant myopathy are plenty with minimal randomised controlled trials. The patient who is bed bound in a couple of weeks as well as the treating clinician are bound to cry for help.

Case Presentation: A 37-year-old female presented with a two-week history of proximal predominant limb weakness progressing to dysphagia and facial weakness. On admission the proximal muscle power was 2/5 in all four limbs according to Medical Research Council grading. The deep tendon reflexes were absent. There were no sensory findings. The systemic examination too was normal. Invasive ventilation was required due to severe respiratory muscle weakness. She was started on intravenous immunoglobulins (IVIg). The elevated creatinine phosphokinase and electrophysiology confirmed the presence of a myopathic pathology, also confirmed by destruction and inflammation on histopathology and a highly positive 3-hydroxy-3-methylglutaryl coenzyme A (HMG-COA) reductase (HMGCR) antibody titre.
The management was guided by expert opinion. Induction of immunotherapy with multiple agents (IVIg, steroids, plasma exchange, rituximab, cyclophosphamide) brought minimal response. Treatment was further extended with three weekly IVIg pulses bringing about improvement.

Discussion: IMNM due to HMGCR antibodies with an atypically fulminant progression can mimic GBS and may need aggressive immunotherapy. It is important for the treating clinician to be aware of the treatment options. Most importantly they should keep on trying to induce remission.

PP 11
STEROID-RESPONSIVE ENCEPHALOPATHY ASSOCIATED WITH AUTOIMMUNE THYROIDITIS: A CASE SERIES

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Background: Steroid-responsive encephalopathy associated with autoimmune thyroiditis (SREAT) is a rare neurological disorder often misdiagnosed due to its varied and non-specific presentation. This case series highlights the challenges in recognizing SREAT and emphasizes the importance of early diagnosis and treatment to prevent long-term neurological sequelae.

Case Presentation: Two cases exemplify the diagnostic dilemma of SREAT.
A 49-year-old woman initially presented with cognitive decline and psychiatric symptoms, leading to a misdiagnosis of schizophrenia. Despite aggressive treatment, her condition deteriorated. Subsequent investigations revealed elevated anti-thyroid microsomal antibodies and neuroimaging evidence of encephalitis. Prompt initiation of intravenous methylprednisolone resulted in significant clinical improvement, although long-term follow-up demonstrated persistent cerebral atrophy.

A 73-year-old man with comorbidities presented with rapidly progressive dementia, delirium, and status epilepticus. Initial investigations were inconclusive, and he was initially treated for viral encephalitis. However, intravenous methylprednisolone therapy led to a complete resolution of his neurological symptoms. Notably, elevated serum anti-thyroid peroxidase antibodies were also detected in this patient.

Discussion: SREAT can mimic various neurological disorders, leading to diagnostic delays and inappropriate treatment. Early recognition and prompt initiation of immunosuppressive therapy are crucial to minimise neurological damage. The exact pathogenesis of SREAT remains unclear, but it is believed to be an autoimmune-mediated disorder linked to thyroid dysfunction.
Healthcare providers should consider SREAT in the differential diagnosis of patients with acute or subacute neuropsychiatric manifestations, especially when initial investigations are unrevealing. Prompt recognition and initiation of immunosuppressive therapy, such as intravenous corticosteroids, can lead to significant clinical improvement.

PP 12
BEYOND THE EXPECTED: BRAIN IMAGING'S ROLE IN DETECTING LUNG CANCER

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Background: Leptomeningeal carcinomatosis, though rare, presents a significant diagnostic challenge due to its non-specific clinical manifestations. Especially in an elderly patient presenting with headache, leptomeningeal carcinomatosis is an important diagnostic consideration.

Case Presentation: We came across a 68-year-old lady with 3-month long headache and constitutional symptoms, whose initial investigations revealed elevated inflammatory markers prompting further evaluation. Cerebrospinal fluid analysis revealed a sugar drop and raised protein. MRI revealed the unique ""bloomy rind"" appearance encasing the brainstem on FLAIR sequences, raising the suspicion for leptomeningeal carcinomatosis. There were multiple small ring-enhancing lesions as well. The differential diagnoses entertained were disseminated tuberculosis and disseminated malignancy. Subsequent imaging indicated a primary lung malignancy with liver metastasis. Unfortunately, the patient succumbed following radiotherapy.

Discussion: Headache among elderly patients with constitutional symptoms is a significant clinical feature. It is always important to exclude a sinister cause in these patients. “Bloomy rind” sign on MRI, in which there is T2/FLAIR hyperintensity of the leptomeninges encasing the brainstem, is highly specific for malignant infiltration. However, in a context where tuberculosis is commonly encountered, it is an important differential diagnosis to consider when there is meningeal enhancement.

PP 13
SEXUAL DIMORPHISM IN THE LENGTH OF THE CORPUS CALLOSUM IN CADAVER

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Background and Objectives: Evidence from various studies suggests sexual dimorphism in the corpus callosum, with males generally showing larger callosal length than females. A literature review indicates that the corpus callosum length may be altered in various neurological, neurosurgical, and psychiatric conditions. Understanding normal morphological differences in corpus callosum length between Bangladeshi males and females is crucial for accurate diagnosis through brain imaging and treatment planning. This study aimed to establish baseline data on corpus callosum length in the Bangladeshi population to serve as a standard reference for clinical practice.

Methods: This cross-sectional, descriptive study was conducted at the Department of Anatomy, Dhaka Medical College, Bangladesh, from July 2009 to June 2010, after obtaining ethical clearance from the Institutional Review Board. The study examined 60 human brains (36 male, 24 female) from unclaimed deceased individuals. The subjects were categorized into age groups A, B, C, and D. Corpus callosum length measurements were carefully performed using digital slide calipers, with all measurements recorded in millimeters to ensure accuracy and consistency.

Results: Analysis revealed consistent gender differences across all age groups. In group A, mean corpus callosum lengths were 68.04±0.99 mm in males and 67.03±0.05 mm in females. Group B showed measurements of 67.50±0.13 mm in males and 67.02±0.03 mm in females. In group C and D, males exhibited mean lengths of 67.51±0.03 mm compared to 67.02±0.03 mm in females. All differences were found to be statistically significant.

Conclusions: Statistically significant differences were found between males and females in all age groups in the length of the corpus callosum

PP 14
BASALOID SQUAMOUS CELL CARCINOMA CLINICALLY AND RADIOLOGICALLY MASQUERADING AS A HEAD AND NECK PARAGANGLIOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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Background: Basaloid squamous cell carcinoma (BSCC) is a rare malignant variant of squamous cell carcinoma (SCC) that usually arises in the neck. This is the first case of basaloid squamous cell carcinoma clinically and radiologically masquerading as a head and neck paraganglioma.

Case Presentation: A 66-year-old male with unilateral hearing impairment and 7th–12th (excluding 11th) cranial nerve palsies was diagnosed radiologically with a head and neck paraganglioma by magnetic resonance imaging of the brain, which revealed a hypointense and hyperintense punctate mass centered at the jugular fossa with intracranial extension. The ascending pharyngeal artery, recognized as the major feeder, was embolised by percutaneous embolisation following digital subtraction angiography. Gross total resection of the tumour was followed by an uneventful postoperative recovery. Combined immunohistochemistry and histopathological morphology revealed a basaloid squamous cell carcinoma, following which the patient completed radiotherapy and is at 3-month follow-up currently.

Discussion: Head and neck paragangliomas (HNPGLs) are rare tumors with an estimated clinical incidence of 1/100,000 patients per year. Glomus Jugulare Tumours (GJTs) being the most common form of jugular foramen tumors exhibit local invasion unlike BSCCs which elicit a higher propensity for metastasis. HNPGLs are commonly observed in women in their late 40s presenting with ontological symptoms and facial nerve palsies, while BSCCs are usually common in men in their 60s with a history of tobacco/alcohol use and present with lymph node metastasis. Vernet's syndrome and posterior laterocondylar syndrome are characteristic clinical features of GJTs and are often demonstrated radiologically by the salt-and-pepper appearance. This case report discusses the diagnostic pitfalls and management challenges of this rare entity based on prior evidence, as well as a literature review and clinical and surgical analysis.

