

MEETING ABSTRACT

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EHMTI-0358. Improved chronic migraine after DTMS

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Background

The prevalence of chronic migraine (CM) in the general population is around 2%. CM occurs with impaired quality-of-life and frequent medication overuse. Deep transcranial magnetic stimulation (dTMS) of the dorso-lateral prefrontal cortex (DLPFC) transiently suppresses central pain perception through reduced functional connectivity between mid-brain and medial thalamus.

Aim

To assess pain reduction in CM using high frequency rTMS over the left DLPFC.

Method

Fourteen patients with ICHD-32 CM were randomised to 12 dTMS sessions, delivered on alternate days over bilateral DLPFC with left prevalence (N = 7; 6 women, 1 man; mean age 45 years) or to treatment as usual (TAU, with anti-migraine agents). All had severe headaches for ≥ 15 days/month in the last three months, and did not respond to ≥ 3 preventive medications and to drug overuse treatment. Outcome measures were attack frequency, headache index, and number of medications in the month before (baseline), during treatment, and one month later.

Results

Patients treated with dTMS, compared to TAU and baseline, had reduced pain intensity, frequency of attacks, and analgesic overuse, during treatment and one month later.

Conclusion

dTMS presumably improved DLPFC function, thus allowing better executive abilities. This may have enhanced salience-related brain activity, redirecting or diverting attention through the hippocampus, the cingulate cortex, or other pain matrix structures. Results are compatible

with improved brain control over pain sensations. High-frequency dTMS over bilateral DLPFC improved CM, supporting a role for DLPFC in pain control.

No conflict of interest.

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