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Detoxification from Alcohol

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Introduction

The management of alcohol and drug withdrawal syndromes forms an important initial step in the treatment of patients with alcohol and drug-related problems. The General Practitioner is often the first clinician involved in the assessment and treatment of these patients. This supplement will address the assessment, matching to treatment, treatment and after-care of people withdrawing from alcohol and drugs.

Alcohol withdrawal

The alcohol withdrawal syndrome is a usually benign but occasionally serious syndrome which lasts between 3 and 7 days.

The mechanisms underlying alcohol withdrawal

The mechanisms underlying alcohol withdrawal are now better understood. Alcohol activates the GABA system leading to inhibition of activity within the central nervous system as a result of hyperpolarisation of cell membranes[1]. The responsiveness of the catecholamine system (adrenaline and noradrenaline) is also inhibited by alcohol. With chronic use the GABA and intrinsic catecholamine inhibitor mechanisms become gradually less responsive. Thus when alcohol is withdrawn there is no longer present the normal inhibiting influences on the CNS. It seems to take 2 to 4 days for the down regulated systems to return to normal functioning. During this time there is hyperactivity of the catecholamine system resulting in the manifestations of the alcohol withdrawal syndrome[2]. Whilst development of alcohol related delirium is poorly understood, it seems that if the overactivity of the catecholamine system in alcohol withdrawal goes beyond a certain threshold, the syndrome progresses into what has historically been referred to as **delirium tremens**.

The Alcohol withdrawal syndrome

This syndrome occurs after cessation, or a significant reduction, of prolonged high alcohol intake. A daily intake of 80 grams (8 standard drinks) or more places a person at risk of developing an alcohol withdrawal syndrome[3]. The vast majority of patients withdrawing from alcohol will experience only a minor withdrawal syndrome, which is characterised by:

- tremor,
- perspiration,
- restlessness,
- hypersensitivity to stimulation,
- increased pulse, blood pressure, temperature and respiratory rate,
- nausea, vomiting and diarrhoea,
- anxiety and agitation,
- nightmares,
- insomnia,
- dysphoria.

The minor withdrawal syndrome resolves within 2 or 3 days without treatment. However, in a minority of patients, complications occur which result in a severe withdrawal syndrome. The complications that can occur are:

- seizures,
- disorientation/confusion/delirium tremens,
- hallucinosis.

Seizures in alcohol withdrawal occur in approximately 5% of people withdrawing from significant alcohol consumption. They occur early (predominantly within the first 24-48 hours), are grand mal in type and usually, though not always, one off and time limited.

Alcohol withdrawal delirium is also infrequent, and is thought to occur in around 1 to 2% of people withdrawing from significant alcohol consumption. Typically delirium arises two to five days after cessation of drinking. This can be part of a life threatening condition of autonomic instability, fluid balance and electrolyte disturbance, hyperthermia, vivid hallucinations and delirium. This condition has been historically known as delirium tremens. The vivid hallucinations in this context are usually visual (classically: small, colorful and animals) and tactile.

Alcoholic hallucinosis is less common in alcohol withdrawal. However, when this does occur it involves hallucinations which are typically auditory with derogatory content, in the context of clear sensorium (no delirium), and no other evidence of psychiatric problems.

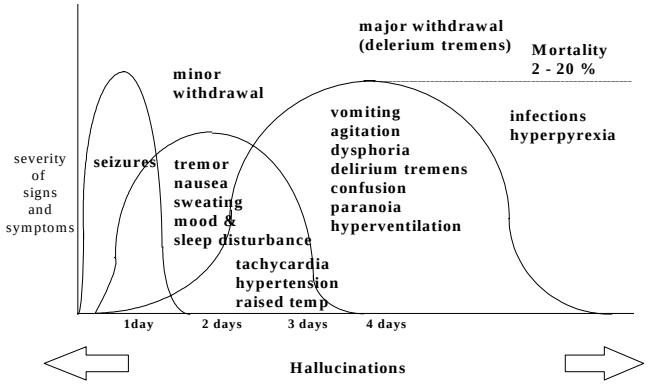

Figure 1. Time course for untreated alcohol withdrawal.

The predictors of whether a patient will experience a complicated, severe alcohol withdrawal syndrome are[3]:

- past history of severe withdrawal,
- duration, amount of alcohol use and tolerance to large doses of alcohol (whilst in general the longer, more frequent, more regular alcohol intake in greater amounts will increase the likelihood of a more severe withdrawal, there is not a direct linear relationship with the severity of the withdrawal syndrome),
- presence of concomitant illness, injury or recent surgery,
- use of other psychotropic drugs.

Selection of the treatment setting

Most patients are able to be safely withdrawn from alcohol in their home setting. There is, in fact only a small percentage of patients who actually require hospitalisation for the management of the alcohol withdrawal syndrome[4].

