

## CASE REPORT

# MUSICAL HALLUCINATIONS IN AN ALCOHOL WITHDRAWAL STATE

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### Abstract

**Objective:** We report a rare case of musical hallucination in a male who had a history of alcohol consumption for 25 years. **Methods:** We present a 47-year-male with a history of alcohol consumption since 25 years presented with fearfulness, hearing voices and decreased sleep for 8 days. The last drink was 12 days prior to presentation. **Results:** The patient was diagnosed to have alcohol withdrawal syndrome and had musical hallucination whereby he heard voices reading a poem in a rhyming manner. These voices threatened him in these musical rhyming ways that they would make him go mad, would not allow him to sleep and would kill him and his family members. **Conclusion:** Musical hallucination has heterogeneous clinical and pathophysiological etiology, and has been reported in the elderly and in those with hearing impairment, central nervous system disorders and psychiatric disorders. Musical hallucination is very rare in alcohol withdrawal syndrome. The treatment of musical hallucination includes carbamazepine, clomipramine and Electroconvulsive therapy (ECT). *ASEAN Journal of Psychiatry, Vol. 15 (2): July – December 2014: 205-208.*

**Keywords:** Musical Hallucination, Alcohol, Withdrawal, Addiction, Auditory Hallucination

### Introduction

Hallucination is one of the symptoms of alcohol withdrawal. Hallucination occurs in all the different sensory modalities: visual, auditory, gustatory, olfactory and touch, and is frequently recognized as a psychopathology associated with psychiatric disorders such as schizophrenia, major depression, substance abuse, stress, neurological conditions such as seizure, stroke and neoplasm. In alcohol withdrawal syndrome, hallucination is usually either auditory or visual. Auditory hallucination (AH) is auditory perception that occurs in the absence of a corresponding external acoustic stimulus. The subject may or may not be fully aware of their imaginary nature. AH may be either elementary, for

example, tinnitus, whistles, buzzing; or complex, such as music, voices or spoken words [1]. A musical hallucination is a type of auditory hallucination characterized by the perception of music without an external source. Musical hallucination is very rare in alcohol withdrawal syndrome.

### Case Report

A 47-year old right-handed, graduate male, clerk by occupation, Marathi speaking, presented to our outpatient department. He was brought by with wife with history of alcohol consumption for the past 25 years, presented with fearfulness, hearing voices and decreased sleep for the past 8 days. The last drink was 12 days prior to presentation. As per

both patient and the relative, there was history of alcohol consumption since past 25 years which started with drinking beer with friends for fun purpose and then went on to occasional drinking and later increased in frequency and quantity. As the patient started having diminished pleasure with beer, he started consuming whisky, initially  $\frac{1}{2}$  quarter per day which increased to 1.5 to 2 quarters per day. Patient commenced alcohol daily for the past 18-20 years. Later due to lack of money, patient shifted to consuming country liquor, 2-3 quarters per day. The patient needs a morning drink as an eye-opener since past 5-6 years. The patient needed increasing amount of alcohol to experience the same amount of pleasure, suggestive of tolerance. Whenever he stopped drinking alcohol for 1-2 days, he would start feeling restless, irritable, developed tremors of extremities, could not sleep, and had a severe craving, all of which would subside on consumption of alcohol. Due to this behavior of the patient, there have been many problems in his household like frequent quarrels with wife, neglect of children, financial difficulties leading to borrowing and mortgaging. He would also often miss work and would be reprimanded for that. The patient had suffered from jaundice 1-2 times in the past but it did not stop him from consuming alcohol despite advice from doctors. There was history of multiple failed attempts to quit alcohol in the past.

