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Case study of Substance Abuse Disorder – Alcohol and Cannabis with Psychiatric features

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ABSTRACT:

Substance abuse is a public health problem globally. The prevalence of misuse among youth is frightful. The matter, not only harm individual but additionally negatively affects family and society. Misuse condition has been diagnosed as per criteria of the Diagnostic and statistical manual of mental Disorders (DSM-5). The use of alcohol and nicotine substances is extremely common and also the conditions are often clinically manifested by psychotic options like sleep disorder, hallucinations, delusions, and delirium. So as to regulate these psychotic issues, medications are prescribed. The essential options for substance use disorder are a cluster of cognitive behavioral and psychological symptoms indicating the people continues to use the substance despite significant substance-related issues. We tend to study the prevalence of alcohol and nicotine use among psychotic option of inmates yet as examination the demographic, diagnostic, and psychopathological profile of the patient. This patient needs still some standard medication to treat substance abuse disorder so as to completely recover from the disease.

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INTRODUCTION:

Redundant alcohol consumption results in medical and social problems around the world. It accounts for 3 of the global deaths. Worldwide, cannabis is the most habituated illegal substance, and the use of cannabis has increased over time. An increase in the amount of tetrahydrocannabinol (THC) in cannabis has also been seen [1]. It is presently unclear whether this has led to a rise in the prevalence of cannabis-induced psychosis. The maturity of studies suggests that, overall, advanced boluses of alcohol are injurious to numerous psychological systems and precipitate a range of psychosocial and bio-behavioral problems. Neuropsychiatric consequences of alcohol dependence

patterns include alcohol-related brain damage, delirium tremens, alcoholic hallucinosis, and korsakoff's syndrome [2]. Inordinate alcohol consumption can injure different tissues, produce different psychological changes and vitiate and interrupt the hormonal and biochemical regulation of a variety of cellular and metabolic functions. Habitual alcohol exposure increases the threat of certain forms of cancer, and both acute and chronic alcohol consumption significantly increases the threat of accidental injuries and impairs recovery from those injuries [3]. In some individualities and under some conditions, alcohol use seems to have a salutary effect on health. The pathogenesis and treatment of the alcohol-induced psychotic disorder (AIPD) are still undefined. Many prospective treatment studies are available but case reports generally suggest that anti-psychotic treatment is effective [4].

CASE DESCRIPTION:

A male patient aged 26 years was admitted to the department of psychiatry with complaints of Alcohol abuse (past 6 years), Cannabis abuse (past 2 years), suspiciousness, talking to self (past 2 years), Sleeplessness, seeing images, Delirium, and No h/o of head injury. He also has delusions of presentation and auditory hallucinations, and his mood is euthymic. On the next day of admission, the patient has improvisation in sleep. Due to administration of Diazepam tablet 5 mg 2HS and Lorazepam injection 4 mg SOS.

LAB INVESTIGATIONS:

When he visited the hospital, the patient is conscious and oriented, his vitals are completely normal (Blood pressure 110/70 mmHg, Pulse 72/ min), S1 & S2 sounds are heard, and no focal and neurological deficits are observed. The case study data is given in Table 1.

By having awareness of the inpatient history and present illness we assessed that he is suffering from alcoholic cannabis use disorder. All the vital signs are normal except for total protein. The drug chart of this case is mentioned in Table 2.

The goal of treatment for this patient is to decrease hallucinations and to maintain the patient stable in alcohol abstinent condition. The increased risk of the disease affected in the patient is due to a high amount of alcohol intake.

Injection of haloperidol with Injection Lorazepam – The addition of lorazepam to haloperidol may provide superior control of agitation in patients with persistent delirium.

Table 1. The case study data of patients in the laboratory.

Lab test	Value
Total count	9000 cells/cu.mm
Differential count	P – 57 % l – 37 % M – 10 %
Hemoglobin	15.8 g/dL
PCV	43.1 %
PLT	2.9 lakh cells/mm^3
RBC	5.1millions cells/mm^3
T. Protein	5.0 g/dL
Urea	25 mg/ dL
Creatinine	0.9 mg/ dL
Sr. bilirubin	0.6 mg/ dL
LFT SGOT SGPT ALP.PHOS	 20 U/L 29 U/L 74 U/L

Injection of Thiamine – Thiamine helps to turn food into energy to keep the nervous system healthy. Some alcoholics exhibit vitamin deficiencies, presumably because of poor dietary habits as well as from alcohol-induced changes in the digestive tract that impair the absorption of nutrients into their bloodstream.

Tablet of Risperidone - It is a typical antipsychotic, used to treat hallucinations and delusions of this patient.

Tablet of Trihexyphendiyl – THP belongs to the class of anticholinergic. It is used to decrease Extrapyramidal symptoms. EPS is caused by some antipsychotic drugs.

Tablet of Diazepam 5 mg – Sedation.

Nonpharmacological treatment: Avoiding alcohol and cannabis intake.

