

Case report

Convulsions associated with postoperative abstinence from alcohol

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Abstract

A 37 year old Caucasian male with known alcohol dependence, was anaesthetised for the repair of a paraumbilical hernia on a day stay basis. On discharge he was instructed not to drink alcohol for 24 h. The patient developed acute alcohol withdrawal symptoms within 48 h. Alcohol abuse is a common problem. Patients with this problem occasionally present to the day surgery unit for short surgical procedures under general anaesthesia or sedation. These procedures are, often carried out in the day unit, as long as the patient has no physical problem attributable to alcohol. However, there is a potential for some patients to develop alcohol withdrawal symptoms. These can be serious, as there is, in the majority of cases, no mechanism for the early detection of the withdrawal symptoms and signs. We report a case of postoperative convulsions associated with alcohol withdrawal following the repair of a paraumbilical hernia on a day stay basis. We present a short review of related literature. © 1999 Elsevier Science B.V. All rights reserved.

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1. Case history

A 72 kg, 37 year old Caucasian male was scheduled for repair of a paraumbilical hernia in the day surgery unit. On preanaesthetic assessment, he admitted to an intake of 12 units of alcohol per day. There was nothing else remarkable in the history and examination: notably an absence of clinical signs of liver and other alcohol related disease.

Anaesthesia was induced with a total of 300 mg of propofol and a size four laryngeal mask was inserted. Anaesthesia was maintained with a mixture of oxygen, nitrous oxide and isoflurane. Analgesia was supplemented with 100 mcg of fentanyl, 100 mg of rectal diclofenac and wound infiltration with 10 ml of 0.5% plain bupivacaine. Anaesthesia, surgery and postoperative recovery were uneventful. The patient was discharged home, escorted by his wife, with routine day

unit postoperative instructions.

The patient had two generalised fits, 36 h after discharge. He was brought to the 'accident and emergency' department of our hospital and a diagnosis of acute alcohol withdrawal convulsions was made. He was kept on the observation ward for 12 h. As no further convulsions were observed, he was discharged with an urgent referral to the psychiatry department for further management of alcohol related problems.

2. Discussion

There are an estimated 300000 persons with alcohol related problems in the UK [1]. The incidence among males is 5% and among females is 2% [1]. The figures quoted by other sources for the western countries are 10% for men and 3–5% for women [2]. Alcoholism is seen in all races, ethnic groups and socio-economic strata. Among an average of 2000 patients on a general

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practitioner's list, 100 are heavy drinkers, 40 are problem drinkers and 10 are physically dependent on alcohol [1]. Males who drink more than 36 units of alcohol per week and females who drink more than 24 units of alcohol per week are considered to have an alcoholic problem and damage to health becomes increasingly likely [1].

The diagnosis of alcoholism is, in practice, difficult to make. It is not solely, dependent on the units of alcohol drunk; indeed, heavy drinkers often do not say how much they are actually drinking. Furthermore, it is not the heavy drinkers per se who are at risk of developing problems following sedation or anaesthesia, but the ones who have alcohol related systemic problems or who are physically and psychologically dependent on alcohol. If there is evidence of systemic damage (e.g. liver or heart disease) the diagnosis is easy, but these manifestations occur quite late. In the absence of overt clinical features, there has to be a high index of suspicion or one has to rely on the social history. Marital problems, job problems, arrests, if in relation to alcohol, are significant pointers.

A popular index used to diagnose alcohol-related problems, in psychiatry, is the CAGE questionnaire [1], which asks:

- Have you ever felt that you ought to CUT DOWN on your drinking?
- Have people ANNOYED you by criticising your drinking?
- Have you ever felt bad or GUILTY about your drinking?
- Have you ever had a drink, first thing in the morning (EYE OPENER), to get rid of a hangover?

Two or more positive replies are needed to identify problem drinkers. This is probably an easier method to identify the at risk group of drinkers.

As the information obtained from the patients and their relatives is often unreliable, highly specific biochemical markers like carbohydrate deficient transferrin have been used in an attempt to identify problem alcoholics [3].

