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OP 9 The Prophylactic Effectiveness Of Transcranial Direct Current Stimulation In Migraine Patients In Relation To Allodynia: A Randomized Controlled Double-Blind Study

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Background: Allodynia is related to central sensitization that affects even simple daily living activities and increases the tendency for migraine to be more resistant to treatment and chronicity. Migraine impairing quality of life, can often be treated with variable pharmaceutical agents, but with various side effects. Transcranial direct current stimulation (TDCS) is a potential alternative treatment for migraine prophylaxis.

Methods: Seventy-seven patients diagnosed with migraine (48 with allodynia and 29 without allodynia) were included in the study. 41 of the 77 patients received sham stimulation and 36 patients underwent three sessions of anodal left primary motor cortex stimulation for 2 mA, 20 minutes. Drug use and migraine attack characteristics (frequency, severity, duration) were followed for one month after the stimulation.

Results: After TDCS, symptomatic drug use ($p=0,007$), attack frequency ($p=0,021$), number of headache days ($p=0,005$) and duration of attacks ($p=0,008$) decreased in patients receiving active stimulation. Response to TDCS treatment was higher in patients without allodynia (60% vs. 24%; $p = 0.028$) and allodynia came out as an independent predictor of response to TDCS with logistic regression analysis. Side effects were rare and similar to the sham group.

Conclusion: TDCS is a safe, efficacious and fast method for migraine prophylaxis. However, administration of TDCS before allodynia occurs, which means before the development of central sensitization, will provide more effective treatment responsiveness.