

Cannabis-induced hallucinosis syndrome: A rare case report

Sir,

Cannabis sativa yields marijuana, a psychoactive substance that exerts its effects through the Cannabinoid receptor type 1 (CB1) receptor. Although the psychological effects such as altered perception were documented with cannabis use, hallucination is the least reported symptom. The hallucinogenic property of hallucinogens is mediated through 5HT₂ receptor agonism and N-methyl-D-aspartate (NMDA) receptor antagonism, but there is no literature supporting tetrahydrocannabinol (THC) action on the 5HT₂ receptor or NMDA receptor.^[1]

Mr A, a 58-year-old male, presented with smoking cannabis for 6 years. He started smoking cannabis out of curiosity and had pleasing experiences with its use. Over the next few months, he started taking cannabis up to 10–15 g/day. For the past 2 years, he started hearing voices of an unknown adult male or female with derogatory content, which others

in the close vicinity could not hear. He specifically reported that these voices were more intense when he smoked cannabis and were very distressing. Whenever he cut down the daily intake of cannabis, there was the alleviation of those experiences. He consulted a psychiatrist around 1½ years back for those problems. He was prescribed antipsychotics, which he took for the next 2 months and subsequently stopped of his own. He remained abstinent from cannabis since then and had no hallucinatory experiences or any other problems. Around 2 months back, he resumed cannabis to deal with sleep disturbance and fatigue with minimal improvement initially. Over the next few weeks, he started taking cannabis regularly and again, he had a recurrence of hallucinatory experiences.

This time he consulted our hospital with the last intake of cannabis around 3 days back. On admission, he had sleep disturbance, restlessness, and anticipatory apprehension of hearing voices again. He never had any features suggestive

of altered sensorium or memory difficulties. He had no family history of psychiatric disorders. Full diagnostic workup including biochemical investigations, urinalysis, electroencephalography, neuropsychological assessment, and magnetic resonance imaging of the brain revealed no abnormalities. The patient has been prescribed tablet haloperidol 5 mg and clonazepam 1 mg. During the next three follow up's, he remained abstinent and was on regular medication with no hallucinatory experiences after 2 weeks of initiation of treatment.

An association was found between single-nucleotide polymorphism in the AKT serine/threonine kinase 1 (AKT1) gene and increased psychosis in daily cannabis users. AKT1 encodes for a protein kinase, which is activated by the THC results in increased release of dopamine in the striatum that has been implicated in the causation of psychosis.^[2] There is also evidence from animal studies that cannabinoids activate the firing of dopaminergic neurons in the mesolimbic area, which might be an explanation for the psychotic symptoms seen with cannabis use.^[3] Our case was atypical in the sense that we had found that the patient experienced auditory hallucinations with no other psychotic, affective, and cognitive symptoms and is somewhat similar to the persistent perceptual disorder caused due to hallucinogenic drugs, as re-exposure of cannabis leads to the recurrence of same hallucinatory experiences.

Although a similar case was reported earlier, the perceptual abnormalities were visual distortions or hallucinations, unlike our patient who had auditory hallucinations.^[4] The reports of cannabis-induced hallucinosis to date are less; hence, further studies are needed to explore such cases.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Sangha Mitra Godi, Lokesh Kumar Singh

Department of Psychiatry, AIIMS, Raipur, Chhattisgarh, India.

E-mail: mitratiriam@gmail.com

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