The management of the heavy drinker in primary care

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SYNOPSIS

More than 55 000 Australians drink alcohol at levels that could endanger their long-term health. Each year, around 3700 die due to complications of alcohol use. In 1992, alcohol abuse was estimated to cost Australian society $145 million in direct health costs and $767 million in road accident costs. General practitioners are well placed to identify patients who drink heavily. They can treat them with the help of some of the many community services.

Index words: alcohol dependence, acamprosate, naltrexone, disulfiram.

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Introduction

Approximately 1 in 6 Australians who consult general practitioners are drinking above the limits recommended by the National Health and Medical Research Council (NHMRC). Many of these heavy drinkers are not identified. There are many barriers to their recognition and some practitioners may lack confidence in asking about the problem and in their ability to deal with it. Some doctors, perhaps because they saw many individuals with end-stage liver disease during their training, believe that it is pointless to try and persuade the patient to change their drinking habits or co-operate with treatment. Quite frequently the issue of alcohol is hidden among many other physical, social and psychological problems. The patient may not link these problems with their drinking.

Problem drinking and alcohol dependence

The NHMRC recommends that alcohol consumption should not exceed 28 standard drinks per week for men and 14 standard drinks per week for women. A standard drink contains approximately 10 g of alcohol (approximately the amount of alcohol in 200 mL of beer, 100 mL of wine, 60 mL of fortified wine, 30 mL of spirits). Consumption of more than 28 standard drinks per week for men or 14 standard drinks for women is considered hazardous. More than 42 standard drinks per week for men or 28 standard drinks for women is considered harmful.

Problem drinking includes:

- alcohol consumption at levels that are harmful or potentially so
- binge drinking (six or more standard drinks for a male, four or more for a female in one drinking session) which increases the risk of trauma (e.g. motor vehicle accidents or work-related accidents), interacts with medication, and leads to poor decision-making in social circumstances
- long-term risky consumption (28 or more standard drinks per week for women, 42 or more for men) which increases the risk of chronic organ damage, such as liver disease, brain damage, cardiomyopathy).

Alcohol dependence is diagnosed when three or more of the following have been present at some time during the previous year:

- a strong desire or compulsion to drink
- difficulty controlling drinking
- a physiological withdrawal state on stopping or reducing alcohol use
- evidence of tolerance
- progressive neglect of other pleasures or interests or persisting use of alcohol despite clear evidence of harm.

In 1997, 4.1% of Australians (6.1% of men and 2.3% of women) met the criteria for alcohol dependence. Among 18–24 year olds the prevalence of alcohol dependence was 9.3%.[1]

Clinical presentation

Clinical presentations that should alert the doctor to possible harmful drinking include:

- physical illness, for example liver disease, pancreatitis, peripheral neuropathy, frequent unexplained falls and fractures, hypertension, hypertriglyceridaemia
- psychological disorders, for example anxiety, depression, sleep problems
- features suggestive of alcohol abuse or dependence, for example, smell of alcohol on breath, sweating, tremor, agitation, nausea, unexplained seizures
- social problems such as family or marital conflict, work problems, motor vehicle accidents and missed appointments.

Screening and assessment

Many general practitioners ask screening questions when seeing a new patient. This provides an opportunity to include some simple alcohol screening questionnaires, such as the CAGE[2] (see Box 1) or the AUDIT[3]. AUDIT * is a 10-item questionnaire which has very few false positives or negatives. It is recommended for detecting problem drinkers in primary care. A positive response on any item on the CAGE questionnaire or a score of 8 out of 40 on the AUDIT warrants a detailed assessment.

* The full version of AUDIT is available in the electronic version of this article on the *Australian Prescriber* web site (www.australianprescriber.com).

The detailed assessment includes taking an alcohol history; the frequency of drinking, quantity, pattern and duration of consumption should be accurately recorded. It is often helpful to go through a typical drinking day from the first drink to the last to ascertain the pattern of consumption or to use the seven day recall (starting from today) in a patient who gives unclear answers. A check for physical, social and emotional problems related to alcohol consumption, as well as for dependence, is needed. This is followed by a physical examination looking for evidence of liver disease or other disorders associated with long-term alcohol use.

Laboratory tests are rarely definitive, but can often support the diagnosis. An elevated gamma glutamyl transpeptidase and an increased mean corpuscular volume are informative results. Negative tests do not exclude the diagnosis.

