

Case Report

Functional Hallucinations in Schizophrenia Responding to Adjunctive Sodium Valproate

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ABSTRACT

Functional hallucinations are a rare phenomenon, wherein hallucinations are triggered by a stimulus in the same modality, and co-occur with it. Although hallucinations in schizophrenia are normally treated using antipsychotics, not all patients respond to them. The following is the report of a patient with paranoid schizophrenia who experienced persistent functional hallucinations, triggered by the sound of machines in his factory, in the absence of other psychotic symptoms. These occurred despite adequate doses of risperidone, which had controlled his other symptoms. The addition of sodium valproate, titrated up to 1700 mg/day based on response and tolerability, resulted in a marked improvement in this phenomenon and enabled him to return to work. The implications and possible mechanisms of the patient's response are discussed.

Key words: *Hallucinations, risperidone, schizophrenia, sodium valproate*

INTRODUCTION

Functional hallucinations are an unusual form of perceptual disorder, in which hallucinations are triggered by a stimulus in the same modality, and co-occur with it.^[1] For example, a patient may report hearing voices criticizing him every time he hears the sound of a rotating fan, and which stop when the fan is not running. Their exact significance is unknown, but they have been reported in schizophrenia and other functional psychotic disorders.

The treatment of positive symptoms of schizophrenia,

including hallucinations, generally involves the use of antipsychotics. However, a sizeable number of patients do not respond even after several trials.^[2] The following is the report of a patient diagnosed with schizophrenia, with persistent functional hallucinosis, who responded to the addition of sodium valproate. This is the first such case reported in literature.

CASE REPORT

A single man, aged 30, employed in a factory, presented to our Outpatient Department, in 2007, with two years' continuous illness, characterized by persistent auditory hallucinations, secondary delusions of reference, social withdrawal, and impaired occupational functioning. He also reported obsessive doubts about routine activities, such as closing doors or taps, and a compulsion to check whether he had done these properly, despite knowing that this was unnecessary. There were no mood disturbances or history of substance use. Physical examination and routine laboratory investigations were unremarkable. He was diagnosed to have paranoid

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schizophrenia and obsessive-compulsive disorder, and was treated with risperidone (titrated up to 8 mg/day) and fluoxetine (titrated up to 80 mg/day). On the above-mentioned medications, he improved significantly, and was able to return to his job.

However, he was still troubled by a single symptom. His job involved frequent contact with machinery and motors. Whenever he heard these machines running, he would hear several unknown male voices abusing or criticizing him. He found these distressing, and this led him to frequently avoid his work or leave it incomplete. He did not hear these voices at any other time, and did not report any recurrence of his other symptoms. There was no evidence of other hallucinations, delusions or obsessional phenomena on interview. His body weight was 62 kg.

Due to financial difficulties (the patient was receiving the above medications free of cost from the hospital) and his overall good response to risperidone, it was decided not to change his current antipsychotic medication. Therefore, he was given a trial of adjunctive sodium valproate, which was freely available in the hospital and had some evidence of efficacy in reducing positive symptoms, as an adjunct to antipsychotics.^[3,4] After obtaining the patient's consent, sodium valproate was initiated at a dose of 600 mg/day, and gradually increased by 200 mg every week based on his response and adverse effects.

At 1000 mg/day of sodium valproate, the patient reported a significant reduction in his hallucinations, and he felt that he could carry out most of his work. However, his symptoms continued to fluctuate. Hence, valproate was further increased at the same rate, up to 1800 mg/day. At this dose, the patient reported feeling 'near-normal', and was in line for a promotion at his workplace. However, he developed significant postural tremors, which interfered with his ability to work, and valproate was reduced to 1700 mg/day. At this dose, he reported that the voices 'had decreased by 75%', and he scored between 2 and 3 (mild symptoms) on item P3 (hallucinations) of the Positive and Negative Symptom Scale for Schizophrenia.

He has remained on valproate 1700 mg/day, along with risperidone 8 mg/day and fluoxetine 80 mg/day, for the past three months, and has remained stable. His functional hallucinations still occur from time to time at work, but he is less bothered by them and does not experience any impairment.

DISCUSSION

The management of patients with schizophrenia, who

have a single persistent symptom, is a challenging situation. Evidence-based treatments, such as changes in medication^[2] or cognitive-behavioral therapy,^[5] may not always be feasible. In this patient, time and economic constraints made it unlikely that the patient would comply with either. Hence, an alternative that would be safe, affordable, and with some evidence of effectiveness was required. On account of the rarity of functional hallucinations, there is no literature about specific management strategies for them. However, a single case report suggests that carbamazepine may be helpful.^[6]

In psychiatry, valproate is mainly used in the treatment of bipolar disorder.^[7] Studies of adjunctive valproate in patients with schizophrenia have yielded inconsistent results. A Cochrane review suggests that it may be useful in reducing aggression and tardive dyskinesia, but has little effect on other symptoms.^[8] However, one trial has suggested that adjunctive divalproex reduces positive symptoms,^[3] and a case series found the addition of valproic acid useful in 'difficult-to-treat' schizophrenia patients.^[4]

The effect of adjunctive valproate in schizophrenia is probably not due to the elevation of risperidone levels.^[9] Valproate acts primarily through gamma-amino butyric acid (GABA)-ergic mechanisms, which may modulate the actions of dopamine.^[10] Alternately, it may act through an epigenetic mechanism involving the demethylation of relevant sections of the GABA-related genes.^[11] Finally, given the paroxysmal, event-triggered nature of the patient's hallucinations, it is possible that valproate's ability to block sodium channels in a use-dependent fashion,^[12] may have contributed to symptom amelioration, as carbamazepine did in the earlier case.^[6] Although it cannot be recommended in all patients, this case suggests that valproate may be beneficial in selected cases, particularly as an add-on to antipsychotics.

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