PP 15
RECURRING EPISODES OF VOMITING, AN ENIGMA UNVEILED: A CASE OF AREA POSTREMA SYNDROME IN NMOSD

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Background: Neuromyelitis optica spectrum disorder (NMOSD) is a rare autoimmune condition of the central nervous system, primarily affecting the optic nerves, spinal cord, and brainstem. Area postrema syndrome (APS), characterised by intractable nausea, vomiting, and hiccups, can be an early and sometimes overlooked manifestation of NMOSD, especially in seronegative cases.

Case Presentation: A 35-year-old female presented with recurrent episodes of nausea and vomiting for 2 years. Symptoms progressively worsened, with the development of dysphagia, diplopia, and bilateral visual impairment. A prior episode of intractable vomiting, occurring a year earlier, was initially misdiagnosed as gastrointestinal pathology. Neurological examination revealed bilateral visual impairment, sixth nerve palsy, nystagmus, ataxia, and palatal palsy.

Brain magnetic resonance imaging (MRI) showed hyperintensities in the area postrema and spinal cord lesions consistent with longitudinally extensive transverse myelitis (LETM). Cerebrospinal fluid (CSF) analysis, aquaporin-4 and myelin oligodendrocyte glycoprotein (MOG) antibody testing were negative, leading to the diagnosis of seronegative NMOSD.
After a diagnosis of seronegative NMOSD, she was treated with intravenous methylprednisolone pulses and high-dose oral prednisolone, leading to resolution of nausea, vomiting and hiccups, though vision improved only slightly. Rituximab therapy was then initiated, resulting in significant recovery and full restoration of vision.

Discussion: This is an unusual case of NMOSD, where longstanding, recurrent nausea and vomiting due to APS were the sole presenting symptoms, undiagnosed until further neurological signs emerged. Clinicians should consider APS in patients with persistent nausea and vomiting after excluding organic causes, as failure to diagnose can lead to significant neurological sequelae. Early diagnosis and appropriate immunotherapy, such as rituximab, can significantly improve outcomes and prevent neurological sequelae.

PP 16
CAVERNOUS SINUS HAEMANGIOMA; A DIAGNOSTIC DILEMMA

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Background: Haemangiomas are rare, benign vascular tumours. The cavernous sinus is a rare location where hemangiomas occur. Cavernous sinus haemangiomas (CSH) can clinically mimic cavernous sinus thrombosis (CST) making dilemmas in the management strategy.

Case Presentation: An eleven-year-old, previously healthy girl presented with acute onset diplopia and ptosis, with intermittent pain (numeric rating 4 - 6). Examination revealed left third cranial nerve palsy with a spared pupil. Additionally, an ipsilateral upper motor-neuron seventh cranial nerve palsy is noted (House-Brackmann scale grade III). The rest of the neurological examination is within normal limits. The initial non-contrast computed tomography (CT) brain scan was normal. 1.5-tesla magnetic resonance imaging (MRI) brain queried CST. Management was commenced as for CST. However, because of clinical and radiological doubts, the MRI brain was repeated (3-tesla contrast with cavernous sinus sequences). 3T MRI brain revealed an extra-axial non-contrast enhancing lesion centred over the left side posterior clinoid process and left lateral wall of the cavernous sinus with possible compression of the left ocular motor nerve at the cavernous sinus. There was no cavernous sinus thrombosis. Intra-cranial Masson haemangioma was a possibility, but a biopsy of the lesion was not done due to the high risk of bleeding. CST management was abandoned. Surgery and stereotactic radiosurgery are considered to have a high risk of bleeding.

Discussion: Cavernous sinus haemangioma can closely mimic cavernous sinus thrombosis in clinical presentation and neuroimaging. Correct diagnosis of either condition is important as management strategies are different.

PP 17
CEREBRAL OCCIPITAL HAEMORRHAGES RESULTING FROM ENVENOMATION BY THE HUMP-NOSED VIPER LEADING TO CORTICAL BLINDNESS: A CLINICAL CASE ANALYSIS

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Background: The hump-nosed viper, a major cause of venomous bites in Sri Lanka, is linked to significant morbidity. While typically causing local envenoming, severe systemic effects like haemostatic dysfunction, renal impairment, and death have been reported. The venom has potent cytotoxic and mild neurotoxic effects. This case presents a rare complication of cerebral occipital haemorrhages leading to cortical blindness, which has not been previously documented.

Case Presentation: A 34-year-old male presented with shortness of breath, a hump-nosed viper bite one week prior, reduced urine output, and fever. Examination revealed fever, normal Glasgow coma scale (GCS), high blood pressure (178/122 mmHg), pulse 88 bpm, oxygen saturation 94%, right leg oedema, inguinal lymphadenopathy, and bilateral crepitations. He had vision loss and could not identify hand movements in the left eye or count fingers in the right. On day 4, he developed right upper limb weakness (2/5 muscle power).
Investigations showed haemoglobin 7.9 g/dL, platelets 193 × 10^3/µL and microangiopathic haemolytic anaemia. Arterial blood gas indicated a metabolic acidosis. Serum creatinine was 1722 µmol/L, urea 61 mmol/L, and potassium 6.9 mmol/L. INR was 1.02 with normal whole blood clotting test (WBCT). Fundoscopy showed no retinal haemorrhages.
Non-contrast computed tomography (NCCT) showed the right occipital lobe haemorrhage. Magnetic resonance imaging (MRI) and angiography revealed multiple lesions with haemorrhages, oedema, and gyral enhancement in the cerebral, cerebellar, and parietal lobes and right occipital lobe. The patient received antibiotics, fluids, and hemodialysis, improving renal function and partially recovering vision, with follow-up planned.

Discussion: Several reports link coagulopathy to hump-nosed viper envenomation, likely due to elevated thrombin-like enzymes, proteases, phospholipase A2, L-amino acid oxidase, and hyaluronidase in the venom. Coagulopathy can occur even with a normal WBCT, commonly monitored in

Sri Lankan hospitals. The condition is associated with microangiopathic haemolytic anaemia, thrombocytopenia, coagulopathy, and spontaneous haemorrhage, which may lead to both neurological and non-neurological symptoms, requiring vigilant monitoring for acute or subacute presentations.

PP 18
A CASE OF EPISODIC INTRACTABLE HICCUPS FROM AREA POSTREMA SYNDROME: A RARE MANIFESTATION OF MULTIPLE SCLEROSIS

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Background: Area postrema syndrome (APS) is a core clinical feature of Neuromyelitis Optica Spectrum Disorder (NMOSD). Here, we present a patient with APS due to Relapsing-Remitting Multiple Sclerosis (RRMS), highlighting the diagnostic and therapeutic challenges it presents.

Case Presentation: Our patient is a 51-year-old male, who developed intractable hiccups for the first time at the age of 40. Over the following six years, he had four similar episodes, and an episode of right lower limb numbness. He first presented to us in 2019, aged 46 with right lower limb weakness. Contrast-enhanced magnetic resonance imaging (MRI) of the brain revealed T2 hyperintensities in the area postrema and ovoid periventricular lesions. The optic nerves and spinal cord were unaffected. Cerebrospinal fluid analysis showed positive oligoclonal bands, while aquaporin 4 (AQP4) and myelin oligodendrocyte associated glycoprotein (MOG) antibodies were negative. A diagnosis of RRMS was made, and he was started on beta-interferon therapy. He remained independent and ambulatory for the next 5 years. In 2024, he was treated with intravenous steroids for radiological progression. Subsequently, the patient developed recurrent hiccups and was initiated on Rituximab therapy.

