an impact in the treatment of agitation and aggression in DLB patients, although further investigation is needed.

Disclosure of Interest: None Declared

EPV0866

Post-electroconvulsive therapy cognitive alterations

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doi: 10.1192/j.eurpsy.2023.2168

Introduction: ectroconvulsive therapy (ECT) is a medical treatment most often used for patients with severe major depression or bipolar disorder who have not responded to other treatments, as well as for resistant schizophrenia, and consists of brief electrical stimulation of the brain while the patient is under anesthesia. It is usually administered by a team of trained health care professionals, including a psychiatrist, an anesthesiologist and a nurse or physician assistant.
The mode of action is not well known, but it is assumed that ECT is associated with a significant reduction in brain connections in the dorsolateral prefrontal cortex, which is associated with a significant decrease in depressive symptoms. This would support the hypothesis that hyper-connectivity in this area of the brain is closely linked to depression.
Despite its great effectiveness, this technique remains limited by numerous contraindications and exposes the patient to a multitude of short-, medium- and long-term side effects, notably cognitive disorders.
Objectives: To shed light on the cognitive disorders affecting mnesic processes, learning and thinking after electroconvulsive therapy.
Methods: We have performed a systematic literature review using the following keywords on the GoogleScholar database: cognitive impairment post electroconvulsive therapy, cognitive effects of electroconvulsive therapy, electroconvulsive side effects, ECT.
Results: Most of the studies on cognitive disorders after ECT have focused on mnesic abilities, in particular the deterioration of anterograde memory which is at its maximum just after the session and which recovers progressively and spontaneously. The deterioration of retrograde memory, on the other hand, depends on the administered dose, the type and the location of the electrodes, and has a greater tendency to affect recent memories than old ones.
Other studies have focused on the speed of the process of information, which is also affected, with a significant decrease, especially in depressed people, a decrease that can be progressively resolved with time. Concerning attentiveness, some studies have noted a minimal decrease, especially in the lateral visual fields, and a perseveration in verbal expression. These studies also noted a deterioration of executive functions with a decrease in performance on the STROOP and MTM tests and also in verbal fluency.
Conclusions: The occurrence and preservation of cognitive deficits after ECT is a much debated subject with many controversial studies, and despite the numerous studies on this subject, we are still far from conclusive and exploitable results, especially with the intricacy of the diversity of parameters, materials and techniques of ECT, and also because of other factors such as individual peculiarities, neurological co-morbidities, and polymedication to psychotropic drugs.

Disclosure of Interest: None Declared

EPV0867

Non-convulsive epiletic seizure after electroconvulsive therapy session

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doi: 10.1192/j.eurpsy.2023.2169

Introduction: Electroconvulsive therapy (ECT) is a procedure performed under general anaesthesia involving triggering an intentional brief seizure through small electrical currents through the brain. The anaesthetic depth should be adequate prior to shock and measured with BIS, a processed electroencephalogram (EEG) monitor. Adjusting the hypnotic dose allows to decrease the ictal threshold and thus improve the response to treatment and decrease side effects.
Objectives: Our goal is detecting elements such as spontaneous epileptiform activity after ECT without tonic-clonic activity with the spectral density matrix (SDM).
Methods: Our patient: an 87-year-old woman, diagnosed with F20.2 catatonic schizophrenia and under antipsychotic treatment since her youth. She has required multiple hospital admissions due to psychopathological decompensations until starting monthly maintenance ECT sessions in 2014. Since then she no new hospital admissions have been required.
Results: Images 1D and 1E shows the SDM, a spectrogram of the EEG. The X axis show time (minutes), the Y axis shows the frequency (Hz) and the Z axis shows the energy or intensity of that electrical activity in the frequency bands replaced by colors: warm colors (red) reflecting high intensity electroencephalographic activity and cool colors (yellow, blue and green), low activity. Images 2 and 3's EDM shows spontaneous epileptiform activity after electroconvulsive therapy without tonic-clonic activity. We observed an initial EDM of an awake patient, with warm colours in practically all frequency bands, including the beta band (13-30 Hz), characteristic of waking states. Around 9:50 anaesthetic induction occurs, activity increases in slow frequencies (red colours in alpha, theta and delta), plus an increase of cold colours in beta, reflecting the disappearance of brain activity in that frequency. The asterisk reflects the EEG response to the electrical discharge, followed by a postcritical state with brain activity exclusively in slow waves and high amplitude (delta and some theta) and absence of activity in other frequencies (blue colour in the beta and alpha bands) around 9:57. At about 10:00 there is an abrupt appearance of high intensity brain activity (warm colours) in beta and alpha and delta, mainly, reflecting spontaneous epileptiform activity after treatment and clinically reflected as a patient absent and disconnected from the environment, but without tonic-clonic activity. New postcritical state in which blue colour predominates, reflecting

little brain activity, and warmer colours reappear in all frequency bands, including beta, reflecting the progressive recovery of wakefulness.