Another treatment setting in which alcohol withdrawal is conducted are non-medicated detoxification centres. Patients who are not at serious medical or psychiatric risk, and who do not have a suitable home environment in which to withdraw are supported through withdrawal in these centres by non-medical staff without the use of medication. Lowry Lodge in Newcastle is an example of such a residential service.

Medical detoxification centres such as Herbert St Clinic at Royal North Shore Hospital, are the other option for the treatment of alcohol withdrawal. These centres provide a medically supervised and often medicated withdrawal for people who are at risk of medical or psychiatric complications from alcohol withdrawal.

There are five key determinants of the treatment setting the practitioner should select for the management of a patient's alcohol withdrawal[5]:

1. Amount, duration of alcohol use and objective tolerance to alcohol. Concurrent use of other drugs, especially benzodiazepines.
2. A past history of complicated withdrawal syndrome i.e. seizures, delirium, hallucinations, serious hypertension in past withdrawals.
3. Medical conditions co-existing such as epilepsy, diabetes, severe hepatic impairment.
4. Co-existing psychiatric problems such as depression and psychosis.
5. Suitability of the home environment and the presence of a reliable "concerned other".

Essentially, if the patient does not present as at risk of a severe or complicated withdrawal home management is preferable. Conversely, if the home environment is not sufficiently supportive then a non-medicated detoxification centre is appropriate. In the case where a complicated or severe withdrawal risk exists, a medical detoxification centre is the appropriate setting in which to manage the person's withdrawal from alcohol.

Treatment of alcohol withdrawal

Detoxification at home

Where a patient is found to be suitable for withdrawal from alcohol at home a date for commencement of detoxification is chosen in collaboration with the patient. The commencement date will be determined by the availability of the doctor, the carer and the clearing of other commitments such as arranging for time off work, child care support, etc. The practitioner needs to take some time to explain to the patient and the carer what will be involved and expected of each.

Information is provided about expected withdrawal symptoms, the possible complications and measures that should be taken if complications do arise. The medication (diazepam) to be used, its side effects (mainly sedation) and the risks associated with combining the medication with alcohol (both CNS depressants) should also be discussed.

The patient will need to be seen early each day for the first three or four days, with telephone contact in the afternoons for the first one or two days. Between the initial consultation and the commencement of treatment of withdrawal it is safest to recommend that the patient makes very small reductions in daily consumption. This is to begin the process of detoxification whilst not precipitating the early onset of withdrawal symptoms. Reductions in the order of one standard drink out of their usual daily total every two days is considered safe. The patient should be advised to cease drinking the night before the commencement date.

Pharmacotherapy

Diazepam is the treatment of choice for alcohol withdrawal. It is effective because it is cross-tolerant with alcohol. The regime instituted should involve regular doses of diazepam over four days. Tapering of the dose for a further two days is optional and will depend upon the presence of lingering symptoms.

If a patient has significant impairment of respiratory function, or evidence of hepatic decompensation **diazepam is contraindicated**. Such patients should have their alcohol withdrawal syndrome managed in a medically supervised setting.

On the morning of commencing home detoxification, the patient should be seen primarily to assess early withdrawal symptoms. This ensures that the patient is not intoxicated and therefore not at risk from taking diazepam. It is recommended that diazepam is not commenced within eight hours after the patient's last drink, and when the patient's blood alcohol level is no longer high.

A regime of 5 to 10 mg (depending upon body mass and tolerance) of diazepam six hourly is commenced after the patient arrives home from seeing you. If the patient has a history of high tolerance to alcohol or benzodiazepines, it is prudent to give a further two 10 mg doses to use as required during the first day. Only medication for the first day should be given (or scripted). The patient or carer should then ring later that day to enable a brief (10 minute) discussion of symptom control, medication side effects, use of the PRN doses, and to deal with any other concerns.

A typical example of a diazepam regime for alcohol withdrawal is:

- day 1 - diazepam 10 mg six hourly with 10 mg prn interspersed up to twice.
- day 2 **-** diazepam 10 mg six hourly with 10 mg prn interspersed up to twice**.**
- day 3 **-** diazepam 10 mg six hourly
- day 4 **-** diazepam 5 mg mane and nocte

Vitamin replacement is routinely given to patients presenting with histories of long term consumption of large amounts of alcohol. Deficiencies of B group vitamins, folate, vitamin C, zinc, magnesium, and other vitamins are not uncommon in patients with long-term heavy alcohol intake.

Routine replacement of **thiamine** is recommended. Thiamine deficiency is common and often unrecognised in this patient group. Poor diet, impaired absorption, and increased utilisation in the metabolism of ethanol all contribute to thiamine deficiency in alcohol dependent patients. Wernicke's encephalopathy classically presents clinically with one or more of the triad: ataxia, ophthalmoplegia, and confusion. A large percentage of patients with Wernicke's encephalopathy are also likely to have some evidence of peripheral neuropathy. In order to prevent the development of Wernicke's encephalopathy thiamine is given in doses of 100 mg IMI at the beginning of withdrawal as initial absorption is often impaired. It is then subsequently given in doses of 100 mg orally daily.