Discussion: The patient met the diagnostic criteria for MS, with lesions demonstrating dissemination in space and time. The area postrema is rich in aquaporin-4 receptors, making its involvement a hallmark of seropositive NMOSD. APS is rarely reported in MS. Differentiating between NMOSD and MS is crucial due to the differing therapeutic approaches. Disease modifying therapies like beta-interferon, commonly used in MS, may worsen NMOSD, while long-term corticosteroid therapy in MS cases misdiagnosed as NMOSD can increase relapse frequency. Rituximab is considered safe for both conditions, especially when the diagnosis is uncertain.
Area postrema syndrome can be a rare presentation of MS and must be distinguished from NMOSD to ensure appropriate management.

PP 19
PRIMARY INTRACRANIAL MALIGNANT MELANOMA: FIRST CASE REPORT IN SRI LANKAN LITERATURE

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Background: Malignant melanomas typically occur in the skin, mucosa, and eyes but can also arise in the central nervous system (CNS), where melanocytes from the leptomeninges become cancerous. Primary CNS melanomas are rare, comprising just 0.1% of intracranial tumours, and have a poor prognosis. Treatment typically involves surgery, chemotherapy, and radiation therapy.
We report a rare case of primary intracranial melanoma in the temporal lobe with intracranial and meningeal metastases, the first of its kind in Sri Lankan literature.

Case Presentation: A 39-year-old previously healthy male presented with sudden-onset vomiting and progressive unresponsiveness lasting for two days. Upon admission, his Glasgow Coma Scale (GCS) was 9/15 (E-1, V-1, M-4), pupils were 2 mm and slow-reactive, blood pressure was 110/70 mmHg, and pulse rate was 55 bpm. A thorough examination of the system and neurological findings were otherwise unremarkable.
Urgent non-contrast computed tomography (CT) of the brain revealed an iso-hyperdense focal lesion in the left temporal region with significant perilesional oedema. T1-weighted cerebral magnetic resonance imaging (MRI) with contrast showed a well-defined mass in the temporal area, with gadolinium enhancement, associated vasogenic oedema, and a mass effect, while T2 imaging demonstrated a hypointensity.

Intraoperatively, a large, irregular brownish-black mass with intracranial metastasis extending into the meninges was found, along with multiple irregular brownish-black soft tissue pieces. Microscopic examination of the frozen sections from the temporal

mass and dural tissue revealed meningeal melanoma, classified as CNS WHO grade 3. The patient showed improvement following surgery. No systemic melanomas were detected during a close clinical examination. Postoperatively, the patient was referred for radio-chemotherapy.

Discussion: Diagnosing primary cerebral melanoma is challenging without cutaneous melanosis. High clinical suspicion and accurate pathology are essential for identifying these rare tumours, emphasising the importance of including them in the differential diagnosis of intracranial lesions. Despite the poor prognosis of malignant melanomas, surgery and emerging therapies can improve survival and quality of life.

PP 20

AICARDI-GOUTIÈRES SYNDROME: UNDERSTANDING INFANTILE CEREBRAL CALCIFICATIONS AND POSITIVE CEREBROSPINAL FLUID ANALYSIS BEYOND TORCH INFECTIONS

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Background: Aicardi-Goutières Syndrome (AGS) is a rare genetic disorder primarily characterised by early-onset encephalopathy, microcephaly, basal ganglia calcifications, leukodystrophy, and cerebrospinal fluid (CSF) lymphocytosis. It closely mimics congenital infections and is, therefore, also referred to as a pseudo-TORCH infection.
Due to its autosomal recessive inheritance pattern, AGS carries a higher recurrence risk compared to congenital infections. Thus, accurate diagnosis and genetic counselling are crucial for effective management and family planning.

Case Presentation: A male infant was born via elective caesarean section without significant antenatal concerns. The baby weighed 2.97 kg at birth with a normal Apgar score.
He developed fever 10 hours postpartum. While he was managed for sepsis, a lumbar puncture performed on day 10 of life showed 10 polymorphs, 2 lymphocytes, CSF protein of 184 mg/dL, with normal CSF glucose. Cranial ultrasound was normal.
The child continued to get recurrent fever episodes and was evaluated at various stages, with inflammatory markers consistently being normal. At 6 months of age, repeat lumbar puncture showed a cellular CSF with elevated protein and normal sugar difference. By now, the child had global developmental delay, dystonia with exaggerated reflexes, and acquired microcephaly.
Non-contrast computed tomography (CT) revealed widespread, scattered, nodular, and irregular calcifications throughout the cerebrum, brainstem, and cerebellum. TORCH screening was negative. Electroencephalogram (EEG) showed diffuse cerebral dysfunction. Whole exome sequencing identified a homozygous variant in the RNASEH2C gene, confirming Aicardi-Goutières Syndrome, Type 3. Following the diagnosis genetic counselling was arranged to discuss recurrence risk.

Discussion: Infants presenting with cerebral calcifications and persistent CSF positivity, yet with normal inflammatory markers, should raise suspicion of AGS. Unlike congenital infections, AGS is a genetically inherited disorder, making early diagnosis essential for patient care and family counselling
A family history of cerebral calcifications should also raise suspicion for AGS, emphasising the importance of genetic testing in these cases.

PP 21

TUMOUR-LIKE MASS LESION AS A RARE PRESENTATION OF PRIMARY CENTRAL NERVOUS SYSTEM VASCULITIS; MIMICKING GLIOMA

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Background: Primary central nervous system vasculitis (PCNSV) is a rare form of vasculitis predominantly affecting the brain and spinal cord. It has various clinical presentations, including tumefaction leading to mass lesions, which often mimic intracranial neoplasms.

Case Presentation: A 35-year-old previously healthy female presented with a sudden onset thunderclap headache followed by left side hemiplegia. Her non-contrast computed tomography (CT) brain images showed a left parietal intracerebral haemorrhage with mass effect. Although her CT angiogram of the brain was negative, magnetic resonance (MR) angiogram showed multiple narrowed segments in the middle cerebral artery territory and MRI black blood imaging evidenced some vascular wall thickening within the brain parenchyma which favoured the diagnosis of CNS vasculitis. While her blood investigations revealed a high erythrocyte sedimentation rate (ESR), positive antinuclear antibodies with negative anti-neutrophil cytoplasmic antibodies and normal complement, her MR spectroscopy was suggestive of a glioma. With the dilemma of both diagnosis the patient underwent neuro navigation guided brain biopsy which confirmed the absence of a glioma and features suggestive of inflammation. With the suspicion of vasculitis intravenous methyl prednisolone followed by oral prednisolone and azathioprine were given, following which she showed clinical improvement.

Discussion: Tumefaction in PCNSV is a less reported entity which could mimic a glioma. Early suspicion and subsequent investigations could lead to successful diagnosis and treatment. Our case highlighted that when a patient presented with imaging evidence of an intracranial neoplasm like a glioma, one of the differential diagnoses should be primary CNS vasculitis with a tumour-like mass lesion.

PP 22

ROLE OF EPILEPSY SURGERY IN FAMILIAL FOCAL EPILEPSY WITH VARIABLE FOCI (FFEVF) : INSIGHTS FROM A CLINICAL CASE REPORT

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Background: Familial focal epilepsy with variable foci (FFEVF) is a rare genetic epilepsy syndrome characterised by recurrent focal seizures that can arise from different cortical regions of the brain due to the dysplastic neurons that alter the cortical lamination caused by the negative regulator of the mTORC1 complex, like in DEPDC5 mutation. Most individuals with FFEVF exhibit favorable responses to anti-seizure medications, and patients with Drug-Resistant Epilepsy (DRE) may benefit from epilepsy surgery.

