2350 RE-PROGRAM: THE EVALUATION OF A BRIEF INTERVENTION PROGRAM FOR PATIENTS WITH FUNCTIONAL SEIZURES

[1]Lana Higson*, [2,3]Tobias Winton-Brown, [4]Genevieve Rayner, [2,5]Rubina Alpitsis, [2,5]Terence O'Brien. [1]*Central Clinical School, Monash University, Melbourne, VIC, Australia*; [2]*Neuroscience, Monash University, Melbourne, VIC, Australia*; [3]*Psychiatry, Alfred Hospital, Melbourne, VIC, Australia*; [4]*Neuropsychology, University of Melbourne, Melbourne, VIC, Australia*; [5]*Neurology, Alfred Hospital, Melbourne, VIC, Australia*

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Objectives To evaluate R*e*-PROGRAM, a novel, brief intervention for individuals with functional seizures in an outpatient setting.

Methods 30 patients with functional seizures participated in a novel intervention program between Aug 2020-Jan 2022 at the Alfred Hospital Functional Seizures Clinic. The evidence-based intervention consisted of five 1-hr consecutive weekly appointments via Telehealth, where psychologists engaged patients in seizure-management skills, lifestyle modification, and behavioural activation strategies. Following the intervention, patient feedback was collected using a 24-item self-report pre-post intervention comparison questionnaire.

Results All patients who enrolled in R*e*-PROGRAM completed the scheduled sessions. Of the individuals who returned the post-intervention questionnaire (n=14), 100% reported an overall improvement in their condition. Over 85% of patients reported a greater ability to control their seizures and an improvement in quality of life, with all but one reporting a reduction in seizure frequency. Most patients (93%) reported that their 'life had changed' as result of the program, and all patients indicated that they would recommend the program to others. Approximately one-third of patients (29%) reported a reduction in healthcare resource utilisation since completing the intervention.

Conclusions This retrospective evaluation demonstrates the feasibility and acceptability of R*e*-PROGRAM as a brief intervention for individuals diagnosed with functional seizures delivered in a clinical outpatient setting and warrants further investigation in larger scale, controlled studies.

2360 REAL-WORLD BRIVARACETAM EFFICACY IN ADULT EPILEPSY: AN AUSTRALIAN MULTI-CENTRE RETROSPECTIVE OBSERVATIONAL COHORT STUDY

[1]Amy J Halliday*, [2]Sara Vogrin, [3]Emma Whitham, [4]Udaya Seneviratne, [5]Lisa Gillinder, [6]Dean Jones, [7]Patrick Kwan, [8]Ernest Somerville, [8]Hanka Laue-Gizzi, [8]Christian Zentner[9]Nicholas Lawn, [10]Armin Nikpour, [2]Wendyl J D'Souza. [1]*Department of Neurology, St Vincent's Hospital Melbourne, Fitzroy, VIC, Australia*; [2]*Department of Medicine, University of Melbourne, St Vincent's Hospital Melbourne, Fitzroy, Victoria, Australia*; [3]*Flinders Medical Centre, Bedford Park, South Australia, Australia*; [4]*Department of Neurology, Monash Medical Centre, Clayton, Victoria, Australia*; [5]*Department of Neurology, Mater Hospital Brisbane, Brisbane, Queensland, Australia*; [6]*Department of Neurology, Royal Hobart Hospital, Hobart, Tasmania, Australia*; [7]*Department of Neurology, Alfred Health, Melbourne, Australia*; [8]*Department of Neurology, Prince of Wales Hospital, Randwick, New South Wales, Australia*; [9]*WA Adult Epilepsy Service, Perth, Western Australia, Australia*; [10]*Department of Neurology, Royal Prince Alfred Hospital, Camperdown, New South Wales, Australia*

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Objectives Assess the efficacy and tolerability of brivaracetam (BRI) in adult patients with epilepsy in a real-world setting.

Methods This multi-centre retrospective observational cohort study examined all adult patients commenced on BRI at 11 Australian epilepsy centres between May 2008 and November 2020. Primary outcomes were seizure response (≥ 50% reduction in frequency) and seizure freedom 12 months post BRI commencement. We compared incident (since last study time point) and continuous (since BRI commencement) outcome definitions, using three approaches to missing data (complete case analysis, CCA; last observation carried forward, LOCF; intention to treat, ITT). In addition, we examined individualised assessment waiting periods calculated using baseline seizure frequency.

