2692 THE FUTURE IS IN OUR HANDS: SCREENING FOR PRECLINICAL ALZHEIMER'S DISEASE AT HOME USING AUTOMATED ANALYSIS OF HAND MOVEMENTS

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Objectives There are no low-cost population-level tests to help identify preclinical Alzheimer's disease (AD); this hinders drug development and targeted dementia prevention. New evidence suggests that hand movements change in preclinical AD. We evaluated the predictive accuracy of TAS Test (new online hand movement analysis website) for detecting preclinical AD biomarkers (plasma ptau181 and subtle episodic memory impairment) in cognitively asymptomatic adults.

Methods Participants completed TAS Test online at home: 10–30 second finger-tapping tests recorded with a keyboard and/or webcam. Movement features (frequency, rhythm, pauses etc) were extracted. Participants also completed online episodic memory tests (CANTAB) and some provided blood samples for ptau181 analysis. Linear regression models comprising hand movement features to predict CANTAB scores and ptau181 levels, adjusted for confounding, was compared to null models (with only confounders: age, gender, education level, anxiety and depression) using R2adj and AIC. ΔAIC > 2 denotes statistical difference.

Results 1,228 adults (mean (SD) age, 65.8 (7.4) years; 73.0% female) completed TAS Test and CANTAB; 459 underwent ptau181 analysis. The 3 step-key and alternate-key tapping tests improved prediction of asymptomatic episodic memory impairment; (ΔAICs=11.2 and 3.3; R2adjs=8.1% and 7.5% respectively) and ptau181 (3 step ΔAIC=7.0; R2adj=17.8%; alternate key ΔAIC=3.4; R2adj=17.4%). The highest performing webcam tests were dominant hand tapping (CANTAB ΔAIC= 2.9; R2adj=8.2%; ptau181 ΔAIC=2.4; R2adj=12.9%) and both hands dual-task tapping (CANTAB ΔAIC=3.0; R2adj=6.8%; ptau181 ΔAIC=8.7; R2adj=11.9%).

Conclusions TAS Test provides a home-based test for identifying preclinical AD risk and holds potential as a pre-screening tool for identifying cohorts for further investigation.

2693 OUTCOMES OF ENDOVASCULAR THROMBECTOMY IN ELDERLY PATIENTS AT WELLINGTON REGIONAL HOSPITAL

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Objectives Thrombectomy decisions in the elderly patients are often difficult, because the benefit/risk ratio is less favourable than in younger patients. Our aim was to evaluate the 90-day outcomes of elderly patients (aged $\geq$80 years) who underwent ET at Wellington Regional Hospital.

Methods Data from a prospectively maintained database of patients undergoing ET for AIS at Wellington Regional Hospital (WRH) between 1 July 2019 and 30 June 2022 were reviewed. Patients aged $\geq$80 years were included in the study, and their demographic, procedural and outcome variables, including 90-day modified Rankin Scale (mRS) score, and mortality were recorded.

Results A total of 49 elderly patients underwent ET during the study period: mean age 84.1 years, 53% (26/49) female, and 10% (5/49) Maori. All but one had a pre-morbid mRS of 0–2. Twenty-seven (55%) received thrombolysis prior to ET. Twenty-eight (57%) patients presented directly to WRH; with the remaining being transferred from a secondary hospital. The median time from onset to reperfusion was 319 minutes (IQR, 256–445). The mean NIHSS was 17.1 pre-procedure, and 10.7 at 24 hours post-procedure. Post-procedure reperfusion (TICI $\geq$ 2b) was achieved in 79.6% (39/49). At 90 days, functional independence (mRS 0–2) was observed in 24.5% (12/49), and a good functional outcome (mRS $\leq$ 3) was observed in 49.6% (23/49). The 90-day mortality was 32.7% (16/49).

Conclusion The rates of good functional outcome and mortality, in elderly patients undergoing ET at Wellington Regional Hospital, are similar to those reported in large clinical trials.

2694 MITOCHONDRIAL NEUROGASTROINTESTINAL ENCEPHALOPATHY (MNGIE): A TALE OF TWO SISTERS

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Objectives Mitochondrial neurogastrointestinal encephalopathy (MNGIE) is a rare autosomal recessive disorder caused by biallelic mutation in the thymidine phosphorylase (*TYMP*) gene. We present the case of a 27-year-old female with a five-year history of weight loss and abdominal pain, which was diagnosed as Crohn's disease. The onset of progressive sensorimotor neuropathy and hearing impairment prompted further investigation leading to the diagnosis of MNGIE.

Case A 27-year-old Assyrian female with consanguineous parents was admitted to hospital with recurrent abdominal pain and weight loss over a five-year period. She had multiple similar admissions in the previous three years complicated by small bowel perforation from severe diverticulosis and total parenteral nutrition for intestinal failure. This was extensively investigated and she had received diagnoses including Crohn's disease, small intestine bacterial overgrowth and superior mesenteric artery syndrome. She reported a two-year history of worsening hearing impairment and sensorimotor disturbance, leaving her predominantly bedbound. Examination revealed profound cachexia with body mass index 11kg/m^2 and a severe sensorimotor neuropathy with profound sensory ataxia. Audiometry showed bilateral severe sensorineural hearing loss and MR brain imaging showed extensive leukoencephalopathy. Genetic testing detected a homozygous *TYMP* mutation, establishing a diagnosis of MNGIE. She was commenced on platelet infusions however made no significant clinical improvement. Her younger sister with similar, but less severe, symptoms was subsequently diagnosed with MNGIE and is currently on regular platelet infusions whilst awaiting an orthotopic liver transplant.