The alcohol withdrawal syndrome is characterised by cortical (behavioural) and adrenergic hyperexcitability [4]. Mild signs begin within 5–10 h of abstinence. These include tremors of the hand (shakes or jitters), autonomic nervous system dysfunction such as increase in pulse rate, respiratory rate, body temperature, insomnia, bad dreams, feeling of generalised anxiety or panic attacks and gastrointestinal upset. 5% show severe withdrawal symptoms, which include confusion, and visual, tactile or auditory hallucinations. A small percentage show fits (rum fits) within 48 h of stopping alcohol. Generalised convulsions usually occur singly but sometimes in short runs or as status epilepticus [4].

Delirium tremens represents the most serious type of alcohol withdrawal. The patient is disoriented, agitated,

hallucinating, tremulous and perspiring. His pulse and respiratory rate are rapid. The other signs include confusion, severe agitation and psychosis.

Corticosteroids increase the severity of acute withdrawal from alcohol [5]. The question that remains unanswered is the role of endogenously secreted cortisol, following the stress of surgery and anaesthesia, in mediating the withdrawal symptoms. The most worrying of the withdrawal features are the, central nervous system, manifestations.

Early recognition of withdrawal signs is the key to treatment. Benzodiazepines, especially diazepam and chlorthalidoxide are the mainstay in treating alcohol withdrawal, including convulsions and delirium tremens [6]. The usual dose of diazepam is 5–10 mg 4–6 h orally and 50–100 mg of chlorthalidoxide 4–6 h orally for several days followed by gradually tapering doses. For severe withdrawal symptoms larger doses of the above are needed. Thioridazine, haloperidol and chlormethiazole can also be used. Chlormethiazole is an extremely useful and flexible drug in the management of acute withdrawal [7]. It is not a treatment for alcohol abuse and should not be used in this patient group, other than in the withdrawal period, and then, for less than 10 days [7]. Generalised frequent seizures require aggressive pharmacological intervention in the form of intravenous anticonvulsant (e.g. diazepam or phenytoin).

Other agents have also been used in the 'acute alcohol withdrawal' syndrome. Clonidine, an adrenergic alpha 2 agonist, has been used as a supplement in the treatment of acute withdrawal syndrome [8–10]. Beta-blockers, may play a role as an adjunct to, but not a replacement for, anticonvulsant therapy [11].

Studies suggest that the serotonin uptake inhibitors such as zimelidine, and fluoxetine may reduce alcohol consumption [6]. Naltrexone, an opioid antagonist, may also be effective in reducing the urge to drink [6]. Nitric oxide related agents might alter alcohol withdrawal symptoms. Adult male rats treated chronically with alcohol and subjected to a (NG-nitro-L-arginine methyl ester, NAME) injected during alcohol withdrawal. This drug significantly inhibited withdrawal severity. The nitric oxide donor, isosorbide dinitrate (ISDN) administered during alcohol withdrawal significantly increased the severity of most withdrawal signs [12]. We do not know if this means that alcohol withdrawal manifests more easily in patients who are on ISDN.

There is clearly no doubt that a number of people suffering from alcohol related problems present for surgery. The experience of most anaesthetists in dealing with them is as inpatients. Subjecting such patients to short surgical procedures on a day stay basis can be risky as they are discharged back to the community where early detection of alcohol withdrawal symptoms is not always possible. Admitting all such patients

post-operatively, following short surgical procedures performed under general anaesthesia or sedation is not the answer. The manifestations of ‘acute alcohol withdrawal’ can develop, as late as 48 h postoperatively.

3. Conclusion

We think that alcohol dependent patients can still be managed as day cases. But we must have a better system of identifying the ‘at risk’ group. Above all, we feel that the blanket advice given to all day cases about not taking any alcohol for at least 24 h postoperatively is wrong. If a patient is likely to be a problem drinker, we should allow the patient to have an alcoholic drink as so on as he/she feels the urge for it.

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