emotional lability seen in LE is semiologically distinct from pseudobulbar affect observed in other neurological diseases. While LE is characterised by focal hippocampal atrophy, functional abnormalities in regions interacting with the hippocampus may provide a more parsimonious explanation of emotional lability than the volume of medial temporal lobe structures. Functional abnormalities in parietal regions supporting perspective taking and social-affective processing may compromise patients' emotion regulation.

33 FIRST EPISODE PSYCHOSIS IN A PATIENT WITH EXTENSIVE LEUKOENCEPHALOPATHY DUE TO 3-METHYLGLUTACONIC ACIDURIA TYPE 4

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Objectives/Aims This aim of case report is to discuss the clinical conundrum and diagnostic challenges in a young patient presenting with First Episode Psychosis. Investigations revealed Extensive Leukoencephalopathy due to a rare metabolic disorder- 3-methylglutacetic aciduria (3-MGA) type IV. Several studies have shown that 3-MGA type IV can present with psychosis, epilepsy or depression as part of the spectrum of symptoms. The role of Organic Brain condition in the onset of first episode psychosis in this patient is discussed in this report.

Methods A 23-year-old female presented with insidious onset of paranoid delusions and auditory hallucinations over an 18 month period on a background of a diagnosis of 3-methylglutacetic aciduria type IV confirmed on urine testing. On admission under Section 2 of the Mental Health Act, she expressed little spontaneous speech and echolalia. She was flat in affect. She appeared vacant in expression, stared inappropriately and was very self-isolating. She was responding to external stimuli. She lacked insight into her condition. Physical examination was unremarkable. An MRI brain scan was performed, and comparison made to scan done previously to demonstrate any interval change and to correlate changes if present to deterioration of clinical symptoms.

Results MRI scan showed extensive diffuse leukoencephalopathy. Comparison to MRI scan done 6 years previously did not show any change or progression to the white matter lesions. An EEG showed a mild degree of general cerebral dysfunction with no interictal epileptiform activity. There was no correlation found between her clinical symptoms of acute onset psychosis and her diagnosis of 3-MGA Type IV. She was commenced on Aripiprazole and her presentation improved significantly. Both Auditory hallucinations and Paranoid delusions improved considerably, with moderate improvement in mood, affect and apathy. Some Catatonic symptoms persisted but were less intense. She was given a diagnosis of Undifferentiated Schizophrenia under ICD 10, as she displayed features of Paranoid, Hebephrenic and Catatonic without clear predominance of particular subtype of Schizophrenia. She was discharged home with follow-up from Neuropsychiatry and community Mental health teams. She continues to be investigated for the genetic cause of 3-methylglutacetic aciduria Type 4.

Conclusions To conclude, although often metabolic disorders, including 3-methylglutacetic aciduria, can present with

psychosis, it is prudent to establish a causative link in order to manage appropriately and effectively.

34 THE FUTURE ROLE OF FMRI NEUROFEEDBACK IN DEPRESSION TREATMENT AND RESEARCH

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Objectives/Aims FMRI-neurofeedback for major depressive disorder (MDD) is of great interest to clinicians and neuroscientists. Here, the aim was to review the current clinical trials evidence.

Methods We undertook a systematic literature search of fMRI-neurofeedback trials in MDD, including our unpublished results.

Results fMRI-neurofeedback was effective in current MDD when reinforcing brain responses to positive pictures,¹ but was not superior to a control neurofeedback intervention in a recent randomised controlled trial² (RCT). Another RCT showed that reinforcing amygdala responses to positive autobiographical memories³ was superior versus a control neurofeedback intervention⁴. We have developed neurofeedback of self-blame-selective functional connectivity between right superior anterior temporal (AT) and subgenual frontal regions. In remitted MDD, we demonstrated that self-esteem can be increased using this approach in a double-blind RCT. In a recently completed RCT in early treatment-resistant MDD, the majority of patients responded to guilt-related AT-subgenual connectivity neurofeedback. Surprisingly, a self-guided matched psychological intervention tackling self-blame without neurofeedback showed comparable levels of response. Secondary analyses, however, showed that neurofeedback was superior for those patients without anxious distress features.

Conclusions This calls for longer-term studies to reproduce previous results and stratified trials to combine psychological and neurofeedback interventions. As a research tool, neurofeedback uncovers causal relationships between functions and anatomical subdivisions.

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35 THE EPIDEMIOLOGY AND SYMPTOMOLOGY OF FUNCTIONAL STROKE MIMICS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Aims Reconfiguration of stroke services in England has emphasised fast diagnosis and treatment and subsequently, the proportion of stroke mimic patients entering stroke pathways has been highlighted. Stroke mimic patients may be 'medical mimics', with medical explanations for symptoms, e.g. syncope, seizure, but a proportion of presenting patients have a

functional aetiology. Functional stroke mimics accounted for 8% of admissions to an acute stroke service in London (Gargalas et al., 2015) and the prevalence and burden of functional stroke is well recognised by clinicians. We present a systematic review and meta-analysis aiming to: 1) estimate the prevalence of stroke mimics and functional stroke mimics across medical settings; and 2) describe the demographic and symptom profiles of functional stroke patients.