The last drink he had was around 12 days ago when the patient had fever. After 3-4 days of stopping alcohol, he started being fearful. He felt that somebody had cast black magic on him. He claimed that a family of ghost haunted their home. He would hear their voices speaking amongst themselves. These voices had a musical nature as if they were reading a poem, in a rhyming manner. These voices threatened him in these musical rhyming ways that they would make him go mad, would not allow him to sleep and would kill him and his family members. He also experienced tactile sensation of someone pressing a balloon-like-thing on his ears and when tried to shrug that away, he claimed that it took form of a bird which entered his shirt pocket and then voices came out from his pocket. He also claimed that this family of ghost lived in a water tank just beside his home and often come and go. They could enter any object like the mattress,

footwear etc and would speak from there in that musical tone. Due to these voices the patient remained fearful and could not sleep during the day or night.

On examination, the patient had mild tremors of both hands but denied craving for alcohol. He was conscious, completely oriented to time, place and person. His attention was good and sustained. His mood was fearful and his affect was appropriate to mood, restricted in range and stable throughout the interview. His speech was clear, coherent and he answered all questions with relevant answers. He had a delusion of persecution against the ghost family but did not have any formal thought disorder. Perceptual abnormalities were noted in the form of auditory and tactile hallucinations as described above. Memory and intelligence as measured by general fund of information were intact. Test judgment was intact and insight to the illness was good.

He was admitted and started on multivitamin injections, lorazepam, olanzapine and acamprosate. He did not show any improvement even after increasing the dose of olanzapine to 20 mg in divided doses after a week and hence haloperidol 10 mg along with trihexiphenidyl 4 mg in divided doses was added. But the patient reported only a little improvement even after increasing the dose of haloperidol to 20 mg. Therefore Electroconvulsive therapy (ECT) was administered and after the fourth ECT, the patient reported substantial improvement in mood and auditory hallucination. He recovered completely after a course of 6 ECTs and now follows up regularly in the Outpatient Department. He was fit to resume work and has remained abstinent from alcohol ever since then.

## **Discussion**

A musical hallucination is defined as a type of auditory hallucination characterized by the perception of music without an external source. It varies from elementary sound to instrumental music, vocal music, bird songs, and bells, pieces of melodies or sentences, or religious music [2]. In musical hallucination, the perception has all the same qualities as listening to a live singer, a concert, the radio or an iPod. Musical hallucination is a complex

auditory hallucination with the qualities of true hallucination—that is, it arises in the absence of any external stimulus, perceived as being located in the external world, not subject to conscious manipulation and perceived as having the same qualities as normal perception.

Most of the time, the patient is totally aware of this phenomenon, and is able to recognize this experience as something strange and uncommon. In musical hallucination, spatial projection is less definite. Sometimes, it is perceived as tinnitus in patient's own head. The quality is usually very intense and distinctly very loud. Musical hallucination has an abrupt onset with “patients hearing songs or instrumental music for varying periods of time, ranging from repetitive short musical phrases to virtually constant elaborate musical hallucination”. Many patients hear songs or music that they have heard in their childhood. Although patients have no voluntary control over the hallucinations, “many could alter the tempo or change the tune at will” [3].

Musical hallucination has a heterogeneous clinical and pathophysiological aetiology, and has been reported in the elderly and in those with hearing impairment, central nervous system disorders and psychiatric disorders. There were reports on musical hallucination being more common in women, and associated with ageing or deafness, [4,5] brain diseases (epilepsy, tumour, stroke, meningitis and neurosyphilis) [5,6], psychiatric diseases (schizophrenia and manic depression) [5,6], toxic states (alcohol) [4] and drugs (antidepressants, salicylate [7], quinine and aspirin [6]). There is no accepted classification of musical hallucination and its pathophysiology is unknown. It has been hypothesized that musical hallucination is caused by abnormal autonomous activity in the auditory brain system responsible for normal musical imagery [8].