Results Baseline and follow-up data was available for 229 patients. Mean age was 41.5 years (IQR 30, 50). Most had focal epilepsy (188/229, 82.1%). Median number of previous ASMs was 4 (IQR 2, 7), and concomitant ASMs 2 (IQR 2, 3). Twelve-month incident responder rate was 47.1% (95% CI 34.8, 59.6) using CCA, 39.7% (95% CI 33.4, 46.4) using LOCF, and 15.7% (95% CI 11.3, 21.1) using ITT. Twelve-month incident seizure freedom was 23.5% (95% CI 14.1, 35.4) using CCA, 24.5% (95% CI 19.0, 30.5) using LOCF, and 7.9% (95% CI 4.7, 12.1) using ITT. Outcomes were similar using continuous outcome definitions, and in the sub-group of patients who had completed individualised assessment waiting periods.

Conclusions Meaningful real-world responder and seizure freedom rates are still observed in this highly refractory population. Early BRI response appears to be maintained with minimal later relapse.

2295 CHANGES IN THE BURDEN OF GENERALISED FAST EPILEPTIFORM ACTIVITY PREDICT CHANGES IN CLINICAL SEIZURE FREQUENCY IN PATIENTS WITH LENNOX-GASTAUT SYNDROME

[1,2]Linda J Dalic*, [1,3,4]Aaron EL Warren, [2]Chloe Spiegel, [1,5,6]Wesley Thevathasan, [2]Annie Roten, [7,8]Kristian J Bulluss, [1,2,3,4]John S Archer. [1]*Medicine (Austin Health), University of Melbourne, Heidelberg, VIC, Australia*; [2]*Neurology, Austin Health, Heidelberg, VIC, Australia*; [3]*Murdoch Children's research institute, Parkville, VIC, Australia*; [4]*Florey Institute of Neuroscience and Mental Health, Heidelberg, VIC, Australia*; [5]*Bionics Institute, East Melbourne, VIC, Australia*; [6]*Medicine (Royal Melbourne Hospital), University of Melbourne, Parkville, VIC, Australia*; [7]*Neurosurgery, Austin Health, Heidelberg, VIC, Australia*; [8]*Surgery, University of Melbourne, Parkville, VIC, Australia*

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Objectives Our recently published ESTEL study of deep brain stimulation (DBS) for Lennox-Gastaut syndrome (LGS) showed a median 50% reduction in diary-recorded seizures. Here, we examined whether EEG features predict response to DBS treatment.

Methods We measured generalised paroxysmal fast activity (GPFA) and electrographic seizures in 17 young adults with LGS (mean age ±1SD=24.9±6.6) and determined their associations with diary-recorded seizure frequency over the course of our ESTEL randomised clinical trial of DBS lasting 12 months (comprising a 3-month pre-implantation baseline and 9 months of post-implantation follow-up).

Results Changes in GPFA duration and frequency, quantified over 2-hours of sleep EEG, were associated with changes in the daily rate of diary-recorded seizures over the prior 3 months ($p<0.001$, η^2_p = 0.31–0.55). We did not find a relationship between electrographic seizures in the 24-hour EEG and diary recorded seizures over subsequent months. Following ≥3-months of active DBS, both GPFA and diary-recorded seizures reduced from baseline (38.7% and 31.4%,

respectively). During baseline, median seizures *per day* on seizure diaries were 2.6 (IQR:1.4–5), compared with 284 (IQR:120.5–360) electrographic seizures *per day*, confirming that diaries capture only a fraction of seizure burden.

Conclusions Changes in GPFA within an individual may allow estimation of diary-recorded treatment response in participants undergoing DBS. When seeking to optimise treatment in patients with LGS, monitoring changes in the burden of GPFA may allow more rapid adjustment of treatment parameters, than relying on feedback from seizure diaries.

