Original article

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# Transcranial direct current stimulation improves seizure control in patients with Rasmussen encephalitis

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- Transcranial direct current stimulation (tDCS):

  A non-invasive and safe method
- Anodal stimulation increases cortical excitability while cathodal stimulation decreases it
- Cathodal stimulation has been reported to decrease seizures in both humans and animal models

Aim: to investigate the effect of t-DCS on seizures in Rasmussen Encephalitis (RE) and to clarify its safety.



San-Juan D et al, 2015;
Nitsche et al, 2002;
Nozari et al, 2014;
Brunoni et al, 2012

# Method:

-5 RE patients were included

(mean age: 19; 3 females)

-Patients received: **1st cathodal

(3 classic, 2 with amplitude modulation),

** 2nd anodal

(with amplitude modulation at 12 Hz)

** 3rd sham

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# Results:

- 4/5 had more than 50% decreases in their seizure frequencies.
- 2 who received modulated cathodal tDCS had better results.
- Longest positive effect: 1 month.
- Modulated anodal stimulation and sham stimulation: not effective.
- No adverse effect was reported for all types of stimulations.

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# Conclusion:

- Both classic and modulated cathodal tDCS may be suitable methods for improving seizure outcome in RE patients.

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