

funded health services in Slovenia, in part because it is difficult to objectively measure the success of treatment. Health authorities are aware of the importance of introducing new treatments, given the high social burden of depression. They expect us to introduce more systematic approaches to the treatment of depression in the near future, as well as more objective assessments of treatment success in individual patients and the impact of depression on their day-to-day functioning. We will present the planned approaches to these questions, which also have important consequences for the wider introduction of brain stimulation methods in the clinical practice of depression treatment in Slovenia.

* * * * *

ECT IN TREATMENT-RESISTANT SCHIZOPHRENIA: CURRENT PRACTICE AND FUTURE PERSPECTIVES

Marina Sagud

*School of Medicine, University of Zagreb, Zagreb, Croatia
Department for Psychiatry and Psychological Medicine, University Hospital Center Zagreb,
Zagreb, Croatia*

Treatment resistance continues to represent the greatest unmet need in schizophrenia care, despite the ever growing number of antipsychotics. However, about one third of patients do not show sufficient improvement with antipsychotics. About half of those patients with treatment-resistant schizophrenia (TRS) have a poor response to clozapine. The pathophysiology of TRS is highly heterogeneous and includes dopaminergic, glutamatergic, and GABAergic dysfunction. Although electroconvulsive therapy (ECT) is primarily utilized to treat patients with severe depression, it can effectively reduce the symptoms of TRS, although some patients do not respond to this treatment. ECT produces changes in different brain regions/networks, that are supposed to correlate with the pathological findings in schizophrenia. In preclinical models, ECT had both acute and chronic effects on neurogenesis, while chronic ECT reduced neuroinflammation. However, the data on peripheral markers on inflammation and growth factors in patients are often heterogeneous, and studies were carried out mostly on patients with depression, while the data in schizophrenia are scarce. The mechanism of efficacy of ECT in TRS is not known. While preclinical trials suggest it may normalize dopamine supersensitivity state, clinical data are missing. Such effects may be important for patients who were not initially resistant. Other patients may be resistant from the illness onset, which could have unaltered dopamine synthesis capacity, but show NMDA receptor dysfunction on GABA interneurons. Chronic overactivation of the immune system can also be present from the illness onset.

Establishing clinical and biological markers of TRS, as well as predictors of response to ECT, is a priority. Such markers would distinguish patients who will benefit from ECT, and provide this treatment early in the disease course, which may improve the long-term outcome.

Key words: *ECT - treatment-resistant schizophrenia - dopamine supersensitivity - neuroinflammation*

* * * * *

REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION IN TREATMENT OF PSYCHIATRIC DISORDERS AND COMORBIDITY

Ivona Šimunović Filipčić^{1,2}, Darko Marčinko^{1,2} & Igor Filipčić^{2,3,4}

¹*Department of Psychiatry and Psychological Medicine, University Hospital Centre Zagreb, Zagreb, Croatia*

²*Faculty of Dental Medicine and Health, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia*

³*School of Medicine, University of Zagreb, Zagreb, Croatia*

⁴*University Psychiatric Hospital "Sveti Ivan", Zagreb, Croatia*

Repetitive transcranial magnetic stimulation (rTMS) has emerged in recent decades as a noninvasive neuromodulatory intervention for treatment-resistant depression and obsessive-compulsive disorder. However, in the last decade, there is a growing body of literature on the potential beneficial effects of

rTMS treatment for diverse mental and neurological disorders. Therapeutic alternatives such as rTMS are urgently needed because treatment resistance is very common in psychiatric and neurological disorders. Based on neurophysiological findings, noninvasive brain stimulation methods offer an integrative treatment approach for many brain disorders. Therefore, this report presents an overview of the recent literature on the efficacy of rTMS and the treatment of various brain disorders, focusing on anxiety disorders, borderline personality disorder, eating disorders, and some neurological disorders such as multiple sclerosis and neuropathic pain. Overall, although the evidence base suggests that neuromodulation approaches are therapeutically promising, safe, and well-tolerated for many disorders, there are still gaps in the knowledge base. This report aims to present a practical guide for clinical application based on evidence from the literature and clinical experience in the field.

Key words: *transcranial magnetic stimulation - psychiatric disorders - comorbidity*

* * * * *

ELECTROSTIMULATIVE THERAPY (EST) - TROUBLESHOOTING AND TIPS FOR CLINICAL PRACTICE - EXPERIENCE FROM PSYCHIATRIC CLINIC, CLINICAL HOSPITAL CENTRE OSIJEK (CROATIA)

Anamarija Petek Erić^{1,2,3}, Ivan Požgain^{1,2}, Zoran Čavajda¹ & Ivana Pavličević Tomas^{1,2}

¹*Psychiatric Clinic, Clinical Hospital Centre Osijek, Osijek, Croatia*

²*Faculty of Medicine, J.J. Strossmayer University Osijek, Osijek, Croatia*

³*Faculty of Dental Medicine and Health, J.J. Strossmayer University Osijek, Osijek, Croatia*

Often taken for granted and as a simple or even somewhat primitive treatment method, modern day EST represents a significant challenge for the clinician performing it. EST has evidence-based practice grounds which stand for a gold standard, but when giving EST the practitioner quickly confronts the clinical reality where evidence-base is limited and there are many areas where there are marked variations in clinical practice. Given our, relatively short-lived clinical experience, the lightbulb is comprised in an imperative that EST practitioners have a sound understanding of evidence base that underpins EST but it is also important to have the capacity to integrate this knowledge into own clinical practice. This way, we ensure development of varied consumer-focused, practice-based which guide the delivery of EST treatment. As above mentioned, we will show and highlight the steps in performing EST among patients from different diagnostic categories, how to deal with public stigma, how to establish a team for the treatment, different ways in delivering treatment (with/without titration, electrode placement, preparation of electrodes and skin, which pulse and how to deliver, how to monitor/should we monitor etc.) what to do/react when some of these steps or treatment fails.

* * * * *