2346 COMPARISON OF NEUROLOGICAL OUTCOMES AMONGST PATIENTS WITH MILD STROKES WHO RECEIVE HYPERACUTE THERAPIES VS PATIENTS WITHOUT HYPERACUTE THERAPIES

[1,2]Chris Kwan*, [1,2]Namrata Sobarun, [1]Jon Reimers, [1,3]Helen Brown. [1]*Department of Neurology and Stroke, Princess Alexandra Hospital, Woolloongabba, QLD, Australia*; [2]*Department of Neurology, Gold Coast University Hospital, Southport, QLD, Australia*; [3]*Department of Neurology, Royal Brisbane and Women's Hospital, Brisbane, QLD, Australia*

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Objectives Current guidelines recommend Endovascular Thrombectomy (EVT) for patients with strokes with large vessel occlusion (LVO) and NIHSS≥6, and thrombolysis for patients with NIHSS≥4 and in mild strokes with disabling symptoms.[1–3] Patients with LVO and NIHSS≤6 are considered mild, yet 1 in 4 patients can deteriorate neurologically, miss out on hyperacute reperfusion therapies and have poor outcomes.[4 5]

The aim is to compare neurological outcomes in patients with strokes with LVO and NIHSS≤6 who present within 24 hours of symptom onset to hospital, and who receive EVT with or without thrombolysis, thrombolysis alone, and no hyperacute therapy.

Methods This was a retrospective review of patients admitted to the Princess Alexandra Hospital's Stroke Unit between July 2018 and April 2021 with initial NIHSS<6. Data included NIHSS (arrival, 24 hours post-admission, discharge and Day 90), and Day 90 mRS. Data was collected and analysed with Microsoft Excel 2019 and IBM SPSS Statistics 27 by Chi-Square analysis.

Results 85 patients were included. 17 received EVT with or without lysis, 23 received lysis alone, and 45 received no hyperacute therapy. There was no difference in rates of clinical deterioration (NIHSS increase ≥4) in 24 hours (p=0.19), on discharge (p=0.37) and by Day 90 (p=0.63).[6–8] There was no difference in rates of good (mRS<3) and excellent (mRS<2) outcomes by Day 90 (p=0.38 and p=0.34 respectively).[6–8]

Conclusions In mild strokes, there was no significant difference in neurological deterioration by 24 hours, discharge, and Day 90, and no difference in Day 90 mRS in all treatment groups.

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2211 A RATIONAL CLINICAL APPROACH TO THE DIAGNOSIS OF TRANSIENT ISCHAEMIC ATTACK AND ASSOCIATED MIMICS

[1]Stephen Bacchi*, [2]Rudy Goh*, [3]Lydia Lam*, [4]Peta Toner, [4]Gill Dowie, [4]Timothy Kleinig, [4]Jim Jannes. [1]*Southern Adelaide Local Health Network, Adelaide, SA, Australia*; [2]*Northern Adelaide Local Health Network, Adelaide, SA, Australia*; [3]*University of Adelaide, Adelaide, SA, Australia*; [4]*Central Adelaide Local Health Network, Adelaide, SA, Australia*

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Objectives The study was performed to identify the individual clinical features and risk factors most strongly associated with the diagnosis of a cerebrovascular cause to transient neurological symptoms (TIA, retinal ischaemia or stroke), as compared to common TIA mimics (including migraine and seizure).

Methods In a retrospective cohort study, all patients presenting with transient neurological symptoms to TIA clinics in Royal Adelaide Hospital and The Queen Elizabeth Hospital (tertiary hospitals) over a two-year period (2019–2020) were included. Clinical features and risk factors were recorded with a standardised form.

Results 1,273 individuals were included. From General Practitioner referrals, the prevalence (estimate of pre-test probability) of a cerebrovascular cause was 25.7% (66/257). From Emergency Department referrals the prevalence was 25.0% (225/899). For individuals with a diagnosis of stroke, the three features with the highest positive likelihood ratio (PLR) were an ABCD2 score of 5 (4.5, 95%CI 3.2–6.2), a past history of peripheral vascular disease (3.3, 95%CI 1.6–6.4) and the presence of limb weakness (3.3, 95%CI 2.7–4.1). These features also had the greatest PLR for a cerebrovascular aetiology (TIA, stroke, or retinal ischaemia). Clinical features that had low PLR for a cerebrovascular cause included positive visual phenomena, memory disturbance (0.2, 95%CI 0–0.45), transient generalised weakness (0.35, 95%CI 0.08–0.79) and confusion (0.35, 95%CI 0.08–0.80).

Conclusions This study demonstrated that specific clinical features and risk factors may be used to distinguish the aetiology of presentations with transient neurological symptoms, that are referred to TIA clinics from General Practitioner and Emergency Department settings.