

neuropathy is a recognized part of FM, surprisingly little is known about large fibre neuropathy. The present study investigates the sensory and motor axonal properties using novel nerve excitability testing (NET) to seek a better understanding of the pathogenesis of this painful disorder.

Methods 25 FM patients were recruited from the Wan Fang Hospital in Taiwan who fulfilled the American College of Rheumatology diagnostic criteria.¹ NCS, pain scores, blood tests and NET were performed in all patients and patients with factors that may confound the results of NET were excluded. Control data were obtained from age and gender-matched healthy controls (HC) who had no neurological deficits or known pain disorders.

Results The FM group showed an increase in superexcitability ($p < 0.05$), subexcitability ($p < 0.05$) and over-shoot during hyperpolarizing threshold electrotonus ($p < 0.05$) in the sensory excitability profiles in contrast to HC. However, motor nerve excitability profiles showed no significant difference.

Conclusions Alterations in the sensory axonal parameters can be detected while NCS is normal, these findings are compatible with the concept that the sensory system is mainly involved in the pathogenesis of FM. Results implied probable hypofunction of the paranodal fast K⁺ channel in the sensory axons, known to be associated with the generation of pain.² Our study highlights the advantage of NET over NCS, in the early detection of axonal dysfunction and may provide further understandings of future therapeutic treatment.

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EMPLOYMENT-ACTIVITY STATUS AND MULTIDISCIPLINARY CARE ENGAGEMENT IN PATIENTS WITH NEWLY DIAGNOSED DEMENTIA: A 16-MONTH AUDIT STUDY WITHIN AN INNER SYDNEY COMMUNITY NEUROLOGY CLINIC

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Introduction Dementia is one of the leading causes of mortality and morbidity in Australia. Attitudes towards dementia in the workplace, tailored adjustments for disability, and patient-centred ‘exit with dignity’ strategies are of objective and subjective importance to patient wellbeing. This study aimed to assess employment characteristics in those with newly diagnosed dementia, and engagement with multidisciplinary supports.

Methods An audit of patients with diagnosis of dementia ($n = 136$, age 51–96 yrs, M:F 1.1:1) and mild cognitive

impairment (MCI) ($n = 28$, age 56–83 M:F 0.6:1) over a 16 month period in 2017–18 was performed using online server data collection and retrospective analysis of general and employment demographic characteristics, presenting clinical information, and care across clinical psychology, psychotherapy, occupational therapy, speech pathology, and dietetics.

Results Younger onset dementia was present in 14 (10%). Of the 122 dementia cases aged above 65 years, 24 (20%) were employed-active, 98 (80%) were retired, and none were unemployed. Approximately 5% had a background in healthcare. Allied health support was provided in 106 cases (78%) with ≥ 3 supports in 28 (21%) and was more common in those who were retired (76%) versus employed-active (21%). Clinical psychology or psychotherapy support was provided in 50 (37%) cases of dementia.

Conclusions The onset of dementia often co-exists with active employment. Community perception of employment status in dementia would be of future research interest. Provision of multidisciplinary allied health supports in dementia may facilitate coping, adjustment and cooperative strategies for exit with dignity but further studies are required in this cohort.

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CASE SERIES: SUBACUTE COMBINED DEGENERATION OF THE SPINAL CORD IN VITAMIN B12-REPLETE RECREATIONAL NITROUS OXIDE ABUSERS

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Introduction Within a few years of its discovery in late 18th century, nitrous oxide was being used recreationally for its pleasurable effects. It remains in widespread use as an inhaled stimulant today, and can be legally acquired in bulk quantities with relative ease. In the body prolonged exposure to nitrous oxide leads to the oxidization of vitamin B12, rendering it unusable in key enzymatic reactions necessary for myelin synthesis. Over time this qualitative deficiency leads to a central demyelination syndrome that characteristically develops despite normal serum vitamin B12 levels and, with continued exposure to nitrous oxide, resists treatment with vitamin B12 supplementation.

Method Nitrous oxide abusers presenting with a central demyelination syndrome were enrolled in this case series. Serum levels of vitamin B12, active B12, folate and homocysteine were measured. Nitrous oxide exposure was discontinued, and all patients were treated in accordance with evidence-based guidelines.

Results Eight patients presented with predominantly moderate-to-severe clinical deficits. The majority were vitamin B12 replete. In most cases individuals had actively engaged in prolonged vitamin B12 supplementation in an attempt to circumvent the harmful pathophysiology, of which they were loosely aware. Following treatment and rehabilitation several patients were discharged into full-time care, and most had significant residual disability at follow-up.

