Introduction: Elevated levels of lipopolysaccharide (LPS) in circulation support chronic inflammation, which is involved in the pathological process in the brain and may be a contributing factor to treatment resistance in schizophrenia.
Objectives: To compare inflammatory markers and indicators of systemic endotoxemia (SE) in patients with treatment-resistant schizophrenia and in those with a good response to treatment.
Methods: The study involved 34 patients with schizophrenia (27±7,5 years) (F20) in an acute psychotic state: 15 patients with TRS (non-responders), 19 patients responded to treatment with reduced symptoms (responders). The markers of systemic inflammation (leukocyte elastase (LE) and a1-proteinase inhibitor (α1-PI) activity, CRP concentration, antibodies (Abs) to S100B and myelin basic protein) and the indicators of SE (LPS level and Abs to LPS) were determined in the blood of patients.
Results: The responders showed a significant increase in LE and α1-P1 activity ($p<0.001$), CRP concentration ($p<0.05$), and Abs to neuroantigens ($p<0.05$) compared to controls. LPS levels did not differ from control values. In non-responders, a moderate increase in LE and α1-PI activities ($p<0.05$) and a significant increase in CRP concentration ($p=0.01$) were accompanied by no significant differences in Abs to neuroantigens. These patients had elevated LPS level and Abs to LPS deficiency compared with both responders ($p<0.01$) and controls ($p<0.05$).
Conclusions: The identified spectra of systemic inflammation markers, elevated LPS level, and insufficient anti-endotoxin immunity in patients with treatment-resistant schizophrenia may be related to endotoxin tolerance. Further research in this field can help develop new approaches to overcoming resistance to therapy in patients with schizophrenia.

Disclosure of Interest: None Declared

Psychosurgery and Stimulation Methods (ECT, TMS, VNS, DBS)

EPP0244

Safety of repeated neuromodulation by transcranial direct current stimulation (tDCS) in dementia: a narrative review

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Introduction: Transcranial direct current stimulation (tDCS) is a form of neuromodulation most commonly used in depression. tDCS aims to modulate cortical activity by the application of a weak electrical current to the brain via electrodes placed on the scalp. Several studies have identified the potential of tDCS for managing behavioural and psychological symptoms in a range of dementias, including Alzheimer's disease, vascular dementia, dementia with Lewy bodies and frontotemporal dementia. Although the preliminary data on efficacy is promising, the safety of repeatedly neuromodulating the brain of a person with dementia, by tDCS, has not been extensively reported.
Objectives: Our aim was to review the current literature on how safe it is to repeatedly neuromodulate a brain with dementia.
Methods: Advanced literature searches of PubMed and the Web of Science Core Collection were conducted to identify relevant publications. The search terms deployed were: "tDCS" or "transcranial direct current stimulation" and "frontotemporal dementia" or "vascular dementia" or "Lewy body" or "Alzheimer's disease". The following inclusion criteria were applied to the search: (1) publications which focused on the use of tDCS in patients with either frontotemporal dementia, vascular dementia, dementia with Lewy bodies or Alzheimer's disease, (2) studies involving human participants and, (3) publications written in, or readily translated to English.
Results: 216 articles were returned in the initial search. Following the removal of 54 duplicate articles, the remaining 162 underwent eligibility screening using the titles and abstracts. 31 articles were then selected for a full text reading and following this, 12 studies were selected to be included in the review. Across all 12 studies, 3590 sessions of active tDCS were performed with no severe adverse effects being reported. The most commonly occurring adverse effect was a tingling/burning sensation underneath the electrodes, followed by headache and skin changes. These reported effects tended to be mild and short lived.
Conclusions: Overall, the results of the reviewed papers suggest that repeated neuromodulation by tDCS can be safely performed in dementia patients. More and larger studies should aim to perform a greater number of sessions of tDCS, across a longer time period. Few studies assessed for potential brain damage as a result of tDCS and future studies should consider using MRI or monitoring biomarkers to further investigate this.

Disclosure of Interest: None Declared

EPP0245

Non-Convulsive Status Epilepticus as A Complication of Electroconvulsive Therapy: A Case Report

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Introduction: Status Epilepticus is defined as a condition that can have long-term outcomes involving neuronal death and injury due to the failure of the mechanisms responsible for seizure termination or from the initiation of mechanisms that lead to abnormally prolonged seizures. Electroconvulsive therapy (ECT) is a highly effective treatment option for psychiatric disorders. Although it rarely occurs in the treatment, non-convulsive status epilepticus can be seen as a complication after ECT. Due to its rarity, this complication is not yet well understood, is challenging to diagnose, and information about treatment options is limited.
Objectives: By sharing this case report, we aim to emphasize the importance of being careful in terms of the risk of status epilepticus in patients receiving electroconvulsive therapy.
Methods: Here in we present a 29-year-old patient with no previous neurological disease and who had a history of schizophrenia. Electroconvulsive therapy was planned because the patient was resistant to antipsychotic treatment. EEG was planned for the patient who had urinary incontinence during the ninth session of ECT. Generalized slow wave activity and intermittent rhythmic

delta activity were observed in the EEG, therefore it was found suspicious for NCSE, and the patient was planned to perform an EEG again by administering diazepam to confirm the diagnosis. After diazepam, the patient whose EEG tracing was clearly improved was admitted to the neurology intensive care unit. He was followed up for 48 hours with continuous 4 mg/hour/day midazolam and continuous bedside EEG in the neurology intensive care unit. Concomitant lamotrigine was started at 100 mg/day. Significant improvement in EEG, sinusoidal alpha, and beta waves with the eye open was observed at the 48th hour, and the patient was transferred back to the psychiatry service. Lamotrigine treatment was increased up to 200 mg/day and clozapine treatment was adjusted to 350 mg/day in the psychiatry service. In the patient whose EEG was requested again before discharge.