Case Presentation: We report a 6-year and 3-month-old girl, born to third-degree consanguineous parents, with drug-resistant epilepsy and developmental concerns since infancy. She presented with right focal motor seizures, 30-40 events per day, since the age of 2.5 months. Magnetic Resonance Imaging (MRI) brain showed focal cortical dysplasia (FCD) at the left-pre-central gyrus. Ictal and interictal findings were concordant with clinical and MRI data. She underwent navigation-guided excision of the FCD with intra-operative electrocorticography at the age of 9 months and repeat excision at the same focus at 1 year and 3 months due to a relapse.

Two years after the second surgery, she achieved an Engl-1a outcome with an improvement in right-sided hemiplegia (Gross Motor Function Classification System (GMFCS) I, Manual Ability Classification System (MACS) II). She is on minimal doses of anti-seizure medication and has shown significant improvement in health-related quality of life, as measured by Quality of Life in Childhood Epilepsy Questionnaire (QOLCE)-55. Histological analysis showed FCD IIa. Whole-exome-sequencing identified a pathogenic mutation in the DEPDC5 gene (NM_001242896.3(DEPDC5):c.522_525del), known to be associated with FFEVF and FCD.

Discussion: This case report contributes to the existing literature on the potential benefits of epilepsy surgery for patients with FFEVF of DEPDC5 gene mutation with focal-cortical dysplasia. Future studies and larger case series focusing on neurophysiology, imaging, pathology, and surgical outcomes may provide greater insight into the role of surgery in managing children with FFEVF epilepsy syndrome.

PP 23

DEMOGRAPHICS, AETIOLOGY AND QUALITY OF LIFE IN DEVELOPMENTAL AND EPILEPTIC ENCEPHALOPATHIES (DEE) IN SRI LANKA- A SINGLE CENTRE STUDY

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Background and Objectives: Developmental and Epileptic Encephalopathy (DEE) is characterised by three main domains: seizures, epileptiform discharges on electroencephalogram (EEG), and their negative impact on development, behaviour, and cognition. This study aimed to characterise the clinical and epidemiological profile, as well as the quality of life, of children with epileptic encephalopathy in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted from December 2021 to November 2024 in the Paediatric Neurology Clinics at Lady Ridgeway Hospital, focusing on children with DEE. An interviewer-administered questionnaire was used to assess quality of life and collect socio-demographic data, while clinical details and investigation results were obtained from clinic records

Results : A total of 55 children with DEE were analysed, with a mean age of 6 years (±3.75). Most were female (56.4%, n= 31) and Sinhalese (89.1%, n=49). Infantile and childhood-onset DEE were equally prevalent (49.1%, n=27 each), with Lennox-Gastaut syndrome being the most common subtype (41.8%, n=23), followed by infantile epileptic spasm syndrome (29.1%, n= 16). The mean age of seizure onset was 19.2 months (±2 years). Abnormalities in the EEG included multifocal epileptiform discharges in 63.6% (n=35) and generalised epileptiform discharges in 20% (n=11). Neuroimaging abnormalities were seen in 74.5% (n=41), and pathogenic genetic findings were identified in 5 of 9 tested patients. Functional status assessment indicated that 49.1% (n=27) were in Gross Motor Function Classification System (GMFCS) Level I, while 5.5% (n=3) were in Level V. Quality of life assessments demonstrated that 45.5% (n=25) had below-average scores on a 1–10 scale.

Conclusions: This study highlights the clinical characteristics, diagnostic findings, and quality of life of children with DEE, emphasising the need for comprehensive diagnostic and supportive care strategies.

PP 24

CO-REGISTRATION OF INTERICTAL EEG DATA WITH MRI BRAIN FOR THE PRESURGICAL EVALUATION OF CHILDREN WITH DRUG RESISTANT EPILEPSY

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Background and Objectives: Clinical electroencephalogram (EEG), magnetic resonance imaging (MRI) brain concordance is a criterion that is important in epilepsy surgery. This study was done to develop a co-registration paradigm to integrate interictal-EEG (IEEG) and MRI-brain data for the Presurgical Evaluation of Children with Drug Resistant Epilepsy (DRE).

Methods: Ten randomly selected children aged 3-16 years, with DRE from an epilepsy surgery centre were analysed using Brainstorm software. T1-weighted MRI-brain were normalized into Montreal Neurological Institute (MNI) standardized space. The images were segmented into grey-matter, white-matter, cerebrospinal fluid, skull, and scalp tissues using Statistical-Parametric-Mapping's (SPM12) unified segmentation algorithm. Cortical surface meshes with 15,000 vertices were generated using the Computational Anatomy Toolbox (CAT12) for precise representation of the cortical sheet. A four-layer boundary element model, comprising the scalp, outer skull, inner skull (with 1922 vertices each) and cortex was constructed with a skull thickness of 4 mm. IEEG,10-20 system, with standard filters was used. Noise covariance estimation, electrode positioning using the International Consortium or Brain Mapping 152 (ICBM152) template, and forward model calculation using OpenMEEG with relative conductivity values (scalp and brain: 1, skull: 0.0125) were performed in the head model reconstruction. Standardized Low-Resolution Electromagnetic Tomography (sLORETA) was employed for mapping the cortical sources of interictal discharges onto the MRI. The results were reviewed by a blinded investigator against original EEG-MRI findings.

Results: The sLORETA-based localisation of cortical sources, presented as current density maps and sLORETA z-score statistical maps with colour bands, overlapped original EEG-MRI findings and demonstrated strong temporal and spatial correlation.

Conclusions: This study demonstrates the feasibility of EEG-MRI co-registration using sLORETA. The alignment with clinical findings highlights its potential utility in presurgical planning. Further research with larger cohorts such as patients with EEG-MRI concordance, discordance and MRI negative patients is essential to validate these findings and refine the methodology for broader clinical applications.

PP 25
A CASE SERIES OF CHILDREN WITH LESIONAL DRUG-RESISTANT EPILEPSY, WITH REFLEX SEIZURES

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Background : The International League Against Epilepsy defines reflex epilepsy as a type of epilepsy where seizures are consistently triggered by a specific stimulus. We present a series of five children diagnosed with Drug-Resistant Reflex Epilepsy, correlating their clinical semiology with the findings from magnetic resonance imaging (MRI) lesions.

Case Presentations:
Eating Epilepsy; a 13-year-old boy, presented with seizures triggered by mastication. Focal-onset, non-motor seizures, with impaired awareness was the commonest semiology. MRI-brain revealed right mesial temporal long-term-epilepsy-associated-tumour (LEAT), with concordant electroencephalogram (EEG) findings.

Startle epilepsy; a 6-year-old child, with global delay had seizures triggered by unexpected noises. She had myoclonic, and tonic clonic seizures with asymmetric limb posturing with impaired awareness. MRI-brain showed bilateral posterior-temporal-occipital encephalomalacia, with an encephalopathic EEG background.

Water-induced epilepsy; a 13-year-old girl, presented with seizures triggered by washing her face. Clinical semiology revealed right focal motor seizures with preserved awareness. The MRI brain had features of encephalomalacia in the left frontal region with ex-vacuo dilatation of the left lateral ventricle, which was compatible with an old infarct/ haemorrhage. Ictal EEG is concordant with the imaging while interictal EEG showed discordance.

Tactile epilepsy; a ten-year-old girl presented with focal non-motor seizures with sensory phenomena, triggered by tactile stimuli over the right little finger. The MRI brain revealed left parietal cortical malformation (Polymicrogyria sequence), involving the post-central gyrus. Interictal EEG was negative, whereas the ictal EEG was concordant with the lesion.

Photo-sensitive epilepsy; an 11-year-old girl had right focal motor seizures with visual aura, and the events were triggered by flashing lights. MRI brain showed ulegyria in the left occipital and posterior parietal lobes probably due to a previous ischemic insult. Interictal EEG was discordant whereas the ictal EEG showed concordance with imaging.

