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A CASE OF DELAYED POST-HYPOXIC LEUKOENCEPHALOPATHY COMPLICATING DRUG OVERDOSE

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Introduction Delayed post-hypoxic leukoencephalopathy (DPHL) is a syndrome characterised by neurological deterioration following a period of recovery after an initial hypoxic event with striking white-matter change on magnetic resonance imaging. We present a case characterised by insidious onset and a fluctuating course of cognitive and neuropsychiatric symptoms.

Methods Single case report.

Results A 61 year old lady, with a background history of previously well managed bipolar affective disorder, was found unresponsive following an intentional overdose of temazepam and tramadol. She was hypotensive, hypoxic and required ventilatory and inotropic support. Following extubation, the patient had residual left-sided weakness and MRI confirmed a right frontal watershed infarction. A three week period of clinical improvement was followed by marked deterioration firstly with fluctuating mood and other neuropsychiatric symptoms which progressed to severe impairment of cognition and alertness. There was generalised slowing on the EEG and the CSF was unremarkable. Repeat neuroimaging undertaken on day 41 of the admission, revealed new symmetric and confluent cerebral white matter changes with high signal on the Diffusion Weighted Images (DWI) and Fluid Attenuated Inversion Recovery (FLAIR) images. The patient was managed with supportive care and sustained a clinically significant recovery (MOCA 26/30), despite ongoing cognitive impairments including working memory and deficits in social cognition including mood instability and disinhibition. Repeat neuroimaging 3 months after initial presentation revealed partial resolution of the white matter changes.

Conclusion A diagnosis of DPHL should be considered in patients with variable mood and cognition following initial improvement after a hypoxic event.

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DO CLINICAL NURSE SPECIALIST LED STROKE FOLLOW-UP CLINICS REDUCE POST-STROKE HOSPITAL READMISSIONS AND RECURRENT VASCULAR EVENTS?

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Introduction Post-discharge stroke follow-up clinics have been associated with improved outpatient care and reduced readmission. Pre-2014 there was no consistent follow-up care offered at Wellington Hospital. Our aim was to determine whether the establishment of a clinical nurse specialist

(CNS) follow-up clinic reduced the readmission 12-month rate.

Methods This is a sequential comparison of patient admitted with stroke one year prior and one year after the clinic was established in 2013. The primary outcome was hospital 12-month hospital readmission rate; main secondary outcome was recurrent vascular event. Patients were identified from the hospital discharge records and underwent detailed electronic chart review. Results were adjusted for differences in baseline characteristics.

Results We identified 874 patients; 439 pre- and 435 post-nurse clinic implementation. There was no significant difference between the one-year readmission rate after the establishment of the stroke follow up clinic (adjusted OR=1.06; 95% CI, 0.85–1.64; p=0.804) and no difference in recurrent composite vascular events at one-year (adjusted OR=1.20; 95% CI, 0.68–2.11; p=0.528). The median (IQR) time to follow-up to clinic after discharge was 85 (63–98.5) days. There was a trend towards a reduction in vascular events when limiting the analysis to patients who actually attended clinic, but this trend disappeared when adjusting for baseline inter-group differences.

Conclusions There was no reduction in the one-year hospital readmission or vascular event recurrence rate for patients with stroke following the establishment of a nurse specialist led stroke follow up clinic. Earlier timed follow-up and the psychosocial value offered by these clinics requires further evaluation.

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RECENT TRENDS IN STROKE REPERFUSION IN NEW ZEALAND

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Introduction Stroke reperfusion therapy improves patient outcomes. Here we describe recent trends in the stroke reperfusion intervention rates, treatment delays, and complications across New Zealand.

Method All 20 DHBs enter acute stroke reperfusion treatment information into a compulsory, centralized, Ministry of Health (MoH) approved and funded Stroke Register. The data from 1/1/2018 through 30/9/18 was cleaned and analysed to explore trends in intervention rates, time delays, and complication rates.

Results In the nine-month study period there were a total of 544 (320 males, mean (SD) age 70.6 (14.5) years) patients thrombolysed and 193 patients underwent thrombectomy. For the January-June period, for which MoH stroke denominator rates were available, there was a thrombolysis rate of 10.4%. The overall median time (interquartile range, IQR) for onset-to-door was 76 minutes (48–118), door-to-computed tomography (CT) scan was 23 (15–36) minutes and CT-to-needle was 33 (20–51) minutes. The overall median (IQR) time delay from hospital arrival to thrombolysis was 59 (40–85) minutes and onset-to-needle median (IQR) time was 145 (110–196). There were a total of 26 (4.8%) symptomatic intracerebral haemorrhages (sICH) for the nine-month period. This compares with a thrombolysis rate of 9.85% and door-to-needle time median of 64 minutes in 2017.