Image:

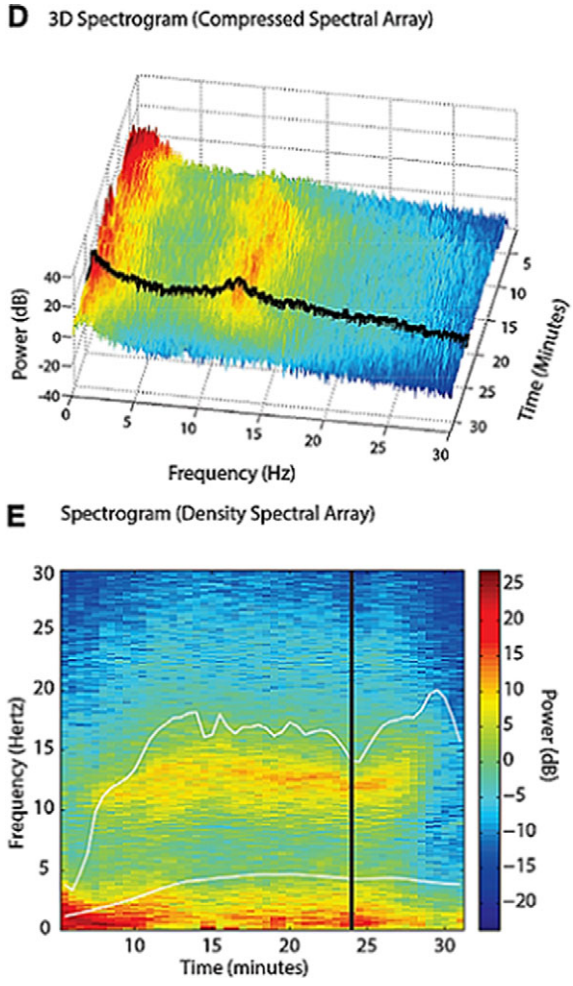


Image 2:

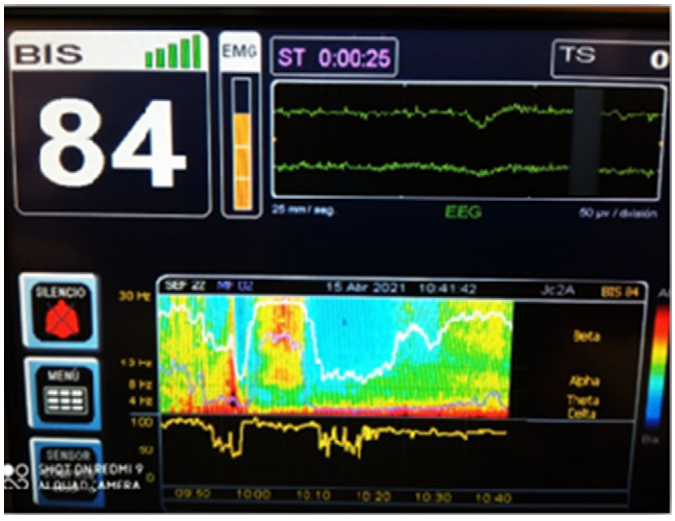
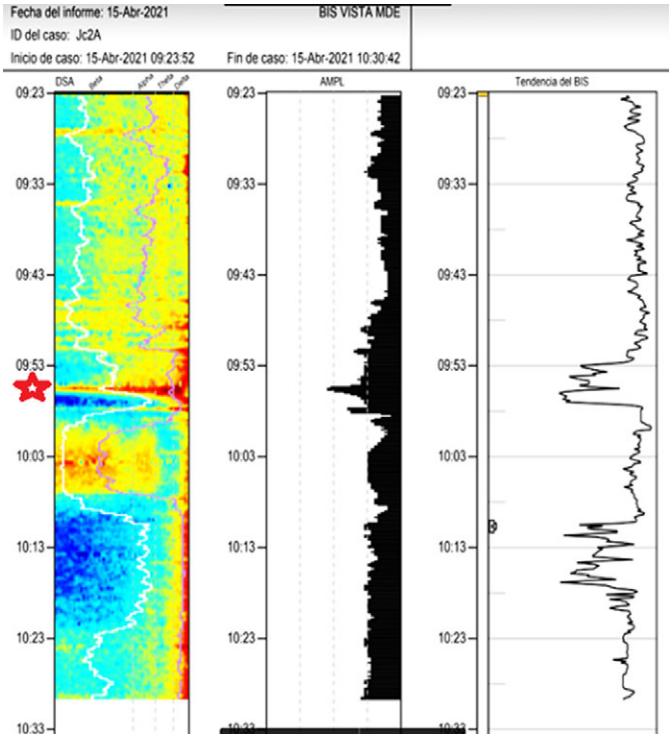


Image 3:



Conclusions: Psychiatric pathology can be reflected in the SDM, which allows to observe changes in the EEG, correcting the electrical stimulus of the shock and the dose of anesthetic appropriate to the patient to trigger an intentional brief seizure under general anesthesia.

Disclosure of Interest: None Declared

EPV0868

The cognitive impairments of electroconvulsive therapy

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doi: 10.1192/j.eurpsy.2023.2170

Introduction: Electroconvulsive therapy (ECT) is one of the most controversial treatments in medicine, mainly because of its still unknown mechanism of action and uncertainty about cognitive side effects. ECT is used mainly when antidepressant medications do not result in an adequate response in severe depression, and may also be indicated for other disorders. During the acute phase after electroconvulsive therapy there are better cognitive outcomes with unilateral ECT compared to bilateral ECT.

Objectives: This literature review aims to analyze the validity of electroconvulsive therapy despite the cognitive impairment and effectiveness of electroconvulsive therapy.