

An Instrumental Treatment for Negative Symptoms in Schizophrenia

Improvement with 1 week of treatment with transcranial direct current stimulation is sustained for 12 weeks.

Because negative symptoms of schizophrenia have been associated with low activity in the prefrontal cortex (PFC), researchers in a sham-controlled, Brazilian study examined the effects of transcranial direct current stimulation (tDCS) in 95 schizophrenia patients with prominent negative symptoms. The device is commercially available but does not have FDA approval.

The anode (excitatory electrode) was placed over the left PFC, and the cathode was placed over the left temporoparietal junction. Treatments were administered twice daily for 5 days. Active tDCS was significantly better than sham tDCS in reducing negative symptoms at 6 weeks, with a clinically important number needed to treat for one person to benefit of 3.18. Improvement was maintained throughout the 12-week follow-up. Almost 10 times as many active as sham tDCS patients demonstrated at least a 20% reduction in negative symptoms at 12 weeks. Reduction of negative symptoms was less in patients with refractory schizophrenia and in those taking clozapine or high haloperidol doses.

COMMENT

By administering weak direct currents via scalp electrodes, tDCS can stimulate (via the anode) or inhibit (via the cathode) the underlying neuronal activity. The resulting change in overall activity seems to persist after acute treatment, without severe adverse effects. This modality appears to be a useful adjunct in the treatment of negative symptoms. However, because clozapine and dopamine D₂ antagonists could interfere with tDCS actions, clinicians might consider modifying pharmacotherapy before arranging this treatment. — *Steven Dubovsky, MD*

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Valiengo LDCL et al. Efficacy and safety of transcranial direct current stimulation for treating negative symptoms in schizophrenia: A randomized clinical trial. JAMA Psychiatry 2019 Oct 16; [e-pub]. (<https://doi.org/10.1001/jamapsychiatry.2019.3199>)