Results: The diagnosis of NCSE post-ECT can be laborious; the symptoms may not be characteristic and clear, and usually not distinguish from symptoms of confusion, delirium, or psychiatric illness, hence the follow-up psychiatrist should be careful. In suspicious cases, EEG should be taken, especially in patients at risk for seizures. These risky conditions include previous seizure history, and lithium or clozapine use.

Conclusions: The diagnosis of NCSE after ECT is a demanding condition. Particular attention should be paid to factors that will lower the seizure threshold. In cases with ECT treatment with clozapine, intermittent clozapine blood levels can be quantified and medication interactions and smoking can be considered. When the cases are examined, the common aspect of most of them is that the treatments have good results.

Disclosure of Interest: None Declared

EPP0246

DTMS Combined with a Pain-directed Psychotherapeutic Intervention in Fibromyalgia - A Randomized Double-blind Sham-controlled Study

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Introduction: Fibromyalgia Syndrome (FMS) is a highly prevalent condition, causing chronic pain and severe reduction in quality of life and productivity, as well as social isolation (Birtane *et al.* Clinical Rheumatology 2007; 26(5), pp. 679–684; Arnold *et al.* Psychosomatics. England 2010; 51(6), pp. 489–497; Lacasse, Bourgault and Choinière. BMC Musculoskeletal Disorders 2016; 17(1), pp. 1–9). Despite significant morbidity and economic burden caused by FMS, current treatments are scarce (Busch *et al.* The Journal of rheumatology. Canada 2008; 35(6), pp. 1130–1144; Bernardy *et al.* Journal of Rheumatology 2010; 37(10), pp. 1991–2005; Jackson *et al.* American journal of hematology 2016; 91(5), pp. 476–80).

Objectives: To examine whether stimulation of the dorsal Anterior-Cingulate-Cortex and the medial Prefrontal-Cortex (ACC-mPFC) activity by deep Transcranial Magnetic Stimulation (dTMS) enhances a pain-directed psychotherapeutic intervention.

Methods: Nineteen FMS patients were randomized to either 20 sessions of dTMS or sham stimulation, each followed by a pain-directed psychotherapeutic intervention. Using H7 HAC-coil or sham stimulation, we targeted the ACC-mPFC; specific brain areas that have a central role in pain processing (Fomberstein, Qadri and Ramani. Current Opinion in Anaesthesiology 2013; 26(5), pp. 588–593; Tendler, A. *et al.* Expert Review of Medical Devices 2016; 13(10), pp. 987–1000). Clinical response to treatment was evaluated using the McGill Pain Questionnaire (MPQ), Visual Analogue Fibromyalgia Impact Questionnaire (VAS-FIQ), Brief Pain Inventory questionnaire (BPI), and the Hamilton Depression Rating Scale (HDRS).

Results: DTMS treatment was safe and well tolerated by FMS patients. A significant decrease in the sensory and affective pain dimensions was demonstrated specifically in the dTMS cohort, as measured by the MPQ using paired-sample t-tests with Bonferroni correction for multiple comparisons on three-time points (Significant group x time interaction [$F(2, 34) = 3.79$, $p < .05$, $\eta^2 = 0.183$]. No significant changes were found in the cognitive functions, psychophysical measurements of pain, or depressive symptoms in both dTMS and sham groups and between groups.

Conclusions: Our findings suggest that a course of dTMS combined with a pain-directed psychotherapeutic intervention can alleviate pain symptoms in FMS patients. Beyond the clinical possibilities, future studies are needed to substantiate the innovative hypothesis that it is not the dTMS alone, but rather dTMS driven plasticity of pain-related networks, that enables the efficacy of pain-directed psychotherapeutic interventions.

Disclosure of Interest: None Declared

EPP0247

Adjunctive short- and long-term combination treatment of esketamine and VNS in difficult to treat depression (DTD)

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Introduction: NMDA-Receptor antagonists have rapid antidepressant and antisuicidal properties. However, the antidepressant effect is short lasting raising the question of best maintenance strategy, which is unanswered so far. Invasive vagus nerve stimulation (VNS) as a treatment option for refractory and chronic major depression was shown to reduce the need of maintenance treatment sessions in electroconvulsive therapy (ECT) patients.

Objectives: There are no published data on the combination of VNS and esketamine. To determine the impact of the combination of VNS and esketamine in DTD.

Methods: In this naturalistic observational study, we investigated the short- and long-term impact of combination of VNS and esketamine in n=8 patients with difficult-to-treat depression (DTD). Follow-up evaluations were scheduled prospectively pre-surgery at baseline and every 3 months after VNS-implantation (follow-up period 12-24 months, mean 17).

Results: The mean age of patients was 50,8 years. 50 % of patients (n=4) were female. All patients suffered from severe DTD (mean MADRS at baseline 30,9). Mean number of hospitalizations per