

EPP1087

Electroconvulsive therapy in the psychiatric department of the Mahdia EPS over two years

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doi: 10.1192/j.eurpsy.2021.1312

Introduction: The electroconvulsive therapy is an ancient therapeutic technique used in the treatment of certain psychiatric diseases.

Objectives: discuss the technical aspects, indications, therapeutic response and tolerance of ECT

Methods: This was a descriptive retrospective study that interested all patients who were hospitalized in the psychiatric department of the Mahdia University Hospital in 2017 and 2018 and were benefited from ECT sessions

Results: The number of patients who received ECT was 34, representing 4.33% of patients, 25 men and 9 women with an average age of 39, the number of ECT sessions was 785. The major diagnosis was bipolar disorder in 47,1% of patients, followed by schizophrenia in 35,3% and major depressive disorder in 14,7 %. Resistance to treatment and major suicidal risk were the main indications. All sessions were performed in a bilateral temporal mode. the initial energy delivered varied between 50 and 101 millicoulombs. The duration of the crisis obtained was predominantly between 21 and 30 seconds. The average number of sessions during the attack phase was 13.88, whereas it was 2.5 sessions during the consolidation phase. The mean scores of the psychometric evaluations showed a marked improvement, especially in the mania scores (65.89%) and the beck depression inventory (63.55%). Only four incidents were reported in all patients. Only five patients (14,7%) had side effects and the most marked effect was anterograde amnesia.

Conclusions: Mental health programs in Tunisia should promote the generalization of this method throughout the Tunisian territory, given the efficacy demonstrated in mood disorder, several psychoses and other psychiatric pathologie.

Keywords: electroconvulsive therapy; Treatment; Suicide; bipolar disorder

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Transcranial magnetic stimulation in the management of autism spectrum disorder: Narrative review

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doi: 10.1192/j.eurpsy.2021.1313

Introduction: Fifty years ago, the estimated prevalence of autism was 30-60 per 10,000; now, it has increased to 18.5 per 1,000. Autism disorders are 4.3 times as prevalent among boys as among girls.

Objectives: This systematic review provides an overview of the management of AD with Transcranial Magnetic Stimulation.

Methods: A systematic review was conducted using (“Autism spectrum disorder” AND “Repetitive Transcranial Magnetic stimulation” AND “RTMS” OR “Children and adolescent”) in PubMed, Embase, and PsycINFO, resulted in 453 hits and finally qualified 18 studies.

Results: We found 18 eligible studies, 8 randomized controlled clinical trials, 10 non-controlled clinical trials comparing TMS effects with waiting-list controls (n = 6), sham-treatment (n = 8) and no control group (n=4). There was a significant reduction of repetitive, stereotyped behaviors, irritability, social behavior, and executive function improvements with a medium-size effect. Eleven studies in this review had a moderate to high risk of bias due to small sample size, lack of blinding to treatment, and inadequate follow-up period. Four studies reported the stability of these gains in clinical outcomes for more than six months with no clarification after that.

Conclusions: The data encourages the potential safety and efficacy; it provides significant evidence to support TMS's efficacy in symptom severity reductions and improved clinical outcomes in children with autism. Therefore, future large-scale randomized controlled trials are required to conclude intervention efficacy in a larger sample size further.

Keywords: TMS; Children; Autism spectrum disorder; Repetitive Transcranial Magnetic stimulation

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Personality and psychophysiological self-regulation influence individual efficacy of neurofeedback in tension-type headache

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doi: 10.1192/j.eurpsy.2021.1314

Introduction: Due to limited efficacy and side effects of pharmacological therapy in tension-type headache (TTH), alternative approaches are feasible. Neurofeedback is a noninvasive neuromodulation technique increasingly used in practice, but, however, there is limited research on its efficacy.

Objectives: To evaluate the efficacy of neurofeedback in TTH and to reveal the factors moderating treatment effects.

Methods: We analyzed the data from a pilot phase of an ongoing single case design cross-over sham-controlled study. Four females with TTH underwent 10 sessions of neurofeedback and 10 sessions of sham-neurofeedback in a randomized order. Participants filled a detailed headache diary 3 weeks before, during and 3 weeks after the treatment. At enrollment, we evaluated the personality factors with the MMPI, and performed a specially developed test on psychophysiological regulation of breath.

