



## Letter to the Editor

# Transcranial Direct Current Stimulation for Chronic Continuous Antipsychotic-Refractory Auditory Hallucinations in Alcoholic Hallucinosis



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Dear Editor:

Alcoholic hallucinosis (AH) is a rare syndrome that may complicate relative or total alcohol withdrawal. Affected patients experience auditory verbal hallucinations (AVH) in clear consciousness; these are similar to AVH in schizophrenia, but are recognized to be abnormal by the patient [1]. Transcranial direct current stimulation (tDCS) has demonstrated efficacy in chronic, continuous, treatment-refractory AVH in schizophrenia [2–4]. We present the first report in world literature of AH-related antipsychotic-refractory, chronic AVH that responded dramatically to tDCS.

## Case report

J, a 59-year-old male with a 30-year history of alcohol dependence, presented with a 2-year history of AVH following discontinuation of alcohol and maintenance of abstinence; he had never experienced the symptom earlier despite several discontinuations from and relapses into drinking. The AVH began on the third day of withdrawal and persisted subsequently despite treatment with medications such as trifluoperazine (10 mg/day), risperidone (6 mg/day), and clozapine (200 mg/day) for >2 months each.

The AVH comprised hearing unknown men and women speaking to him and about him. The content was commanding, derogatory, and even abusive. The voices were present all through the day; there were no aggravating or relieving factors. Even though he experienced the voices as heard through his ears, he had complete insight into their nonveridicality. Other than distraction and irritability, there were no disturbances in mood, beliefs, behavior, and social or occupational functioning. Cognitive functioning was normal; his Montreal Cognitive Assessment Test score was 27 (maximum, 30). A brain computerized tomographic study was normal.

He was treated with tDCS (Zeebeetronics, Bangalore, India), two sessions per day (4 h apart) for 5 consecutive days. tDCS at 2 mA intensity was administered through 25 cm<sup>2</sup> steel electrodes that were covered with gauze and soaked in saline; the cathode was placed midway between T3 and P3 and the anode was placed over F3, according to the 10/20 EEG positioning system. The first 5 sessions lasted 20 min each, and the next 5 lasted 30 min each. Ongoing

antipsychotic medications (risperidone, 6 mg/day; trifluoperazine, 10 mg/day) were continued during the tDCS course.

Benefits were noticeable from the end of the third session itself. His Auditory Hallucination Rating Scale score [5] attenuated from 25 (maximum, 41) at baseline to 13 after Session 5, and AVH completely remitted by Session 10. tDCS was not associated with adverse events.

He stopped taking medications on his own, about 3 weeks later; however, remission was maintained at a 2-month follow up.

## Discussion

AH is commonly self-limiting but may persist in a small proportion of alcohol-abstinent patients; acute or chronic AH should not be mistaken for schizophrenia [1,6]. AVH in AH have been treated with antipsychotics, anticonvulsants, and other drugs [7]. This is the first report in world literature of the successful use of tDCS for chronic, continuous, refractory AVH associated with AH; remission was sustained, drug-free, at an 8-week follow up. Our report is important because it opens the doors to the possibility that AVH may respond to tDCS regardless of the primary diagnosis. Our report encourages the consideration of tDCS for the symptomatic treatment of AVH, whatever the etiology.

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