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A Unique Case of Obsessions in the Withdrawal Phase of Alcohol Dependence Syndrome

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Dear Sir,

Alcohol use disorder (AUD) is an emerging epidemic. The current scenario has witnessed a drastic increase in the consumption of alcohol, especially in the COVID-19 pandemic. AUD is a troublesome pattern of alcohol use leading to considerable personal, social, and economic impairment but the real-world consequences of alcohol abuse reach far beyond imagination. Globally, it is one of the foremost causes of morbidity and mortality.[1] "Yearly, 3.3 million deaths and 5.1% of all disability-adjusted life years (DALYs) are connected to alcohol consumption, worldwide."[2] Negative emotional states and stress-like responses in the withdrawal stage result in a drop in the level of motivation of the patient. Obsessions are repetitive and persistent thoughts, images, impulses or urges that are intrusive and undesirable.[3] We hereby, present an unusual case of a middle-aged male with alcohol dependence who developed obsessions on withdrawal, achieving full resolution of symptoms on abstinence. Our case is the first of its kind and had never been reported in the literature.

A 56-years-old Hindu male belonging to lower socioeconomic status presented to psychiatry outpatient with complaints of alcohol intake for 25 years. He was a known case of hypertension and was on regular medications namely Amlodipine 5 mg in a single dose for 10 years with good compliance. He started drinking alcohol when he was 18 years old with his friends for recreational use. Initially, he was taking 30 mL of alcohol twice per day, but then gradually his intake increased owing to his inability to achieve the same pleasure as earlier with lower intake. He started having decreased sleep and appetite, distress, irritability, and poor concentration. He started drinking regularly and presently, his intake was more than 750 mL per day of high-proof country-made liquor with the longest period of abstinence reported of 6 months. Any attempt to decrease the dose would cause him considerable distress. There was no history of intake of any unprescribed or illicit drugs. On 2nd day of abstinence, he reported repetitive and disturbing thoughts of sexually abusing women. On seeing objects like a pen or sticks he would have recurrent thoughts about penetrating them into the vagina. These thoughts preoccupied his mind, caused significant discomfort, and desired to escape these thoughts and volunteered for help. The next day he started complaining of hearing voices, loud and clear of a female.

He had a history of a single previous admission for alcohol withdrawal management, a year back when the patient presented with delirium. There was no history of seizure or loss of consciousness.

On physical examination, his vitals were found stable, and pallor was absent with no lymphadenopathy or hepatosplenomegaly. He had hypertrichosis over both ears. Tandem walking was impaired and hand tremors were present. On mental status examination, his psychomotor activity was decreased, his affect was depressed, obsessive thoughts and auditory hallucinations were present. The patient was in the contemplation phase of motivation with an internal locus of control.

On blood investigations, his haemoglobin was decreased to 9.8 gm/dL. Serum glutamic oxaloacetic transaminase (SGOT) was and serum glutamic pyruvic transaminase (SGPT) was raised to 488 U/L and 357 U/L respectively. GGT was increased to 174 U/L. Renal and thyroid functions were normal. USG (whole abdomen) showed Grade II fatty liver. Magnetic resonance imaging (MRI) Brain showed diffuse cerebral and cerebellar atrophy. A diagnosis of mental and behavioural disorder due to the use of alcohol dependence syndrome with induced psychotic disorder predominantly hallucinatory (F10.2532) was made as per the ICD-10 DCR.[4] He was started on injection lorazepam 6 mg in three divided doses along with thiamine loading and risperidone (0.5 and then 1-mg). The patient was started on motivation enhancement therapy.

During the short hospital stay, the patient improved gradually. The Clinical Institute Withdrawal Assessment of Alcohol Scale-revised (CIWA-Ar) decreased from 27 on the day of admission to 7 on discharge. Yale-Brown Obsessive-Compulsive scale (Y-BOCS) declined from 17 to 5. The patient was discharged on the 8th day of hospital stay on oral lorazepam 2 mg, thiamine 100 mg twice daily and risperidone 1-mg with advice to follow up in the psychiatry outpatient department in 5 days. The patient reported no obsessions when he arrived at the scheduled follow up. He remained abstinent and followed up regularly for the psychotherapy sessions. Risperidone was down tapered and stopped after a month.

In 1992, Modell and colleagues in 1992 suggested a positive correlation of alcohol craving with obsessions of obsessive-compulsive disorderș (OCD).[5] Thus, there is an involvement of the cortico-striato-thalamo-cortical loop (CSTC) in alcohol dependence, which may have led to the obsessions in our patient. The obsessions ceased on abstinence from alcohol. Dopamine is involved in alcohol withdrawal states. During alcohol use, an increase in dopamine positively influences the reward system thereby maintaining abuse and in withdrawal, an increase in dopamine levels contributes to the clinical manifestations of autonomic hyperarousal and hallucinations.[6] As serotonergic hypofunction is present in OCD, the predominantly dopaminergic loops became overactive. The association of two predominant neurotransmitter systems affected in OCD can account for the fact that SSRIs have limited success in the treatment of OCD symptoms. Studies have affirmed the beneficial effect of antidopaminergic drugs on the hyperactive CSTC loops in OCD.[7] Thereby, we also suggest that an increase in dopamine in alcohol withdrawal and overactivation of the dopaminergic CSTC loop could have caused obsessions in the patient. This is further supported by the fact that our patient had auditory hallucinations on withdrawal implying a hyperdopaminergic state, and he also improved with dopamine antagonist (risperidone) instead of the conventional OCD treatment with SSRIs. We are the first to report a unique case showing the transient phenomenon of obsessions on alcohol withdrawal which resolved completely on abstinence. The case necessitates further studies to unravel other unascertained mechanisms of AUD.

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