Psychiatric aspects of alcohol misuse

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Alcohol and psychiatric disorder have a complicated relationship. Certain important psychiatric syndromes arise from the toxic effects of alcohol and thiamine deficiency. Liver disease and hypoglycaemia are also associated with their own psychiatric syndromes. Many psychiatric patients also turn to alcohol as an easily available 'medication'.

Excessive drinking and psychiatric disorders are so common in the population that there is inevitably an overlap. The pattern of that overlap has profound implications for the NHS. The possibility of alcohol misuse should be considered in all acute psychiatric presentations. This article considers the psychiatric syndromes caused by alcohol and the relationships between alcohol, mental illness, personality and behaviour.

THE EXTENT OF THE PROBLEM

Regier et al (1990), in the Epidemiological Catchment Area (ECA) study, assessed 20 000 people across a range of social settings and described the lifetime prevalence of alcohol dependence and alcohol abuse to be 13.5%, of whom 37% were comorbid for a psychiatric disorder. This was defined by the *Diagnostic and Statistical Manual of Mental Disorders (DSM) III* (American Psychiatric Association, 1980). The estimated lifetime prevalence of other (non-substance misuse) mental disorder was 22.5%. The odds ratio of having an anxiety disorder in those with defined alcohol disorder as compared to those without an alcohol disorder was 1.5, for mood disorder it was 1.9, schizophrenia 3.3 and antisocial personality disorder 21.

INTOXICATION SYNDROMES

Alcohol is a toxin which has a direct effect on the brain. Its immediate effects are called intoxication effects. It causes an initial depression of the reticular activating system leading to increased excitability of the cortex. Later with increasing levels of alcohol there is depression of the cortex. The initial effects of intoxication, whether excitement or sadness, depend on the social context, expectation, personality and cultural factors. At higher dosages it causes slowed thinking, impaired judgment, reduced coordination and dysarthria. These changes are often associated with subjective sense of superior performance. The blood alcohol concentration at which these effects occur differs according to whether blood alcohol concentration is rising or falling. It is also dependent upon the degree of tolerance which has developed as a result of previous drinking.

Pathological intoxication

Pathological intoxication, also called mania a potu, consists of rage reactions followed by amnesia occurring in susceptible individuals at low concentrations of alcohol. It has been used as a defence in court. Its validity as a medical entity is doubtful. Maletzky (1976) showed that in 22 cases with suspected pathological intoxication, high dosages of alcohol were needed to produce the reaction in 15 and the rest had normal intoxication responses. The syndrome of pathological intoxication may have been conceived because of defendants' tendency to minimize their alcohol intake and previous antisocial behaviour. Coid (1979), in his review of pathological intoxication, argued for the term to be abandoned.

Alcoholic blackout

This consists of an amnesic episode during an episode of drinking. Goodwin et al (1969a,b) described two types. First was the en bloc variety which manifests itself in dense amnesia with abrupt onset and recovery usually lasting 30–60 minutes but occasionally up to 3 days. The second type, known as 'fragmentary' or 'greyouts', are characterized by some recall during the episode. Kopelman (1991) described the

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association between an early onset of drinking, high peak levels of alcohol, a past history of head injury and blackouts.

Alcoholic hallucinosis

This consists of auditory hallucinations sometimes associated with secondary delusions occurring during or after a period of heavy alcohol consumption. The hallucinations occur in clear consciousness and usually abate in weeks but sometimes linger for months. They are distinguished from schizophrenia because there is a lack of thought disorder and incongruous affect.

The delusional system is not elaborated as in schizophrenia and insight is retained. There is no clouding of consciousness and this distinguishes it from delirium. Urine testing can be useful to screen out hallucinations that result from cocaine use. Glass (1989a,b) has reviewed the nosological status of the syndrome.

Alcohol-induced psychotic disorder with delusions

In DSM IV (American Psychiatric Association, 1994), this disorder is described as involving delusions usually of a paranoid or grandiose type present in the context of heavy drinking. The prognosis is good with the delusions clearing in weeks. There is no association with schizophrenia. There have been few systematic studies.