DISCUSSION:

Alcohol use disorder (AUD) is a medical condition characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences. Symptoms like tremors, seizures, and hallucinations because of abnormality in neurotransmitters.

Healthcare professionals use criteria from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), to assess whether a person has AUD and to determine the severity of the disorder is present. Severity is based on the number of criteria a person meets based on their symptoms—mild (2–3 criteria), moderate (4–5 criteria), or severe (6 or more criteria) [5]. This patient has severe alcohol use disorder because the patient has above 6 symptoms.

Table 2. The medication detail for the patient suffering from Alcohol, nicotine–related psychosis disorder.

Generic name	Dosage regimen	Start date	Stop date
Inj. Thiamine	100 mg/100 ml, IV	D1	D5
Inj. Haloperidol + Inj. Lorazepam	1 amp, IM, SOS	D1	D7
T. Vitamin B complex	B.D.	D1	D8
T. Risperidone	2 mg, PO, H.S.	D1	D8
T. Trihexyphenidyl	2 mg, PO, O.D.	D1	D8
T. Diazepam	5 mg, PO, 2 H.S.	D1	D8

T – Tablet, D – Day.

Due to alcohol intake total protein level is low for this patient, because the protein cannot absorb properly in the body. The patient is having vitamin B1 deficiency to treat and they administered Thiamine 100 ml IV injection.

The Food and Drug Administration (FDA) has approved several medications to treat alcohol dependence, including disulfiram, acamprosate, and naltrexone. In addition, topiramate has also been shown to be potentially effective, although it has not been approved by the FDA for the treatment of alcohol dependence.

Disulfiram is out there solely via oral administration. Tablets are available in 250 to 500 mg forms. Medication administration ought to ne'er turn up till the patient has abstained from alcohol for a minimum of 12 h. Patients ought to avoid alcohol and alcohol-containing products for a minimum of fourteen days once discontinuing medication, as there are unit reports of disulfiram-alcohol reactions within two weeks of ending. Disulfiram also inhibits dopamine beta-hydroxylase (DBH), an enzyme that converts dopamine to noradrenaline, causing an accumulation of dopamine. Increased dopamine corrects the underlying deficit in patients addicted to cocaine [6].

The typical beginning dose of Naltrexone is 25 mg for many days, with an ensuing increase to 50 mg per day over someone week. Treatment with daily oral naltrexone ought to last for a minimum of three to four months. If the patient becomes utterly abstinent throughout the last many months of treatment, Naltrexone may be stopped, and monthly watching ought to continue throughout the succeeding four to six months. If a rise in desire happens or drinking resumes, Naltrexone may be restarted [7].

Acamprosate is accessible in 333 mg enteric-coated tablets admire 300 mg of acamprosate. Typically, acamprosate is given orally 3 times daily in two 333 mg tablets. The foremost common facet result reportable in clinical studies was the looseness of the bowels, which was usually gentle and occurred primarily solely within the initial four weeks of treatment. acamprosate isn't metabolized within the liver, it seems safe for all people with varying degrees of hepatic insufficiency. acamprosate doesn't seem to pharmacokinetically act with alcohol or different medicine like impramine hydrochloride, desipramine, disulfiram, diazepam, nordiazepam, or naltrexone once given concomitantly, nor will it seem to be contraindicated with the other medications metabolized by the liver. As a result, acamprosate is excreted by the kidneys, however, it's contraindicated in individuals with renal impairment. For people with low to moderate renal impairments, the acamprosate dose is usually cut in half (one three mg tablet 3 times a day). Acamprosate is additionally contraindicated for people with antecedent reportable acamprosate Ca sensitivity [8].

The drug-related issues are untreated conditions we will manage them 50 % by using the medication, we tend should begin the counseling sessions to support the patient's condition and his symptoms by having counseling sessions, and recovery of the patient's condition can be step by step improved. Sessions are usually conducted 3 or more times every week. Supportive therapy uses guidance and encouragement, it helps to create vanity, reduce anxiety, strengthen coping mechanisms, and improve social and community functioning. Avoiding alcohol is the smartest thing [9].

The major drug-drug interactions are Haloperidol with Risperidone = Haloperidol and lorazepam both increasing QTc interval. Monitor closely. Diazepam with risperidone = Both increase sedation.

The minor drug-drug interaction is Haloperidol with Risperidone = Haloperidol will increase the level or effect of Risperidone by affecting hepatic enzymes CYP2D6 metabolism.

CONCLUSION:

Alcohol, nicotine–related psychosis disorder is a secondary psychosis. In this state, we can observe so many conditions, as we have observed in this patient like hallucinations, seizures, mood fluctuations, schizophrenia, and anxiety disorders. The treatment is given to reduce these conditions and psychotherapy sessions are taken 2 to 3 times a week, and these sessions will be continued until the patient comes to normal condition. The patient's vitals are stable (BP - 110/70 mmHg, PR- 72 bpm, Temperature – normal, CVS – S1, S2), and he is alert and oriented. By avoiding alcohol, nicotine, and other drug addictions we can easily improve the patient's mental health condition.

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