Intracranial space-occupying lesion masked by alcohol dependence syndrome

A lot of comorbidities exist in patients with dependence on alcohol, psychoactive, or other substances. Many times, their comorbidities go undiagnosed or neglected due to the stigma prevalent with dependence. A 22-year-old person with alcohol dependence who was detected to have a parietal lobe space-occupying lesion which proved to be a tuberculoma is reported.

The parietal lobes provide for stereotactic exploratory behavior and orientation in space, including the optic righting reflex. The whole behavioral reaction to exteroceptive events is determined by an equilibrium of cortical responses to the environment. Some of the functions of the parietal lobe are some visual functions, in conjunction with the occipital lobe, assessing numerical relationships, assessing size, shape, and orientation in space, coordinating hand, arm, and eye motions, processing language, coordinating attention, arithmetic, reading, mental rotation, mental imagery, response inhibition, and task switching. Bedside tests for parietal lobe dysfunction are constructional ability, reproduction of drawings, drawings to command, and block designs. This case highlights the fact that many times, the comorbidities of psychiatric patients, especially the ones with substance abuse, go undiagnosed by doctors due to the stigma associated with psychiatric illnesses.

A 22-year-old male patient, married since 6 months, was brought to psychiatry OPD by mother and brother, who are reliable and adequate informants with a history of alcohol consumption since 2 years. It began with one occasional pint of beer under peer pressure which gradually changed to whiskey. Soon, because of financial issues, he started consuming country-made liquor. Initially, it was 1–2 pouches of country liquor which gradually increased to 2–3 pouches (180 ml) in the past 1 year and...
was now round the clock. Five months back, he started experiencing episodes of convulsions. First episode happened around 8–10 days after his marriage when he was at home surrounded by family and friends. The patient was consuming alcohol at that time. The episode was associated with involuntary movements of the body, tonic–clonic in nature followed by uprolling of eyes, frothing at the mouth, and loss of consciousness but not associated with tongue bite or incontinence. He started having frequent fights and quarrels with family members. Due to these reasons, his wife left him around 1 month back. He claimed that to stop the thoughts of his wife he started drinking more. After another such episode, he was again admitted to a private hospital for de-addiction for 3–4 days but started drinking again immediately after discharge. The patient had nearly 7–8 episodes of seizure in the last 5 months. The last episode happened 1 day before admission. The episode was preceded by tingling and numbness of limbs and was associated with frothing of mouth and tongue bite with urinary incontinence and fall. Because of the above complaints, he was brought to psychiatric OPD and was admitted. There was no significant past of family history. General physical examination and examination of cardiovascular system, respiratory system, and abdomen were within normal limits (WNL). On central nervous system (CNS) examination: Higher function tests, sensory, motor, and cerebellar examination were normal. Frontal and Temporal lobe tests were WNL. Parietal lobe tests were altered in the patient as described below.

Reproduction of drawings
Such constructional tasks are extremely useful for detecting organic brain disease. The scores were altered for diamond, cube, pipe, triangles for his age group, indicating some parietal lobe damage [Figure 1].

Constructional ability
In drawings to command, the patient is required to draw three pictures, according to verbal commands. The common commands are to draw a house a flower pot and a clock. The clock setting task can often bring out interesting errors, not only in pure constructional ability but also in the conceptualization of time and its abstract relation to the placement of the hands. Following are the results of the patient which revealed moderately distorted or rotated two-dimensional drawings or a loss of all three-dimensionality with moderate distortions or rotations on three-dimensional designs indicating moderate constructional apraxia [Figure 2].

Mental status examination revealed a young distressed adult male, well kempt and groomed, sitting on chair, with a respectful attitude towards examiner with normal psychomotor activity with a craving for alcohol and an intact judgment.

The magnetic resonance imaging plain and contrast showed a well defined lesion in the right parietal region appearing hypodense [Figure 3]. Findings were suggestive
of neoplastic etiology-high-grade glioma. Neurosurgery opinion was taken, and after excision craniotomy, he was diagnosed with tuberculosis (TB) brain and is currently under treatment for the same. Tablet lorazepam gradually tapered off and stopped with parenteral thiamine substitution. He was started on tablet levetiracetam (500 mg) BD, pregabalin (75 mg) + nortriptyline (10 mg) HS. Motivation enhancement therapy was done on this patient, and he is currently abstinent and on regular follow-up with brief interventions for maintenance of abstinence.

**DISCUSSION**

Alcohol use disorders are widely distributed in the population.[1] Adults with alcohol use disorders are at increased risk for adverse health outcomes, including neurologic impairment,[2] reproductive health problems,[3] and psychiatric comorbidity.[4] The seizure threshold is raised by alcohol drinking and declines on cessation of drinking. As a result, during withdrawal from alcohol, usually 6–8 h after the cessation of drinking, seizures may occur. Alcohol acts on the brain through several mechanisms that influence seizure threshold. These include effects on calcium and chloride flux through the ion-gated glutamate NMDA and GABA receptors. During prolonged intoxication, the CNS adapts to the effects of alcohol, resulting in tolerance; however, these adaptive effects seem to be transient, disappearing after alcohol intake is stopped.

CNS involvement is one of the most serious forms of *Mycobacterium tuberculosis* (MTB) infection. Clinical CNS MTB involvement comprises three categories: Meningitis, intracranial tuberculoma, and spinal tuberculous arachnoiditis.[5] CNS MTB occurs in approximately 5%–10% of all extrapulmonary TB and accounts for approximately 1% of all MTB cases. Risk factors include young age, immunosuppression, malnutrition, alcoholism, and malignancies.[6] Intracranial tuberculomas are the least common presentation of CNS TB, found in 1% of the patients. Clinical presentations are seizure, headache, hemiplegia, and signs of raised intracranial pressure.[7] In general, adults have frontal or parietal lobe involvement, and children have infratentorial involvement.

Alcohol dependence disorders complicate the assessment and treatment of other medical and psychiatric problems. Significant error remains in how to diagnose disorders in the presence of addictive disorders. Central to the confusion is the tendency of physicians to ascribe all symptoms of the addict to the substance of addiction. As a result, sometimes in addicts, there is difficulty and delay in diagnosis of an underlying disorder. Clarity is possible if both the disorders are allowed independent status and an understanding of the interactions between them is achieved.

**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.

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