Discussion : Reflex seizures are seen in children with DRE. The aetiology could be an epileptogenic brain lesion. Reflex seizure triggers and the semiology change with the anatomical localisation of the brain lesion.

PP 26
RISK FACTORS FOR FALLS IN POST-ACUTE STROKE SURVIVORS: A PROSPECTIVE STUDY

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Background and Objectives: Falls following a stroke remain a debilitating event that negatively affects the functional independence of affected individuals. This study aims to identify risk factors for falls in the three-

month post-acute period following a stroke in a Sri Lankan context.

Methods: This prospective study was conducted at the Neurology Clinic of the National Hospital of Sri Lanka from March to September 2024. Data was collected from consented participants, first-time stroke survivors, who were in their poststroke period of more than three months, using a nonprobability sampling method. A questionnaire was used to collect the sociodemographic details. Fear of falling (FoF), cognitive function, balance, mobility, functional independence in activities of daily living (ADL) and instrumental activities of daily living (IADL) were assessed for possible risk factors using Falls Efficacy Scale, Montreal Cognitive Assessment, four-stage balance test, Timed Up and Go (TUG) test, Barthel index and Lawton IADL scale, respectively. Participants were followed up for three months to record fall frequency prospectively. Data was analysed with Pearson's correlation test for possible associations for falls using SPSS version 23 software.

Results: Ninety two participants (male; n=62, female; n=30) with a mean ± standard deviation (SD) age of 61 ± 6.9 years participated in the study. Fall frequency was recorded in 89 participants and 3 were lost to follow-up. Thirty-four participants (38.2%) experienced falls over the following three months, with 58.82% (n=20) of these individuals having multiple falls. Pearson's correlation test revealed significant relationships ($p<0.01$) with FoF ($r=0.423$), balance ($r=-0.427$), mobility ($r=0.427$), and functional independence in ADL($r=-0.382$), while age, gender, cognition and functional independence in IADL were found to be not associated with falls.

Conclusions: These modifiable risk factors need tailored interventions to prevent falls in stroke survivors.

PP 27
CORTICAL VS. CAPSULAR STROKE: A CASE SERIES OF CONTRALATERAL LINGUOFACIAL HEMIPLEGIA

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Background: The combination of unilateral facial and hypoglossal palsy with upper limb weakness is a rare stroke syndrome. This case series highlights two cases with different anatomical localisations.

Case Presentations:
Case 1: A 57-year-old male with smoking, ischaemic heart disease, and dyslipidaemia presented with acute right lower face weakness, severe aphasia with tongue deviation to the right, and right arm drift. The rest of the neurological examination was unremarkable. He was thrombolysed with 0.9 mg/kg alteplase at 2 hours from symptom onset for a National Institutes of Health Stroke Scale (NIHSS) of 5. Initial non-contrast computed tomography (NCCT) was normal, but magnetic resonance imaging (MRI) revealed an acute infarct in the left premotor cortex, corresponding to the face-tongue-hand area (Penfield homunculus). His Holter monitor revealed paroxysmal atrial arrhythmia, and rivaroxaban was added.

Case 2: A male with smoking, dyslipidaemia, and 80% left carotid stenosis presented with right lower face weakness, lingual dysarthria, and dense right upper limb paresis. Initial NCCT was normal, and NIHSS was 8. He was thrombolysed with tenecteplase at an hour post-symptom onset, showing minimal improvement. Repeat NCCT revealed an acute infarct in the genu of the left internal capsule. Early carotid endarterectomy was considered.

Discussion: Both patients had pyramidal weakness of the ipsilateral lower face, tongue, and arm, with sparing of the palatal and lower limb muscles, and received antiplatelets, high-intensity statins, speech therapy and occupational therapy. The patient with the cortical infarct had milder limb weakness but a severe speech defect. The second patient had significant arm weakness, but mild dysarthria. The genu of the internal capsule carries the corticopontine and corticobulbar fibres. Acute faciolingual syndrome typically suggests capsular genu stroke, but cortical infarcts causing this phenomenon are rare.
Strokes of the genu of the internal capsule or the premotor cortex can result in contralateral faciolingual hemiplegia.

PP 28
A RARE PRESENTATION OF HEMIPARESIS WITH COMPLEX OPHTHALMOPLEGIA: A CASE OF NINE SYNDROME

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Background: The pons and midbrain contain nuclei and connections involved in the gaze circuit, including

the abducens nucleus, oculomotor nucleus, paramedian pontine reticular formation (PPRF), and medial longitudinal fasciculus (MLF). Lesions affecting these structures result in syndromes such as "one-and-a-half syndrome" and "eight-and-a-half syndrome." Nine syndrome, a rare neuro-ocular condition, combines features of one-and-a-half syndrome with ipsilateral facial palsy and contralateral hemiparesis, hemihypaesthesia, or ataxia. It results from lesions in the unilateral tegmentum of the caudal pontine and paramedian pontine regions.

Case Presentation: A 56-year-old male with a smoking history presented with sudden-onset slurred speech, double vision, and right-sided limb weakness. Examination revealed right-sided pyramidal weakness (muscle power 4/5), left lower motor-type seventh nerve palsy, left conjugate horizontal gaze palsy, and left internuclear ophthalmoplegia. Vision was normal, and both pupils were reactive to light. Cerebellar signs were absent, and the rest of the cranial nerve examination was unremarkable. His blood pressure was 180/110 mmHg, with a normal systemic exam.
Laboratory tests (complete blood count (CBC), renal function, coagulation) were normal. Magnetic resonance imaging (MRI) showed an acute infarction in the left paracentral inferior pons and medial longitudinal fasciculus. Thrombolysis was not attempted due to late presentation. The patient was started on high-intensity statins and aspirin monotherapy, with dramatic clinical improvement.

Discussion: The clinical features were consistent with an ischaemic pontine lesion affecting the paramedian pontine reticular formation and medial longitudinal fasciculus (one-and-a-half syndrome), the facial nerve fascicle (seventh cranial nerve palsy), the corticospinal tract and medial lemniscus pathway, contributing to the "half syndrome."
Nine syndrome, most commonly caused by ischemic stroke, involves a combination of these deficits.

PP 29
ANKLE JOINT MOBILITY AND ITS IMPACT ON DYNAMIC BALANCE OF CHRONIC POST-STROKE INDIVIDUALS VISITING PHYSIOTHERAPY CLINIC IN NHSL

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Background and Objectives: Poor dynamic balance is a common complication in chronic post-stroke survivors causing fatal falls during ambulation. The ankle joint plays a crucial role in maintaining balance. Plantar flexor muscle spasticity restricts the range of motion of the ankle joint. This study aimed to find the association between the active dorsiflexion range of motion (AROM-DF) of the ankle joint, the severity of plantar flexor muscle spasticity and dynamic balance in chronic post-stroke individuals.

Methods: A descriptive cross-sectional study was conducted among 87 participants visiting the Neurology physiotherapy unit, National Hospital of Sri Lanka. Chronic post-stroke subjects, ≥3 months' post-stroke duration with hemiparesis due to stroke were included in the study. Individuals who had a history of other neurological disorders and vision impaired were excluded. AROM-DF was measured using a Universal Goniometer. Spasticity severity was graded by Modified Ashworth Scale (MAS) while, Timed Up and Go (TUG) test was used to assess the dynamic balance of the participants. Spearman's correlation and Mann-Whitney U tests were used for statistical analysis in SPSS version 25.0.