Conclusion Thrombolysis rates in New Zealand continue to rise and now surpass the more recent 10% Ministry of Health target. The continued reduction in door-to-needle time is also an indication of continued service improvement resulting in better patient outcome. However, there are still to be opportunities for improvement.

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CASE REPORT: TO STENT, OR NOT TO STENT? THE PALE CAST OF EVIDENCE-BASED PRACTICE IN ACUTE STROKE

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Introduction With approximately 200 procedures performed in the last year at our centre, worthwhile clinical lessons continue to emerge in the practice of endovascular clot retrieval (ECR) for acute stroke. This case demonstrates the value of considered clinical appraisal in a dynamic, information-rich setting. A 68 year-old man with established vertebrobasilar atherosclerotic disease developed capricious, blood pressure-sensitive neurological deficits after successful ECR for a basilar artery stroke, inviting the possibility of further intervention in the form of intracranial stenting. We avoided pursuing this course of action in favour of a more measured approach, entailing the provision of vasopressor support over the following week.

Method Following ECR, our patient was admitted to the intensive care unit for continuous blood pressure monitoring and close observation of his neurological deficits with serial NIHSS (National Institutes of Health Stroke Scale) scoring. Systolic blood pressures were maintained between 140–160 mmHg using vasopressor support, with the aim of allowing time for recovery of vascular autoregulation and collateralization.

Results Over six days, the patient developed moderate left upper and lower limb weakness. An MRI performed on Day 5 revealed limited interval infarction of the right hemispheres and cerebellum, with complete re-occlusion of the mid-basilar arterial segment. He left the ICU with a NIHSS score of 7, and was living independently at 90-day follow-up (Modified Rankin Score 1).

Conclusion The ultimately favourable net outcome for our patient clearly illustrates the imperative to remain within the boundaries of evidence-based practice in this bold and rapidly evolving discipline.

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LATE-ONSET PARADOXICAL REACTIONS IN NEUROTUBERCULOSIS PRESENTING 18 MONTHS AND 20 YEARS AFTER TREATMENT

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Introduction Paradoxical reactions (PRs) during treatment of neurotuberculosis are common but late-onset PRs after

completion of anti-tuberculous treatment are reported very rarely. The management of late-onset PRs is challenging as excluding other diagnoses is difficult without invasive testing.

Methods Two cases of late-onset PRs after treatment for neurotuberculosis are reported. The timing of onset, clinical and radiological features of these PRs are described and the diagnostic work up and outcomes after empiric immunosuppression reviewed.

Results A 24-year-old woman presented with right-sided focal motor seizures 18 months after receiving anti-tuberculous treatment for neurotuberculosis. MRI showed enlargement of a previous left frontal tuberculoma with extensive oedema. A biopsy was not performed as the lesion involved eloquent brain and the patient declined a lumbar puncture. She was treated empirically with corticosteroids for six months and had clinical and radiological improvement.

A 56-year-old woman presented with left leg weakness and numbness 20 years after treatment for multiple cerebral tuberculomas. MRI showed a new confluent area of T2 hyperintensity in the right frontal and parietal lobes. Cerebrospinal fluid was negative for acid-fast bacilli. She was treated with corticosteroids for 2 months with progressive improvement.

Conclusions Late onset PRs to neurotuberculosis can occur months to years after completing anti-tuberculous therapy. Recognising this entity is important so unnecessary treatments and brain biopsy may be avoided. Empiric immunosuppression with corticosteroids appears to be safe if early follow up and repeat imaging is arranged.

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NEW ZEALAND HOSPITAL STROKE SERVICE PROVISION: A NATIONAL SURVEY

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Introduction The REGIONS Care study assesses stroke care throughout New Zealand. It includes a national audit and here we present organisational survey results assessing current availability of interventions and management approaches in each hospital.

Methods All 20 District Health Boards were invited to complete a survey about patients managed per annum, care setting, and service provision. Results were grouped into rural and urban groups to assess for geographic differences.

Results All NZ hospitals managing stroke patients completed the survey. Results found that of these hospitals 92% have an acute stroke unit, 85% have a TIA pathway, but only 58% offer rapid access specialist TIA services. 100% offer thrombolysis, 92% use pre-hospital notification and rapid ED triage system, and 73% an in-hospital 'code stroke' alert. 50% have access to thrombectomy. Only 32% offer a dedicated inpatient stroke rehabilitation unit. While 92% provide community rehabilitation, only 11% offer early supported discharge programmes. 87% routinely provide stroke patient education, but only 54% provide individualised stroke care plans at