A multivitamin and mineral preparation is also recommended for patients withdrawing from alcohol in order to replace or supplement diminished nutritional reserves.

Clinical withdrawal scales

In the management of alcohol withdrawal a clinical withdrawal scale can be used to monitor the progress, and response to treatment of the patient[6]. There are a number of objective clinical assessment scales in use which assist in the monitoring and treatment of the alcohol withdrawal syndrome. By checking signs and symptoms against a withdrawal scale the patient is assigned a score which indicates the severity of the withdrawal syndrome at the time and the requirement for further medication.

The Alcohol Withdrawal Scale (AWS) developed at the Royal Prince Alfred Hospital in Sydney is used in the Central Coast. Where a patient scores less than 5 on the AWS, they are considered to be in mild withdrawal. Scores between 5 and 14 reflect moderate withdrawal severity and above 15 indicates severe alcohol withdrawal. Withdrawal scales are sensitive but not specific for alcohol withdrawal. A high score suggests the need for review by the treating doctor in order to exclude other conditions as the cause of the score (such as sepsis, head injury, metabolic disturbance, etc.). If no other cause is evident then it is recommended that people withdrawing from alcohol who are scored on the AWS at 5 to 10 are given 10 mg of diazepam. If scoring 10 to 14 they are given 20 mg of diazepam and closely observed. If scoring occurs above 15 specialist treatment is recommended.

Non pharmacological strategies to reduce withdrawal distress

When withdrawing from alcohol it has been shown that a low stimulus and supportive environment will reduce the severity of symptoms experienced by patients. In addition, it is also of assistance for patients to have access to strategies to manage anxiety, stress and sleep disturbance during the withdrawal phase.

Avoidance of cues such as alcohol around the house, visiting places where alcohol is present or situations in which the person previously drank also lessens the discomfort of withdrawal.

Residential detoxification

Patients who are at risk of a severe withdrawal as indicated by their past history of complications in withdrawal, concurrent medical or psychiatric illness, high consumption and tolerance, or the concurrent use of other drugs, will be treated in a medically supervised setting. If patients are not at risk of a medically severe withdrawal but have an unsuitable home situation they will have their alcohol withdrawal treated in a residential non-medical setting.

In these settings, patients are monitored for withdrawal signs using a clinical withdrawal assessment scale, and treated accordingly. If patients have a history of seizures in withdrawal they are loaded with diazepam in doses as tolerated up to 60 mg in order to prevent the onset of seizures. If, despite adequate loading with diazepam, patients still fit, the diazepam dose may be increased or an anticonvulsant usually carbamazepine will be commenced.

Residential treatment services admit patients for between 3 and 10 days. They usually provide a group program during the day which focus on ways to cope with symptoms, stress management, alcohol information, health issues, information about drug and alcohol services and ongoing support. During residential detoxification most patients are encouraged to attend an Alcoholics Anonymous group

meeting to become familiar with the principles of AA and how it operates.

Hospital Detoxification

Patients with established alcohol related delirium or delirium tremens should be treated in a general hospital. Once delirium tremens has set in treatment does not stop the condition. Treatment is aimed at ensuring the patient remains medically and behaviorally stable whilst the condition passes (which is usually within 72 hours). Therefore, treatment of delirium tremens involves:

- sedation to control behavioral disturbance and distress with the use of diazepam and low doses of haloperidol,
- the monitoring and treatment of fluid imbalance as there is a large insensible fluid loss,
- electrolyte imbalance correction, for example, potassium, calcium and magnesium levels in particular are commonly low,
- temperature monitoring and treatment of hyperthermia if it arises,
- blood glucose monitoring and treatment when low.

Mortality rates from delirium tremens which were historically up to 20% are now considerably lower. Nevertheless, it still remains a life threatening condition.

Aftercare

Detoxification represents the beginning of the process of change in a person's pattern of alcohol use. As a consequence, it also presents an opportunity to link the patient into assistance which will provide ongoing support, skills to enable the patient to prevent relapse to alcohol use and skills to enhance the patient's capacity to cope more effectively with life problems.

The general practitioner is one important source of support and skills based counselling. Other services which are able to provide assistance to patients seeking to continue to change their alcohol use patterns are outpatient counselling through drug and alcohol services, Alcoholics Anonymous, and private psychologists and psychiatrists (for people who are privately insured). If patients are unable to cope at home after detoxification, residential rehabilitation services offer an alternative treatment option.

General Practitioners seeking advice or assistance in their consultations with patients who are seeking help in withdrawing from alcohol can contact the **GP Drug and Alcohol Local Consultancy Service** on **017 896 127**. This is an immediate consultation telephone service for the exclusive use of general practitioners only.

Patients can contact the Central Coast Area Health Service Alcohol and Other Drug Service on **20 2637.**

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