

Introduction: Among eating disorders, the binge eating is the most common disorder with prevalence to 7,8%. It is frequently connected with overweight, or obesity. Current treatment of binge eating is based on psychotherapy, pharmacotherapy and regime approach. Recently, repetitive transcranial magnetic stimulation appears as hopeful therapeutic method, for example used with success as an alternative therapy to treatment of resistant major depression. Because of its non-invasiveness, good tolerability and minimal side effects, new options of its use are studied. It seems to be a promising therapeutic method for treatment of eating disorders. Dorsolateral prefrontal cortex is considered as main experimental target of stimulation for treatment of binge eating disorder.

Methods: Study was conceived randomized double-blind placebo controlled. The active group was stimulated by high-frequency rTMS, with stimulation parameters: frequency 10Hz, 1500 pulses, 107s inter-train, 100 % minimal motor threshold and 10 sessions of stimulation. The control group was stimulated by sham rTMS coil. Both groups completed FCQ-S and FCQ-T questionnaire before stimulation, after 10. session and one month after 10. session.

Results: We noticed statistically significant decrease of craving in FCQ-S questionnaire after 10. session of stimulation ($p=0,0168$) and non-significant decrease after a month ($p=0,2184$). For FCQ-T questionnaire, the change in craving was significant in both cases, after 10. session and after a month ($p=0,0114$, $p=0,0368$). When we compared results with control group, they were insignificant, except the situation after month in FCQ-T evaluation, when in control group, craving was significantly more reduced, than in stimulated group ($p=0,0111$).

Conclusion: We are able to tell, that the therapy by high-frequency rTMS can significantly reduce craving among patient with binge eating disorder. However, the difference between real rTMS and sham rTMS group was insignificant.

Key words: binge eating disorder, craving, repetitive transcranial magnetic stimulation