WITHDRAWAL SYNDROMES

The alcohol withdrawal syndrome develops with abstinence or relative abstinence from alcohol.

Uncomplicated withdrawal syndrome

This is the commonest withdrawal phenomenon usually associated with weakness, tremor, nausea and irritability. The mild form is short-lived, lasting days, but with heavier and more prolonged drinking there is insomnia, increased startle reaction and craving for the relief that alcohol can bring.

Complicated withdrawal syndrome

Withdrawal hallucinosis: Sense perception is disordered in a quarter of patients with withdrawal tremor (Victor and Adams, 1953). The absence of disorientation and confusion, and overactivity distinguishes it from delirium tremens. It resolves in days.

Alcohol withdrawal seizures: Of those individuals with alcohol dependence, 5–15% experience seizures 7–48 hours after cessation of drinking. A history of fits is an indication for inpatient detoxification. They are generalized seizures with a tonic and clonic phase. There is associated loss of consciousness. Focal fits are usually the result of previous head trauma or maybe the clue to a space-occupying lesion. After the fit the electroencephalogram should be normal. Withdrawal seizures are not related to epilepsy (Brennan and Lyttle, 1987).

Delirium tremens: This is the most serious of the withdrawal syndromes, with a mortality of up to 5%. The prevalence depends on how it is defined. Victor and Adams (1953) found that 5% of a series of 266 had the full picture of hallucinations, delusions, confusion, tremor, agitation, sleeplessness and autonomic hyperactivity. The tachycardia, sweating and fever typical of autonomic disturbance can be diagnostically important.

The hallucinations are often nightmarish, usually in the visual modality but also in the auditory and haptic (hallucinations of touch). Patients may describe and act on fantastic scenes. For instance, one patient described to the author seeing Nazi soldiers dragging dead sheep across the floor of the intensive care unit. Patients are usually fearful but sometimes amused. Physically they are dehydrated, tremulous and restless. Fits precede the delirium in a third of cases (Victor and Adams, 1953). The aetiology is the result of alcohol withdrawal but there is often the complication of head trauma or infection that increases the risk of fatal collapse.

The treatment consists of sedation with benzodiazepines, rehydration, parenteral vitamin supplements and phenytoin, or carbamazepine for those with a history of fits. Fluid balance should be monitored carefully. Skilled nursing and a safe environment must be provided to prevent terrified and confused patients harming themselves. There must be good lighting to reduce disorientation. Attempts to leave the hospital must be prevented under the Mental Health Act 1983. Physical treatment can be performed under common law as the patient lacks capacity to give consent.

ALCOHOLIC BRAIN DAMAGE

Alcoholic dementia

Social drinkers have been shown to possess a mild degree of cognitive impairment and radiologically apparent cortical shrinkage. Parker and Noble (1977) estimated that 50% of alcoholics over 45 years old in treatment will have some degree of cognitive impairment. Computerized tomography has demonstrated frontal cortical shrinkage and ventricular enlargement in two thirds of alcoholics compared to matched controls (Lishman, 1998).

Wernicke's encephalopathy and Korsakoff's syndrome

These syndromes are common in chronic heavy drinkers who neglect their diet and become deficient in thiamine. Wernicke's encephalopathy classically consists of ophthalamoplegia, ataxia and confusion, but these signs are typically not all present. Urgent high-dose parenteral thiamine is required to prevent the development of Korsakoff's syndrome. Autopsy studies demonstrate the characteristic lesions in the periventricular and periaqueductal grey matter in 2–3% of 'alcoholics'. The condition is under recognized and undertreated (Cook and Thompson, 1997).

PSYCHIATRIC SYNDROMES AND ALCOHOL

Schizophrenia

This syndrome has an important association with problem drinking. Community care has meant that alcohol has become more available to the population of the severely mentally ill (Smith and Hucker, 1994) and alcohol seems to be associated with the later development of tardive dyskinesia (Duke et al, 1994). Schizophrenic sufferers who drink may be more prone to violence.