Conclusion This case highlights the diagnostic challenges in patients with MNGIE which often delays the initiation of appropriate treatment.

2695 CLINICAL AND ELECTROPHYSIOLOGICAL PROFILE OF ANTI-MAG NEUROPATHY AT WELLINGTON REGIONAL HOSPITAL

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Objectives Recent studies of neuropathy associated with anti-myelin-associated-glycoprotein (anti-MAG) antibodies, have observed that the electrophysiological features are more heterogeneous than originally described. Our aim was to evaluate the clinical and electrophysiological features of anti-MAG neuropathy at our hospital.
Methods Patients followed up for anti-MAG neuropathy at Wellington Regional Hospital were identified by searching the Neurology outpatient clinic database. Their electronic records were reviewed to collect demographic, clinical, laboratory, electrophysiological, and treatment variables.
Results Five patients with anti-MAG neuropathy were identified; all Caucasian males, aged between 58 and 86 years at diagnosis. Neuropathy symptoms were present for between 2 and 10 years at diagnosis. All had a distal, sensory-predominant neuropathy, with asymmetric lower limb involvement in 3/5. All had an IgM-kappa paraprotein, and 2/5 were diagnosed of Waldenstrom's macroglobulinaemia. Anti-MAG titres ranged between 5218 to >70,000 BTU. Lower limb nerve conduction studies demonstrated axonal loss, with absent sensory responses, and absent or very attenuated distal motor amplitudes (<1.0 mV) in all patients. Median nerve distal motor latencies ranged between 5.25 and 17.8 mV, and median nerve motor conduction velocities ranged between 20.2 and 46.0 m/s. Three patients received immunosuppression in the form of rituximab and/or chemotherapy, and one had a partial improvement in symptoms. Of note, all patients were ambulatory at last follow-up, at least 8 years from symptom onset.
Conclusion Our small cohort of patients with anti-MAG neuropathy demonstrated a fairly typical clinical syndrome, but a heterogeneous electrophysiological profile. All patients remained ambulatory in the long term.

2696 PROGRESSIVE ATAXIA AND PALATAL TREMOR WITH HYPERTROPHIC OLIVARY DEGENERATION

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Background Progressive ataxia and palatal tremor (PAPT) is characterized by adult-onset ataxia and palatal tremor typically due to a lesion affecting the Guillain-Mollaret Triangle. This pathway consists of the ipsilateral inferior olivary nucleus and red nucleus, as well as the contralateral cerebellar dentate nucleus. PAPT may be idiopathic or as a result of stroke, tumor, infection or demyelination. Familial causes of PAPT have also been rarely described.
Case A 70 year-old European man presented with a one year history of progressive gait unsteadiness. There were no ocular or bulbar symptoms, hearing loss, tinnitus, vertigo or vomiting. Past medical history was significant for controlled hypertension and an alcohol intake of 21 standard drinks per week. Family history was unremarkable. Examination of his palate revealed oscillatory movements of his soft palate at a frequency of 2 hertz without the sensation of 'ear clicks'. There was moderate truncal and gait ataxia but no limb ataxia. MRI demonstrated increased T2 and FLAIR hyperintensities in bilateral medullary olives consistent with hypertrophic olivary degeneration. Genetic testing was requested for glial fibrillary acid protein, POLG mutation and spinocerebellar ataxia panels to exclude familial forms of PAPT.
Conclusion We report a patient with the clinical syndrome of PAPT and corresponding MRI findings suggestive of bilateral hypertrophic olivary degeneration. Descriptions of this are limited to case series in the literature. Palatal tremor should be carefully observed for in all patients presenting with ataxia as it can often be asymptomatic.

2698 COMBINED HABIT REVERSAL TRAINING AND ACCEPTANCE AND COMMITMENT THERAPY FOR TREATMENT OF TICS IN TOURETTE SYNDROME

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Objectives This pilot study aimed to investigate the efficacy of a combined behavioural intervention to improve severity of tic symptoms in adults with Tourette Syndrome. The treatment protocol combined elements of Habit Reversal Therapy (HRT) and Acceptance and Commitment Therapy (ACT). HRT is a behavioural approach to the treatment of tics and other habit disorders (Woods, 2001). The current study combined HRT with ACT, an empirically based psychological intervention and useful adjunct to HRT given its focus on acceptance, rather than avoidance, of internal experiences (such as urges to tic). It was hypothesised that the treatment would result in reduced tic severity.
Methods Tic symptoms were assessed at baseline, post-intervention, and at 6- and 12-months follow-up on 11 participants. The primary outcome measure was the Yale Global Tic Severity Scale (YGTSS) and validated using a video assessment. Intervention consisted of eight, 1-hour weekly individual treatment sessions.
Results Using mixed-effects regression, results indicated that compared to pre-treatment scores, participants experienced an average significant reduction in tic severity (YGTSS) at post-treatment (b=-10.36, p=.002), maintained at six- (b=-8.19, p=.012) and 12-month follow up (b=-8.82, p=.009). Results of the video assessment demonstrated a similar significant treatment effect that was maintained at 6- and 12-month follow-up.
Conclusion Results suggest that the combined HRT/ACT treatment protocol is effective in reducing tic severity in adults with Tourette Syndrome, with maintained improvements up to 12 months post-intervention. These results have provided data for a future comprehensive randomised-controlled trial to