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A CROSS-SECTIONAL STUDY OF PATIENTS WITH CHRONIC INFLAMMATORY DEMYELINATING POLYNEUROPATHY (CIDP): IDENTIFYING ULTRASONOGRAPHIC FEATURES FOR DIAGNOSIS AND PROGNOSIS

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Objectives Diagnosis and treatment monitoring in CIDP is primarily based on clinical parameters. High-frequency ultrasound of peripheral nerves can reflect CIDP pathophysiology and changes with treatment. This project investigated potential diagnostic and prognostic biomarkers utilizing neuromuscular ultrasound.

Methods We conducted a standardized clinical and ultrasonographic assessment of 50 CIDP patients (25 at WFBMC, 25 at Austin), comparing to 25 healthy controls and 25 axonal neuropathy subjects. Our protocol included whole-length assessment of both median and ulnar nerves, with unilateral assessment of other nerves.

Results 25 of 25 CIDP patients studied at WFBMC had an abnormality on ultrasound (as determined by focal nerve enlargement determined by increased cross-sectional area), with 23 of 25 subjects having ≥ 4 enlarged segments. 23 of 25 Austin CIDP patients had at least one enlarged segment, and 20 of 25 had ≥ 4 enlarged segments. 46 of 48 had at least one abnormality in either median or ulnar nerve.

Mild nerve enlargements were infrequently seen in healthy and disease controls. However, CIDP patients had clear difference in extent and pattern of enlargements, particularly with proximal upper limb enlargement. Specific markers differentiating CIDP patients will be presented.

We analyzed our data in line with previously published diagnostic scores. We will discuss these findings for typical vs. atypical CIDP subtypes, and clinical correlations.

Conclusions This cross-sectional study of neuromuscular ultrasound in patients with CIDP suggests assessing bilateral whole-length median and ulnar nerves may be adequate for diagnosis, and differentiating potentially treatment responsive immune-mediated neuropathies from axonal neuropathies and healthy controls.

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POSTUROGRAPHY AS A BIOMARKER OF IVIG EFFICACY IN CIDP PATIENTS

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Introduction Poor balance is a common and debilitating feature in patients with Chronic Inflammatory Demyelinating Polyradiculoneuropathy (CIDP). Posturography is an objective method of assessing balance. Intravenous Immunoglobulin (IVIG) exerts clinical benefits in CIDP, including improving balance, although this is difficult to quantify. The present study used posturography as a biomarker for determining IVIG efficacy in CIDP.

Methods Eighteen patients with CIDP established on IVIG were compared with healthy controls. Five conditions were used to assess balance: Feet 16cm apart with eyes open and closed, feet together with eyes open and closed (Romberg's test), and tandem stance. Centre of pressure (COP) was sampled for 15 seconds at 100Hz using a Kistler force platform, and the total path travelled by the COP was calculated (sway path). Testing was performed on the day of IVIG, corresponding to a trough, and at the mid-point of treatment, corresponding to a peak.

Results At baseline, there was a significant increase in the sway path in CIDP patients compared with healthy controls (average performance $1191 \pm 104\text{mm}$ vs $724 \pm 26\text{mm}$, $P < 0.001$). Treatment with IVIG resulted in a significant reduction in the sway path when assessing Romberg's test ($1759 \pm 324\text{mm}$ vs $1081 \pm 134\text{mm}$, $P = 0.019$) and tandem stance ($1775 \pm 290\text{mm}$ vs $1152 \pm 113\text{mm}$, $P = 0.027$). In contrast, clinical markers of neuropathy were unchanged, and repeat assessments in healthy controls were stable.

Conclusion The present study shows that objective assessment of balance using posturography may serve as a biomarker of IVIG efficacy in patients with CIDP.

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EFFECT OF INTER-HOSPITAL TRANSFER IN PATIENTS UNDERGOING ENDOVASCULAR THROMBECTOMY IN THE EARLY AND LATE TIME WINDOW

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Objective Assess the effect of inter-hospital transfer and treatment time on mortality, reperfusion rates and workflow time metrics in patients undergoing endovascular thrombectomy (EVT) for acute ischaemic stroke (AIS) due to large vessel occlusion (LVO) in the anterior cerebral circulation (ACC).

Methods Analysis of a prospective database of consecutive patients undergoing EVT for LVO presenting between January 2017-December 2018 at a single Australian comprehensive stroke centre (CSC). Patients presented directly or were transferred to the CSC from 21 sites across New South Wales and the Australian Capital Territory. A definition of ≤ 6 hours or > 6 hours of stroke onset to treatment (groin puncture) was used for the early time window (ETW) and late time window (LTW) respectively.

Results 154/213 (72%) patients were inter-hospital transfers. There was no significant difference in baseline characteristics including age, National-Institute-of-Health-Stroke-Scale-score, intravenous thrombolysis administration or procedure time between transferred and direct presenters (all $p > 0.05$). Transferred patients within the ETW had worse 90-day functional outcome (35.6% vs 61.0%, Odds ratio [OR] 0.36, 95% confidence interval [CI] 0.17-0.75), higher mortality (25.3% vs 6.8%, OR 6.57, CI 1.48-29.32) and longer stroke-onset to treatment time (180 vs 245 minutes, $p < 0.01$). In the LTW transferred patients there was no significant difference in 90-