Hypomania

Alcohol does not cause pathological elevations of mood as seen in bipolar affective disorder, but sometimes mild elevations of mood can cause increased drinking which presents as bout drinking. This decreases when the underlying mood disorder is treated.

Depression

The ECA study reported that depression preceded DSM-III alcohol dependence or abuse in 66% of women (Helzer and Pryzbeck, 1988). Depression is typically high among inpatients with drinking problems during the early part of their admission and this usually improves in the first 3 weeks. A small proportion of patients will require treatment of the depression with antidepressants, cognitive behavioural therapy or electroconvulsive therapy. Any treatment is ineffective if the patient continues to drink but a depressed patient will require help to give up drinking (Mueller et al, 1994). There is also the risk of suicide (see below).

Anxiety disorders

These disorders have been noted to be more common in those with drinking problems and in some this can develop as a form of self-medication. However, in those who are alcohol dependent, alcohol can exacerbate anxiety (Schuckit et al, 1990). As with depression, treatment will require sobriety and it is not unusual to find that there is no underlying anxiety disorder. Anxiety disorders such as agoraphobia or social phobia are treated with behavioural therapy.

PERSONALITY FACTORS

In addition to the biological effect of the alcohol itself the behaviour of an intoxicated person is dependent on personality, social and cultural expectations.

The ECA study demonstrated the strong association between antisocial personality disorder and alcohol dependence and abuse. Cloninger (1987) suggests a typology of type II alcoholics who are predisposed by having inheritable traits of impulsivity, novelty seeking and low harm avoidance. This pattern of drinking occurs exclusively in men and begins at an early age. The type I alcoholic is distinguished from type II, which also occurs in women, by the later onset of drinking and association with symptoms of anxiety and depression.

BEHAVIOURAL SYNDROMES AND ALCOHOL

Eating disorders

The high calorie content of alcohol can lead to obesity but dietary neglect can cause excessive weight loss. The extent of any weight disorder is dependent on the direction of the imbalance. The evidence for a link between anorexia and drinking problems is conflicting. There is a stronger association between bulimia nervosa and alcohol problems, with prevalences ranging from 9–49%. Goldbloom (1993) has reviewed the associations.

Morbid jealousy

There is no consistent link between sexual jealousy and sexual dysfunction in those with drinking problems (Shrestha et al, 1985). The usual presentation of morbid jealousy is that of a man who suspects his wife of infidelity and zealously pursues these suspicions. Whether morbid jealousy is caused by drinking or whether the powerful feelings associated with jealousy are relieved by drinking alcohol is unclear. What is clear is that the family and the spouse suffer greatly and that there is a risk of homicide. Careful history taking may uncover lifelong traits of suspiciousness, which have been worsened by drinking. The management involves careful assessment to rule out psychotic illness and maintenance of sobriety.

Suicide

Murphy and Wetzel (1990) have reviewed the association between alcohol and suicide. They showed that the often quoted figure of 11–15% as the lifetime risk of suicide in alcoholism was based on methodologically flawed studies. The figure is now thought to be nearer 3–4% which is still 60–120 times higher than the general population. They concluded that 'suicide in alcoholism is largely dependent on the supervention of a depressive disorder'.

Depression, social isolation and interpersonal losses are associated with suicide in those with drinking problems. The risk of suicide peaks in the mid to late forties, and the duration of onset of alcoholism to suicide is reduced if there is associated substance misuse.

CONCLUSIONS

The frequency of psychiatric problems in those who have drinking problems does not mean to say that all such patients should be managed by a psychiatrist. However, there is a psychiatric dimension to alcohol problems which all doctors and others working in addiction services should be aware of. Equally, psychiatrists working with patients who have alcohol available to them should realize that alcohol-related problems need to be excluded from every differential diagnosis. **HM**

KEY POINTS

- Parenteral thiamine prevents profound amnesia in Wernicke's encephalopathy.
- Delirium tremens is a medical emergency requiring treatment.
- Psychiatric treatments are useless if drinking is continued.
- Morbid jealousy is associated with drinking problems.
- Drinkers are 60–100 times more likely to commit suicide.

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