Results: Among 87 chronic post-stroke participants (mean age = 58.8 ±10.11 years) with mean post-stroke duration of 18 months (SD ± 29.48), 78.2% (n=68) were males and 21.2% (n=19) were females. Mean AROM-DF of the paretic ankle was 6.62° (±5.74). Mean TUG test score was 37.35s (±30.41). There was a significant negative correlation between paretic side AROM-DF and TUG score ($p<0.001$, $r= -0.443$). No significant level of association ($p>0.05$) was found between non- paretic ankle AROM-DF and TUG scores. No significant association was found between MAS scores and TUG scores ($p>0.05$).

Conclusions: AROM-DF of the paretic side ankle is associated with dynamic balance of chronic post-stroke hemiplegic individuals visiting the physiotherapy clinic in NHSL. Findings of this study suggest that reduced active motion of the paretic side has a negative impact on dynamic balance of this population.

PP 30

RELATIONSHIP BETWEEN CHEST EXPANSION AND TRUNK CONTROL OF ACUTE AND SUB-ACUTE POST-STROKE PATIENTS IN NATIONAL HOSPITAL OF SRI LANKA

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Background and Objectives: Trunk control is an early predictor that determines the post-stroke functional recovery level. Post-stroke patients have decreased trunk control in all planes. Those who have weakened respiratory muscles often experience instability in their trunks. Moreover, respiratory muscle strength has a positive correlation with chest expansion. Therefore, this study aims to investigate the relationship between chest expansion and trunk control.

Methods: A descriptive cross-sectional study was conducted in the Neurology Physiotherapy Unit, National Hospital of Sri Lanka (NHSL). 84 stroke patients were included who were aged between 20-75 years with an onset of less than 12 weeks. Excluded patients were those who declined consent or had medical conditions which may affect the variables. Tape measurements were used to assess upper and lower chest expansion (UCE, LCE). Trunk control (TC) was assessed using Trunk Impairment Scale (TIS). Pearson correlation test was used to identify associations under statistical analysis.

Results: There were 65 males and 19 females. The average age was 59.64±10.31 years, and the average stroke onset was 53.55±30.82 days ago. Mean TIS score was 15.54±3.52 points, while the mean upper and lower chest expansion values were 2.54±0.85 cm and 3.01±1.17 cm, respectively. Trunk control showed a significant positive correlation with lower chest expansion ($r=0.55$, $p<0.0001$). However, there was no significant association with upper chest expansion.

Conclusions: There is a significant positive correlation between trunk control and lower chest expansion of acute and sub-acute post-stroke patients. That indicates improvement in chest expansion can aid these patients in getting better trunk control. Therefore, the results suggest that researchers should pay more attention to the impact of various chest expansion exercises on trunk control. Implementing integrated treatment approaches that effectively address these interconnected factors will significantly enhance the quality of life of this population.

PP 31

ASSOCIATIONS AND IMPACT OF PRE-STROKE FRAILTY ON STROKE OUTCOMES

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Background and Objectives: There is no published data on frailty and stroke from South Asia. We aimed to describe the prevalence of pre-stroke frailty and its associations in a cohort of stroke patients in a Sri Lankan tertiary care centre.

Methods: We conducted a prospective study of all stroke patients admitted to a tertiary care centre over one year. Frailty was assessed using the Rockwood Clinical Frailty Scale (CFS), categorising patients as frail (CFS 5–9) or not frail (CFS 1–4). Data on demographics, risk factors, stroke characteristics, post-stroke complications during hospitalisation, and discharge outcomes were collected. Logistic regression analysis was performed to assess the impact and associations of pre-stroke frailty on post-stroke outcomes.

Results: We studied 600 patients (63.3% males, mean age 63±12.9 years). Of them, 53 (8.8%) were frail pre-stroke. Pre-stroke frailty was associated with advancing age ($p = 0.005$), female sex ($p = 0.004$), history of previous stroke ($p<0.001$), hypertension ($p=0.046$), diabetes ($p=0.005$), dyslipidaemia ($p=0.016$) and ischaemic heart disease ($p=0.004$). Pre-stroke frailty was associated with swallowing difficulties ($p=0.003$), dysphasia ($p<0.001$), dysarthria ($p=0.043$), bladder involvement ($p=0.009$) and admission stroke severity (National Institutes of Health Stroke Scale (NIHSS) score >5 – $p=0.039$) but there was no association with the stroke subtype ($p=0.188$). Frail patients had more complications (neurological ($p=0.002$), cardiovascular ($p=0.001$), metabolic ($p<0.001$)).

On logistic regression analysis, post-stroke dependence (Barthel index<60, (p<0.001)), post-stroke complications (p<0.003) and occurrence of severe stroke (p<0.017) were significantly associated with pre-stroke frailty, but mortality before discharge from the hospital was not associated with pre-stroke frailty (p=0.17).

Conclusions: These are the first data on pre-stroke frailty in South Asia. The prevalence rate in this cohort was 8.8%, lower than published data. Pre-stroke frailty was an independent predictor of adverse outcomes in stroke patients. Pre-stroke frailty is an independent predictor of adverse stroke outcome.

PP 32
PREVALENCE, CHARACTERISTICS AND OUTCOME OF ACUTE STROKE IN DENGUE VIRAL INFECTION: A SYSTEMATIC REVIEW

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Background and Objectives: We conducted a systematic review to identify the prevalence, characteristics and the outcome of stroke in acute dengue infection (DI).

Methods: A systematic literature search was performed on PubMed/MEDLINE and EMBASE databases for observational studies or case reports published until June 2024. Studies including children and adults with a laboratory diagnosis of DI and clinical/radiological evidence of stroke attributed to DI were included.
Results: After screening 256 abstracts, 40 relevant studies were selected (32 case reports. 2 case series, 6 cross-sectional studies). Prevalence of stroke in acute DI was 0.09-0.34%. There were 47 ischaemic strokes (IS), 52 haemorrhagic strokes (HS), 2 with both IS and HS. There were 14 subarachnoid haemorrhages and 5 intraventricular haemorrhages. Acute stroke was more common among males (55.3%) compared to females (44.7%). IS was more prevalent in children and older adults (75% in <10 years and 54.5% in 40 years compared to 14.3% in 10-40 years). The median latency for stroke onset was 6.5 (range 3-8) days after onset of DI. Typical stroke symptoms were seen in IS than HS (77.8% vs 33.3%, p<0.01). Headache, altered consciousness and seizures were dominant presenting symptoms of HS. Majority of HS (45, 86.6%) were isolated intracerebral bleeds without evidence of extracranial bleeding manifestations. HS were located in the cerebral cortex (n=17), basal ganglia (n=12), brainstem (n=5) and cerebellum (n=7). The majority of IS were cortical infarcts (38.9%). Overall mortality was 38.5%. Mortality was higher in HS compared to IS (50% vs 16.7%, p<0.05).

Conclusions: To our knowledge, this is the first systematic review of stroke in DI. Stroke is a rare but important complication in acute DI and carries high mortality. HS presentation is often atypical. A high degree of suspicion is required for a timely diagnosis of stroke in acute DI.

PP 33
ASSESSING THE BURDEN OF NEUROLOGICAL DISORDERS IN KALMUNAI HEALTH DISTRICT: INSIGHTS FROM 2024 HOSPITAL DATA

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Background and Objectives: Neurological disorders pose a significant public health challenge globally, contributing to substantial morbidity and mortality. This study assesses the burden of neurological disorders in the Kalmunai Health District using secondary data from 7 base hospitals and 14 divisional hospitals. The primary objective is to identify the most prevalent neurological disorders and their outcomes.

Methods: Data were collected from the annual summary of Indoor Morbidity and Mortality Return (IMMR), categorized by disease group, gender, and age. Neurological disorders were classified according to the International Classification of Diseases (ICD) codes.

Results: The analysis revealed that epilepsy was the most prevalent disorder, with 183 cases in males and 110 in females, predominantly affecting individuals aged 17-49. Migraines accounted for 40 male and 64 female cases, while transient cerebral ischaemic attacks were reported in 21 males and 12 females. Mortality data indicated that bacterial meningitis

resulted in 2 deaths among older adults, underscoring critical areas for intervention.

