GENDER DIFFERENCES IN THE EFFICACY OF rTMS TREATMENT ON MAJOR DEPRESSIVE DISORDER

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Repetitive transcranial magnetic stimulation (rTMS) is a non-invasive brain stimulation technique that is effective in treatment of major depressive disorder (MDD). A probable association of short-term antidepressant properties of rTMS with gender has been observed.

Objective of our study was to investigate gender differences in the efficacy of 8-coil rTMS on major depressive disorder (MDD).

We performed an industry-independent, unicentric, randomized, controlled, single-blinded study in Psychiatric Hospital "Sveti Ivan" in Zagreb. Patients were randomized into two groups: experimental group treated with 8-coil rTMS (n=47) and standard pharmacotherapy and the control group (n=43) treated with the standard pharmacotherapy alone. The primary outcome was HAM-D17. Variables whose possible confounding effect we controlled by multivariable statistical analysis were: age, diagnosis, age at MDD onset, treatment with SSRIs, SNRIs and other antidepressants.

After the adjustment for all preplanned possible confounding variables, the lowering of HAM-D17 score after 4-weeks treatment was statistically significantly different between experimental and control group. In women, the lowering of HAM-D17 score was statistically significantly and clinically relevantly larger in the experimental group than in the control group. The interaction of the study group and gender on the change in HAM-D17 scores was not statistically significant after adjustment for confounding variables. It cannot be reasonably reliably claimed that there are differences in the effect of rTMS between men and women using the 8-coil, but the results indicate the need for further research.

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BINGE-EATING DISORDER AND TRANSCRANIAL MAGNETIC STIMULATION – STATE OF KNOWLEDGE

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Binge-eating disorder (BED) is characterized by repetitive episodes of excessive food consumption in the absence of regular compensatory behaviors used to avoid weight gain. As the most common eating disorder, BED is an important public health problem, associated with obesity, life impairment, poor outcomes and significant psychopathology and comorbidity. Due to its complex multifactorial etiology, BED represents a challenge in terms of treatment strategies, with limited therapeutic options.

Neurostimulation strategies, such as Transcranial magnetic stimulation (TMS), modulate cortical or subcortical excitability producing therapeutic effects. There are several studies that suggest a possible positive effect of brain stimulation on the neural mechanisms underlying BED, especially on the increased neural activity in the orbitofrontal cortex and decreased regulatory influence in dorsolateral prefrontal cortex (DLPFC).

The objective of this poster is to describe the state of literature and to asses clinical and scientific findings of the use of TMS procedures for modulating food cravings and food consumption in treating BED.

With respect to BED, several TMS trials have been published and have yielded promising results. Furthermore, application of multi-session Non-invasive brain stimulation (NIBS), predominantly Repetitive transcranial magnetic stimulation (rTMS) to BED has also yielded promising, but ultimately inconclusive results. These results provide a rationale for further exploring TMS as a treatment option for BED as more clinical trials should be conducted in order for more definite conclusions to be made.

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