"EFFICACY OF RTMS THERAPY IN DRUG-RESISTANT MIGRAINE PATIENTS"

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Recently, the incidence of migraine is gradually rising and becoming one of the most common nervous system diseases in the world. Particularly, chronic migraine cause serious damage in the quality of life. However, the effect of the drug therapies, include acute therapies and preventive therapies are not significantly improved the clinical symptoms. As a non-invasive therapy Transcranial magnetic stimulation (TMS), which is a magnetic field created by an electrical current through a coil wrapped around the scalp or skull.

Research Objective:

The research was conducted in the group of 10 patients (2 males and 8 females) with ineffective pharmacological treatment history underwent examination and rTMS therapy. The mean age of the participants was 38.8 ±10.2 years.The study was conducted at the "FAMILY-MED" medical and diagnostic center in Andijan.

Evaluation measures:

All patients received rTMS according to the protocol: 5 Hz at an intensity of 120% of the motor threshold, with a duration of 10 minutes on the dorsolateral prefrontal cortex (DLPFC). The train duration was 10 seconds, and the inter-train interval was 10 seconds. This protocol was selected intentionally. It is based on experimental data proving that stimulation of the DLPFC is capable of changing serotonin metabolism and, as a consequence, reducing migraine pain. All patients underwent magnetic stimulation at equal intervals, for a total of 10 sessions at the same time of day.

Results

The reason for the patients seeking help was the long-term ineffectiveness of drug therapy, which led to the discontinuation of medication. These patients independently opted out of medical treatment involving NSAIDs, triptans, SSRI and combination drugs, and had not used any medications for more than 3 months prior to the use of TMS. We took the average number of attacks per month before treatment and compared it with the number of attacks per month over the 3 months following the TMS course. On average, patients had 4.4 attacks per month before TMS treatment; after the rTMS course, the average frequency of attacks per month changed and amounted to 3, while in 2 patients, the frequency of attacks did not change.

In 5 patients (2 more than before the rTMS course), grade III was verified (15 points respectively), which corresponds to severe pain and moderate-to-severe limitation of daily activity. In the remaining 5 patients after the TMS course, grade IV was verified, which corresponds to severe pain and a significant reduction in daily activity.

Thus, the severity of depressive manifestations according to the Hamilton Scale decreased by 31.7%, while the MIDAS score, indicating a decrease in daily activity, improved by 23.7%, the frequency of attacks per month decreased by 31.8%, and the intensity of headache during an attack decreased by only 6.9%. Given that the frequency of attacks decreased, it is logical to expect an increase in activity and working capacity. We observed no side effects of TMS in our 10 patients.

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Conclusions

Repetitive transcranial magnetic stimulation (rTMS) is a safe and effective method for reducing migraine attack frequency by 31.8%, improving mood and decreases the severity of depressive symptoms by 31.7%, and reducing disability by 23.7%, pain intensity during headaches decreased by 6.9%. Despite these encouraging results, the use of TMS as a preventive therapy for migraine warrants further investigation.

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