Methods Three literature searches took place between 2015–2018 utilising OvidSP, PubMed, CINAHL and Google Scholar. A total of 13 974 abstracts were reviewed and 114 papers met inclusion criteria. Age and sex proportions were compared between stroke, stroke mimic and functional mimic groups. Prevalence rates across settings and moderators of functional mimic rates were calculated using random-effects models.

Results Stroke, stroke mimic and functional mimic definitions varied between studies. Across settings, 25% of suspected stroke patients were stroke mimics and 15% of stroke mimics had a functional aetiology. Stroke mimics were younger than stroke patients and more likely to be female. Similarly, functional patients were younger and more often female than medical mimics. 10 papers gave symptom information for functional patients; compared to medical mimics, functional patients were more likely to display weakness/numbness and less likely to present with reduced consciousness, visual symptoms or speech/language symptoms. Meta-analyses show a higher rate of stroke mimics in primary care (38%) vs more acute settings (12%) but the inverse for functional mimics (24% in stroke units vs only 12% in primary care). Functional rates were highest in studies that were descriptive, retrospective, from high income countries and in studies where all patients received thrombolysis.

Conclusions Functional diagnoses are an important differential of suspected stroke. Definitions of functional stroke mimics vary widely in stroke literature. Our findings suggest functional stroke patients are most commonly seen in tertiary settings. There are no guidelines on the management of these patients within acute stroke settings. In the context of these findings, a feasibility study is underway investigating the presentation of functional stroke patients and their views on possible interventions and this research may help improve current care pathways.

36 MEDICATION PRESCRIPTIONS IN 322 FUNCTIONAL MOTOR DISORDER PATIENTS IN A LARGE UK MENTAL HEALTH SERVICE: A CASE CONTROL STUDY

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Objectives This study aims i) to describe the patterns of prescription medication in functional motor disorder (mFND) treated in a Mental Health Trust, using a control group comprised of a random sample of contemporaneous patients treated in the same trust; and ii) explore the sociodemographic variables and symptoms linked to higher medication usage.

Methods This is a retrospective case-control study using an electronic psychiatric case register in South London and Maudsley NHS Foundation Trust (SLaM). SLaM provides

psychiatric inpatient and community services and receives national referrals for functional neurological disorder (FND) patients. Data were obtained from 322 mFND patients and 644 controls between 1st January 2006 and 31st December 2016 using the 'Clinical Records Interactive Search' (CRIS) database.

Results 247 (76.7%) mFND patients were prescribed medication, lower than 83.4% in the control group (OR: 0.59, 95% CI: 0.39–0.89, $p < 0.02$). The mean number of prescribed medications in the mFND group was 4.77 (SD: 2.4), higher than 2.98 (SD: 2.7) in the psychiatric control group (t (782) = 7.9, $p = 0.001$). Amongst mFND patients receiving medication, the most common prescriptions were antidepressants (68% received one or more), anti-epileptics (33.5% on one or more), non-opioid painkillers (32.4%), and opioid analgesics (31.2%). Compared to psychiatric controls, mFND patients had a higher likelihood of receiving anti-depressants, medications for cardiovascular disease, statins, antihistamines, anti-asthmatics, corticosteroids, anti-epileptics, hormone replacement therapy, proton pump inhibitors, bowel and urinary dysfunction medication, NSAIDs, and muscle relaxants. mFND patients were significantly less likely to receive antipsychotic medication or treatments for substance misuse. An adjusted analysis of mFND patients found co-morbid physical conditions and previous psychiatric admissions were associated with higher numbers of medication prescriptions.

Conclusions mFND patients are prescribed an extensive range of medications for psychiatric and somatic symptoms, most commonly anti-depressants, anti-epileptics and analgesics. The diversity in medications may be partially explained by higher rates of physical co-morbidities but may also reflect 'somatisation' or excessive symptom reporting combined with a lack of therapeutic options for clinicians managing patients with complex functional and 'organic' conditions and chronic pain. Non-essential medication prescribing may reinforce somatic illness beliefs and cause iatrogenic harm, particularly high rates of opioid pain medication, with important implications for clinical management in primary and secondary care.

37 OUTPATIENT COGNITIVE BEHAVIOURAL THERAPY FOR 'FUNCTIONAL' AND 'ORGANIC' NEUROPSYCHIATRIC DISORDERS: A RETROSPECTIVE CASE CONTROL COMPARISON

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Objectives There is no gold standard treatment for functional neurological disorder, motor type (mFND). Cognitive behavioural therapy (CBT) is effective in the treatment of certain somatoform disorders. This study aims to evaluate the characteristics and outcomes of mFND patients receiving CBT in a neuropsychiatry outpatient clinic.

Method We utilise a large psychiatric register to assess all mFND patients receiving outpatient CBT in a neuropsychiatric clinic between 2006 and 2011. We assess socio-demographic characteristics, changes in physical and psychological outcomes using standardised rating scales, and rates of CBT uptake and dropout. We compare mFND patients to patients with psychiatric and behavioural manifestations of organic neuropsychiatric diseases treated in the same clinic (ONP patients).