Musical hallucination in psychiatric patients is a rare and an under-diagnosed phenomenon. This phenomenon has been associated with depression, schizophrenia, obsessive-compulsive disorder and alcoholism. The presence of Obsessive Compulsive Disorder (OCD) has led to suggestions that musical hallucination may be intrusive pseudo-

hallucination rather than true hallucination [9]. However, according to Jaspers, two features clearly distinguish pseudo-hallucinations from hallucinations. In pseudo-hallucination, patients describe the experience as located in subjective, not objective space, and patients recognise them as not “real” [10]. Researchers have also questioned whether the symptom is a musical obsession [11]. Again, there is no clear classification although in the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) symptom checklist; there is a listing for “intrusive nonsense sounds, words or music” under Miscellaneous Obsessions. While obsession is also experienced as from the subjective space, Lewis has described three essential features for diagnosing obsession: subjective compulsion, a resistance to it, and preservation of insight [10].

The lack of volitional control over the experience of musical hallucination implies that the phenomenon is more likely hallucinatory than the product of musical imagery [12]. Religious content and unfamiliarity may help to indicate true hallucination, while musical imagery appears to be more associated with non-religious music and familiar tunes. Musical hallucination can be very loud and interfere with perception or conversation in a manner that never occurs with normal musical imagery [13].

There are no systematic studies and very little information in the literature on treatment of musical hallucination, apart from a report of successful carbamazepine therapy of two cases [14], and another two cases that showed significant response to clomipramine [15]. In this case, though, the musical hallucination started in a withdrawal state, it is noteworthy that it did not subside post alcohol withdrawal. This probably indicates that sometimes psychotic symptoms that start as part of withdrawal in substance abuse may persist post withdrawal and the need for long term treatment in such cases.

## References

1. Cambier J, Decroix JP, Masson C. Hallucino-é auditives dans les lésions du tronc cérébral. *Rev Neurol* 1987; 143:255-62.

2. Janakiraman R, Wildgoose K, Seelam K. ECT associated musical hallucinations in an elderly patient: a case report. *Ann Gen Psychiatry* 2006;5:10.
3. Lishman WA. Epilepsy. In: Lishman WA, ed. *Organic Psychiatry*. 3rd ed. Oxford: Blackwell Science, 1999: 237-314.
4. Berrios GE. Musical hallucinations. A historical and clinical study. *Br J Psychiatry* 1990;156:188-94.
5. Stewart L, von Kriegstein K, Warren JD, Griffiths TD. Music and the brain: disorders of musical listening. *Brain* 2006;129:2533-53.
6. Gordon AG. Do musical hallucinations always arise from the inner ear? *Med Hypotheses* 1997;49:111-122.
7. Erkwow R, Ebel H, Kachel F, Reiche W, Ringelstein EB, Büll U, et al. 18FDG-PET and electroencephalographic findings in a patient suffering from musical hallucinations. *Nuklearmedizin* 1993;32:159-63.
8. Warren JD, Schott GD. Musical hallucinations in a musician. *J Neurol* 2006;253:1097-9.
9. Gelder MG, Gath D, Mayou R. *Oxford Textbook of Psychiatry*. Oxford: Oxford University Press, 1996: 3-6.
10. Sims A. *Symptoms in the Mind. An Introduction to Descriptive Psychopathology*. London: BalliereTindall, 1991.
11. Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, et al. The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. *Arch Gen Psychiatry* 1989;46:1006-11.
12. Saba PR, Keshavan MS. Musical hallucinations and musical imagery: prevalence and phenomenology in schizophrenic inpatients. *Psychopathology* 1997; 30: 185-90.
13. Sacks O. The power of music. *Brain* 2006; 129: 2528-32.
14. Gertz HJ, Gohringer K, Schimmelpfennig C. [Successful carbamazepine therapy of 2 cases of music hallucinations]. *Nervenarzt* 1996; 67:387-9.
15. Matsui T, Matsunaga H, Ohya K, Iwasaki Y, Koshimune K, Miyata A, et al. Clinical features in two cases with musical obsessions who successfully responded to clomipramine. *Psychiatry ClinNeurosci* 2003;57:47-51.

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