Results: Significant reduction of headache frequency and intensity was observed in 2 of 4 participants (responders). The responders were characterized by normal MMPI profile and, the same time, by lower baseline abilities for psychophysiological self-regulation. The non-responders had high MMPI profile (accentuation) and also higher abilities for psychophysiological self-regulation.

Conclusions: On the base of preliminary data, we suggest that neurofeedback may be feasible in TTH patients with lowered abilities for in psychophysiological self-regulation. Accentuation of personality traits may interfere with the efficacy of neurofeedback.

Keywords: tension-type headache; Neurofeedback; Personality; psychophysiological self-regulation

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Symptom improvement is associated with serum cytokine level change during RTMS treatment in patients with treatment resistant depression

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doi: 10.1192/j.eurpsy.2021.1315

Introduction: Repetitive transcranial magnetic stimulation (rTMS) is an effective and safety noninvasive technique for treatment of major depression disorder (MDD). There is a body of increasing evidences on the potential molecular mechanisms underlying its effectivity even in case of treatment resistant depression (TRD), however, the exact mechanism is still not clarified. Among multiple biological systems, inflammation can be a target of rTMS in MDD (Tian et al. 2020; Tateishi et al. 2020).

Objectives: Here we analysed serum cytokine levels in TRD before and after rTMS interventions.

Methods: We used bilateral stimulation (15Hz for left DLPC and 1Hz on the right side) in 18 patients with TRD (5 men and 13 women; mean age=47.7±12.1 year) for 2x5 days. Blood samples were collected before the first (V1) and after the last intervention (V2). Phenotypic changes were measured by Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Snaith–Hamilton Pleasure Scale (SHAPS), Insomnia Severity Index (ISI) and Stroop Color-Word Test (SCWT) modified by Golden. Inflammatory cytokines were assessed by ELISA assays.

Results: Change of BDI and BAI scores between V1 and V2 is associated with difference of TNF α levels (p=0.043; adj. R²=0.42 p=0.011; adj R²=0.43). Decrease on SHAPS score has been depended on IL-6 level (p=0.027) and the interaction of TNF α and IL-10 (p=0.005; adj R²=0.63). Sleep disturbance and neurocognitive function was not associated with cytokine levels.

Conclusions: Our results confirmed the association between depressive, anxious and anhedonia symptom improvement and inflammatory mechanisms during rTMS treatment. The study was supported by the OTKA 151513 grant.

Keywords: rTMS; TRD; Depression; noninvasive brain stimulation

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Vagus nerve stimulation in treatment-resistant depression. Long-term clinical outcomes

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doi: 10.1192/j.eurpsy.2021.1316

Introduction: Vagus nerve stimulation (VNS) is a neuromodulation technique approved for Treatment-Resistant Depression (TRD). Evidence regarding its long-term efficacy and safety is still scarce.

Objectives: To descriptively report a case series of 3 patients undergoing adjunctive VNS for TRD with an over 10-year follow-up.

Methods: We investigated outcomes of clinical interest in patients with ongoing VNS for at least 10 years after the device implantation. They had participated in a larger single-arm interventional study conducted at the University Hospital of Padua. They were diagnosed with chronic unipolar (1), recurrent unipolar (1), and bipolar (1) TRD.

Results: Our 3 cases had an average 14-year history of psychiatric disease before surgery. Afterward, all subjects achieved clinical remission within two years. 2 patients experienced relapses within the first 4 years of treatment (respectively, 1 and 2 episodes). The other case showed a recurrent trend of brief relapses every two years. Only 1 individual needed to be admitted to the psychiatric unit once. None of them committed suicidal attempts. Prescription of antidepressants remained almost unchanged after the first two years. 2 individuals improved and 1 maintained their working position. Common adverse events were voice alteration (3/3), neck pain (2/3), and cough (2/3).

Conclusions: Very few cases of 10-year VNS for TRD have been reported so far. For our subjects, VNS was most likely to have a major impact on the clinical course of the disease. This treatment can be a safe and effective adjunctive intervention in a subgroup of patients with TRD.

Keywords: VNS; VAGUS NERVE STIMULATION; DRUG-RESISTENT DEPRESSION

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Effects of repetitive transcranial magnetic stimulation in the treatment of attention-deficit hyperactivity disorder: A case study

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doi: 10.1192/j.eurpsy.2021.1317

Introduction: Although there are very effective treatment approaches for Attention Deficit Hyperactivity Disorder (ADHD) available, the clinical management has its limits making new treatment modalities a necessity. Evidence suggests that low frequency