Conclusions: The findings suggest that while treatment programs are effective for managing many cases of prevalent conditions like epilepsy and migraines, challenges remain regarding resource availability and access to care. To enhance health outcomes for individuals affected by neurological disorders in Kalmunai, it is essential to improve community awareness, ensure timely diagnosis, and implement structured follow-up care.

PP 34
FROM SYMPTOM TO SIGN: A GENETICALLY PROVEN CASE OF PANTOTHENATE KINASE-ASSOCIATED NEURODEGENERATION

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Background: Pantothenate kinase-associated neurodegeneration (PKAN) is an autosomal recessive condition where there is iron accumulation in the basal ganglia typically causing a progressive extrapyramidal syndrome. We report a case of a 26-year-old gentleman with hemi-dystonia in whom the PANK2 mutation was demonstrated.

Case Presentation: This patient, who was born to a non-consanguineous marriage, had a 7-year history of progressive worsening dystonia. Initially it had started with the left lower limb and over time had progressed to both upper limbs. There was significant disability owing to the dystonic posturing. The axial muscles were also exhibiting severe dystonia and that in turn contributed to a hemi-dystonic posturing of the whole body. He also described that the symptoms had diurnal variation with worsening towards the evening. However he was found to be negative for TOR1A mutation, which excluded DYT1. The magnetic resonance imaging (MRI) brain scan revealed the characteristic "eye-of-tiger" sign with T2 low signal intensities in bilateral medial globus pallidi with mild T2 high signal vacuolation medially. These areas were blooming in susceptibility weighted imaging (SWI) sequences, further confirming a neurodegeneration with brain iron accumulation (NBIA). Targeted genetic studies revealed the presence of a pathogenic c.1441C>T variant in the PANK2 gene establishing a diagnosis of PKAN. He was started on symptomatic treatment for dystonia as well as iron chelation with deferiprone. He is still awaiting review to assess for a treatment response.

Discussion: Considering the age of symptom onset and the slow nature of progression, our patient seems to be having atypical PKAN. Diurnal variation is not characteristic in PKAN. Moreover, the pathogenic genetic mutation he had, is also quite unique as there is only one report of a patient with PKAN with a c.1441C>T mutation in the PANK2 gene.

PP 35
ARTIFICIAL INTELLIGENCE FOR ALZHEIMER'S DISEASE DETECTION: EVALUATION OF SELECTED MACHINE LEARNING MODELS FOR ALZHEIMER'S DISEASE DETECTION USING HANDWRITING FEATURES FROM THE DARWIN DATASET

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Background and Objectives: This study aimed to evaluate the diagnostic potential of selected machine learning models in detecting Alzheimer's disease based on handwriting features from the DARWIN dataset, highlighting critical handwriting tasks that could contribute to early and non-invasive diagnosis.

Methods: The data used for this project was obtained from the UCI Machine Learning Repository under the Creative Commons Attribution 4.0 International license. The dataset included handwriting samples from 174 subjects, comprising 89 Alzheimer's patients and 85 controls. It contained a total of 450 handwriting features across 25 handwriting tasks per sample. Data preprocessing involved normalisation, one-hot encoding, and recursive feature elimination (RFE). Logistic Regression, Random Forest, and Support Vector Machine (SVM) models were trained and evaluated using 5-fold stratified cross-validation. Model performance was assessed both for regular models without RFE and cross-validation, as well as for models with RFE and cross-validation. Performance metrics included Area Under the Receiver Operating Characteristic Curve (ROC AUC), precision, recall, confusion matrix, and F1-score.

Results: Among the evaluated models, Random Forest achieved the highest performance with an ROC

AUC of 0.872, demonstrating robust accuracy (80.0%), precision (81.0%), F1 score (79%) and sensitivity (80.0%) without RFE and cross-validation. Feature selection using RFE identified critical handwriting features related to tasks involving visual-motor integration, working memory, spatial attention, auditory processing, language processing, and fine motor control as key predictors of Alzheimer's disease.

Conclusions: The regular Random Forest model without 5-fold cross-validation and RFE demonstrated strong performance in detecting Alzheimer's disease from handwriting features. These findings highlight the promise of handwriting analysis combined with machine learning as a non-invasive and accessible tool for early Alzheimer's disease detection. Future work could extend this approach to computer vision models for automated handwriting analysis and broader clinical applications.

PP 36
BERIBERI WITH WERNICKE ENCEPHALOPATHY IN PREGNANCY: A CASE REPORT

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Background: Thiamine deficiency can lead to Wernicke encephalopathy, an acute and potentially life-threatening neurological condition characterised by confusion, ataxia and ophthalmoplegia. Thiamine deficiency also could give rise to beriberi, affecting the peripheral nervous system or the cardiovascular system. Although commonly associated with chronic alcoholism, thiamine deficiency can also occur following hyperemesis.
Case Presentation: We present a case of a 34-year-old pregnant mother in her 2nd trimester, who presented with confusion and bilateral lower limb weakness following prolonged vomiting. On examination she had a course horizontal nystagmus with global areflexia. Her basic blood workup turned out to be normal. Electroencephalogram (EEG) revealed generalised slowing indicative of encephalopathy. Her cerebrospinal fluid (CSF) analysis was normal including negative viral studies. Her magnetic resonance imaging (MRI) brain scan showed T2 high signal intensities in the mamillary bodies, bilateral caudate nuclei, periventricular region of the 3rd ventricle, bilateral medial thalami, peri-aqueductal region and the tectum of the midbrain.
These findings were highly suggestive of Wernicke encephalopathy. Her nerve conduction studies revealed an acute axonal pure motor polyneuropathy. Her cardiac assessment turned out to be normal. She was started on intravenous high-dose thiamine and there was significant improvement of her clinical features. Unfortunately, the pregnancy ended with an unexpected miscarriage.

Discussion: The classic triad of Wernicke encephalopathy is only present in 1/3 of patients. Therefore, it is important to have a high index of suspicion when only some of these features are present. The neuropathy in our patient was suggestive of a co-existing dry beriberi. Prompt diagnosis and treatment of Wernicke encephalopathy is vital to prevent mortality as well as long-term morbidity.

PP 37
PREDATORS IN NEUROSURGICAL ACADEMIC PUBLICATION: A CONTENT ANALYSIS

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Background and Objectives: Predatory journals are an entity which prioritise monetary benefits over the scientific and scholarly value of a publication while utilising deceptive elements to pose as legitimate journals. This study was carried out to identify the characteristics of invitational emails and websites of predatory journals.

Methods - All email solicitations received within the first three months in response to a case report posted on a renowned preprint platform, by an early career researcher in neurosurgery, were analysed. All email solicitations received were presumed predatory in origin and a descriptive analysis was carried out.

Results - A total of 108 emails from 63 different journals of 22 publishers were analysed. A significant proportion did not mention a peer-review process (28.7%, n=31) or an article processing charge (APC) (14.8%, n=16) while providing assurance of publication (71.3%, n=77) and a submission deadline (55.6%, n=60). In the analysis of finer details of email context none were listed in the Directory of Open Access Journals (DOAJ). An ISSN number was claimed in 68.3% (n=48) while 7.9% (n=5) were digitally non-existent. An editorial board was listed in 96.8% (n=61) websites and the mean h-index of the editor in chief was 18.1. Only a single (1.6%) journal was listed in the Baell's list of predatory journals.

Conclusions: While cross-checking suspected journals with the ISSN Portal, Web of Science, Beall's List, DOAJ and evaluating the h-indices of editors and affiliations are rather reliable indicators; others like PubMed indexing claims and peer-review claims are crude and risky. It is unusual for a reputed, legitimate journal to send out an email solicitation to an early career researcher. Following such an interaction, every author should confront the solicitation email and journal's website against the descriptors of predatory publishing and should follow the think-check-submit initiative.