Conclusions This case series not only illustrates the tragic consequences of abuse of this widely available and legally procured stimulant, but also highlights the futility of

pursuing a nominally 'protective' strategy of vitamin B12 supplementation in the context of continued nitrous oxide exposure.

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PROSPECTIVE STUDY DETERMINING THE PREDICTIVE VALUE OF INATTENTION IN THE EVALUATION OF SUSPECTED ACUTE STROKE; A TERRITORY WIDE STUDY

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Introduction 25%-30% of patients admitted with acute stroke are stroke mimics. Clinical assessment plays a major role in diagnosis in the hyperacute clinical setting. Identifying physical signs that correctly identify stroke is therefore important. A retrospective study¹ suggested that the presence of sensory inattention (or neglect) was seen exclusively in stroke patients, suggesting that inattention might be a reliable discriminator between stroke and mimics. This study aimed to test that hypothesis.

Methods Prospective assessment of suspected stroke patients for the presence of neglect (NIHSS definition). Neglect could be visual and/or somatosensory. The presence of neglect was then correlated with eventual diagnosis at 48 hours. Sensitivity, specificity and predictive values were calculated. A post-hoc analysis evaluated the correlation of neglect with large vessel occlusion in patients who underwent angiography.

Results 115 patients were recruited, 70 ultimately with stroke and 45 with other diagnoses. Neglect was present in 27 patients (of whom 23 had stroke) and absent in 88. This yielded: sensitivity 32.9%, specificity 91.1%, positive predictive value 85.2%, and negative predictive value 41.9%. Two patients with neglect had a diagnosis of functional illness, one a seizure, and one a brain tumour. Neglect was present in 7 out of 8 patients with large vessel occlusion (sensitivity 87.5%) and was absent in all patients who did not have large vessel occlusion on angiogram.

Conclusion When present, neglect is a strong predictor of organic pathology and large vessel occlusion. However, it is not 100% specific and can be seen in functional presentations.

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DIABETIC ULNAR NEUROPATHY WITH NON-LOCALIZING ELECTROPHYSIOLOGY: A NERVE ULTRASOUND STUDY

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Introduction The classification and management of diabetic ulnar mono-neuropathy with non-localizing electrophysiology (NL-UN) is challenging, as this could be due to a focal axonal lesion at the elbow that may require surgery or, be part of

the mono-neuritis multiplex spectrum of diabetic neuropathy. The distinction cannot be made by clinical examination and electrophysiology.

We investigated the value of nerve ultrasound in this situation.

Methods We analysed ulnar nerve ultrasound in 9 consecutive diabetic patients (5 males, mean age 65.4 years) with 12 NL-UN affected nerves. The ulnar neuropathy was clinically and electrophysiologically severe in 9 nerves and moderate in 3.

Results Ultrasound showed diffuse ulnar nerve abnormality in 9 nerves (75%) and focal nerve abnormalities at the elbow in 3 (25%)

Conclusions The majority of NL-UNs in this small sample of patients with diabetes were not due to focal lesions at the elbow. This is in contrast with the nerve ultrasound findings in non-diabetic patients with NL-UN, which almost invariably show a focal lesion at the elbow (Pelosi et al, 2018), and confirms that the pathophysiology of ulnar mono-neuropathy is different and more complex in diabetes.

Ultrasound appears to be a useful tool to classify NL-UN in the patient with diabetes and larger studies are indicated.

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'MY MIGRAINE VOICE: BURDEN OF MIGRAINE AND IT'S MANAGEMENT IN AN AUSTRALIAN COHORT'

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Introduction Migraine is the greatest cause of disability under the age of 50. It impairs ability to function, work and maintain relationships. This survey aimed to assess the impact of migraine and its management.

Methods A questionnaire was sent to patients >18 years old who had taken at least one preventive treatment for migraine in the past. We report here the Australian results.

Results 68% were women, mean age 41 years. 53% were in paid employment whilst 13% received a disability allowance due to migraine. All patients (n=320) in the Australian survey had ≥ 4 migraine days each month. 90% had taken at least one preventive (274), with 80% (194) needing to change the preventive treatments previously. Common comorbidities were depression (41%), anxiety (40%), chronic pain (29%), sleep disorder (25%) and overweight (24%).

Diagnosis rate on initial GP visit was 57%, with 26% receiving a diagnosis in <1 month and 55% by 6 months.

There was greater retention of use (60%) and satisfaction (60%) with acute therapies, compared with use (43%) and satisfaction (53%) with preventives. Dissatisfaction with preventives included lack of efficacy (54%) and too many side effects (36%). Most (>60%) patients reported fear of the next attack, feeling hopeless and difficulty thinking clearly during attacks. Employers were often (69%) aware of the