PP 38
ACUTE TRANSVERSE MYELITIS FOLLOWING SPINAL ANAESTHESIA

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Background
Spinal and epidural anaesthesia, utilised as anaesthetic as well as analgesic agents are considered safe. The incidence of persistent neurological complications is less than 0.001%. Myelopathy is a known complication of spinal anaesthesia which could occur due to direct trauma, hematoma formation, ischemia secondary to vascular injury/hypotension or abscess formation. However there have been a few case reports of transverse myelitis occurring in the first twenty-four to forty-eight hours post-operative without an identifiable pre-operative trigger. This has led to the questioning of a causal relationship. Albeit the pathophysiology is unknown, and it is important for the anaesthesiologist, surgeon, physician as well as the neurologist to be aware of it.

Case Presentation: A 42-year-old female underwent spinal anaesthesia with intrathecal bupivacaine for a para-umbilical herniotomy and repair. The conventional protocol was followed. The patient developed paraplegia within twenty-four hours with a D5 sensory level. There was involvement of corticospinal, spinothalamic and dorsal column tracts. The magnetic resonance imaging revealed a longitudinally extensive thoracic transverse myelitis extending up to the conus medullaris. There was no contrast enhancement or diffusion restriction. She improved with intravenous methyl prednisolone and is being followed up for relapses. The aquaporin 4 and neuromyelitis optica spectrum disorder (NMOSD) antibody profiles were negative.

Discussion: A literature survey revealed fourteen cases of transverse myelitis following spinal or epidural anaesthesia. Two of them were longitudinally extensive and one had positive aquaporin 4 antibodies. The trigger of an immune response to an anaesthetic agent exposed to a breached blood cerebrospinal fluid barrier is a plausible explanation. It is of importance to warn the patient of this rare possibility inside the umbrella term of peri-operative neurological sequelae.

PP 39
AN UNUSUAL CASE OF A MIXED GERM CELL TUMOUR PRESENTING WITH COMPLETE BLINDNESS

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Background: Primary intracranial germ cell tumours (IGCTs) comprise of 0.43% to 0.54% of all central nervous system (CNS) tumours and broadly classified as pure germinomatous and non-germinomatous germ cell tumours (NGGCTs). This study reports the first known case in Sri Lankan literature of a paediatric patient with a mixed germ cell tumour (MGCT), a type of NGGCT, with an unusual presentation of complete vision loss.

Case Presentation: A 15-year-old female presented with a 2-week history of sudden onset of bilateral loss of vision associated with a diffuse bilateral headache in the background of low mood, irritability, and anhedonia and anergia for 3 months managed as depression with oral antidepressants. On admission, she was drowsy with a Glasgow Coma Scale (GCS) of

13/15 (E1, V5, M6) and a neurological examination demonstrated complete visual blindness. A non-contrast computed tomography (NCCT) brain scan demonstrated a sella-suprasellar lesion causing hydrocephalus. Blood investigations revealed hyperprolactinaemia. Magnetic resonance imaging (MRI) of the brain showed a large supra-sellar lesion suggestive of an optic chiasmatic glioma. She underwent a total excision of the tumour via a pterional approach and an immunomorphological diagnosis of a mixed germ cell tumour was made. At three months post-operation she has recovered complete colour vision in the left eye and partial vision in the right eye.

Discussion: Whilst management of MGCTs are without consensus aggressive treatment of surgical and chemotherapeutic interventions are advised due to their malignant nature. Surgery for MGCTs usually involves partial resection or biopsy for histological diagnosis. This is an excellent example of the high degree of suspicion that ought to be present regarding intracranial space occupying lesions in the paediatric population and the possible role of maximal debulking for symptom relief and recurrence reduction. It also describes the importance of accurate histological diagnosis for planning postoperative oncological management.

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PP 40
THE IMPACT OF DANGEROUS DRUG ADDICTION ON ATTENTION LEVEL

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Background and Objectives: Attention is the cognitive capacity to focus on a particular stimulus, thought or an action without focusing on other unrelated or unimportant stimuli or thoughts. Dangerous drugs have a high tendency to be abused and lead to dependency. Dangerous drugs affect different parts of the brain which are responsible for attention. Studies regarding the effects of dangerous drugs on attention level are limited. Commonly used dangerous drugs include cannabis, methamphetamine, cocaine, and heroine. We intended to determine the impact of drug addiction on the level of attention.

Methods: A cross-sectional study was conducted at the "Mithuru Mithuro" Rehabilitation centre, Rilhena, Pelmadulla, Sri Lanka, among a group of male drug addicts. The control group was composed of males (from Mihintale Ministry of Health (MOH) area, Anuradhapura) who had not currently or previously been addicted to dangerous drugs. Study tools were Bourdon Wiersma test (online numerical version) and interviewer administered questionnaire based on Drug Abuse Screening Test version 10 (DAST-10) and multiple linear regression analysis was performed using SPSS statistics software. This analysis was based on the data from 85 drug-addicted males (aged between 18-40 years) and 85 males (aged between 18-40 years) who have never consumed dangerous drugs (control group).
Results: The majority of the participants in the test group were addicted to cannabis. There was a significant difference in attention between the drug addicts group and the control group (unstandardized coefficient B = -15.844; $p<0.001$). The level of attention showed a moderate correlation with the level of education of the participant ($r=0.350$, $p<0.001$).

Conclusions
Those who are addicted to dangerous drugs have a significant attention deficit. Hence, they warrant attention level testing before allowing them to function independently in society and engage in skilled tasks such as driving.

PP 41
A CASE OF SERONEGATIVE MORVAN'S SYNDROME – IS IT PARANEOPLASTIC?

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Background
Morvan's syndrome is also known as Morvan fibrillary chorea and limbic encephalitis-neuromyotonia- hyperhidrosis-polyneuropathy syndrome. Neuromyotonia which is a manifestation of peripheral nerve hyperexcitability is a key element in many paraneoplastic neurological diseases including cramp-fasciculation, Isaac's and Morvan's syndromes. This is usually associated with contactin associated

protein 2 (CASPR2) and Leucine Rich Glioma Inactivated Protein1 antibody (LGI-1).

Case Presentation: A 65-year-old man presented with a five-day history of altered sensorium, insomnia and unsteadiness. On admission there was evidence of dysautonomia with wide variability in the blood pressure as well as heart rate. Examination revealed ataxia, and myokymic changes in muscles. Electrophysiology confirmed neuro-myotonia. The basic blood investigations excluded infective, toxic or metabolic aetiologies. The cerebrospinal fluid assay and brain imaging including magnetic resonance imaging were normal. He was given intravenous methyl prednisolone pulses and steroids. Due to a lack of response plasma exchange was initiated showing significant response. Initial malignancy screening as well as the cell based indirect immunofluorescence assays for CASPR2 and LGI-1 were negative. He has shown a remarkable recovery and is under follow up with maintenance immunotherapy.

Discussion: Voltage gated potassium channels (VGKC) form complexes with CASPR2 and LGI-1 proteins. LGI-1 is expressed in the central nervous system whereas CASPR2 is expressed in both peripheral and central nervous systems. There have been numerous reports of double negative Morvan's syndrome with negative CASPR2 and LGI-1 antibodies. All of them presented with encephalopathy, autonomic dysfunction and peripheral nerve hyperexcitability. There were reports of insomnia, sleep disorders as well as severe neuropathic pain. They were all positive for VGKC antibodies. It is postulated that positive VGKC antibodies and negative LGI-1 and CASPR 2 are not related to paraneoplastic but to immune-inflammatory processes including para-infectious cases. There is a lot to learn about seronegative Morvan's syndrome.