Brief interventions

Several large randomised control trials in primary care found that brief interventions will often reduce alcohol consumption for a proportion of patients drinking at dangerous levels.[4] The general practitioner should expect some 10–30% of their patients to change their drinking behaviours as a result of brief interventions. These consist of an assessment of alcohol intake, the feedback of information on levels of drinking and levels of harm that apply to the individual (including any physical findings and laboratory abnormalities) with clear advice to cut down or to stop drinking. These approaches can be accompanied by a leaflet such as those produced by the Australian Drug Foundation or the provision of other self-help materials.

For individuals with more serious problems, particularly significant alcohol dependence, assistance should be sought from clinicians who specialise in this field. Many general practitioners may also refer these patients to a drug and alcohol counsellor for ongoing support.

Motivating change over time

Some individuals find it difficult to respond to brief advice. A significant number will not be ready to change their behaviour. The offer of follow-up visits, the monitoring of their health status and sensitive discussion of the benefits and harms of drinking can allow the patient to be involved in decisions about drinking. It is helpful to place the emphasis on personal choice, responsibility and to give assistance in removing any barriers to change. Support of the family can help considerably in this regard. If reduced (controlled) drinking is the goal, an agreed target should be set and the patient asked to keep a daily record of consumption. Follow-up is essential. If an individual has evidence of severe dependence and particularly of organ damage, or when controlled drinking has failed, abstinence must be the clear goal and the patient may need assistance to commence this in the form of withdrawal support (detoxification).

Withdrawal can be supported by general practitioners, providing the patient has adequate support at home and when withdrawal is likely to be mild or moderate (see Box 2). Many programs have a home-based withdrawal nurse available to assist with supervising medication and monitoring the patient. Such an approach is more likely to succeed if you give:

- information about what is likely to happen during withdrawal
- a written plan to the patient and family
- an appointment for regular follow-up.

Medication is often required to modify the signs and symptoms of alcohol withdrawal and reduce the risk of seizures.[5] Diazepam in a dose of 5–10 mg, 3–4 times per day is usually adequate. The patient needs to take time off work and not drive a motor vehicle while under treatment. Vitamin B supplements in the form of thiamine 100 mg daily and other B and C vitamins for 5–6 days can be given because many patients are poorly nourished.

If the withdrawal symptoms are expected to be severe, it is preferable that withdrawal is undertaken in a residential facility with adequate nursing and medical supervision. The severity of withdrawal can be predicted by:

- a previous history of severe withdrawal (withdrawal seizures or hallucinations)
- the level of alcohol consumption over the last month. The higher the consumption the more likely that withdrawal will be severe (consumption of over 15 standard drinks daily is a reasonable guide to severe withdrawal)
- the presence of intercurrent disorders such as significant liver disease, pancreatitis, malnutrition, infection.

Box 1

The **CAGE** test consists of four questions, the letters of the acronym being the initial letters of a key word in each question:

1. Have you ever felt the need to CUT down on your drinking?
2. Have you ever felt ANNOYED by others asking you about your drinking?
3. Do you feel GUILTY about your drinking?
4. Do you ever have an EYE-OPENER in the morning?

A score of two 'yes' answers on the CAGE test indicates that drinking problems are likely.

Box 2

Management of alcohol withdrawal

- Assess the likely severity of withdrawal symptoms
- Assess psychosocial supports
- If mild to moderate withdrawal is expected, and psychosocial supports are adequate, then prescribe diazepam up to 10 mg four times daily in the first 24 hours
- Reduce dose by 10 mg daily over the next 3–4 days
- Give symptomatic medication for nausea, headache, and diarrhoea
- Manage in residential service if severe withdrawal is present or expected and if psychosocial supports are poor
- Severe withdrawal should be managed by an experienced medical practitioner or with specialist advice

Relapse and its prevention

Alcohol dependence is a chronic relapsing disorder similar to asthma, arthritis, and diabetes. Withdrawal treatment is unlikely to have any long-term benefits, but is merely the entry into treatment. Therapy and lifestyle changes should be as successful as they are in other medical disorders. Lifestyle changes include:

- avoidance of high-risk situations (places, companions, social functions) where heavy alcohol use is likely to occur
- drinking more slowly, replacing alcoholic drinks with non-alcoholic drinks
- attention to nutrition
- taking up substitute activities such as exercise, meditation and intellectual pursuits.

The patients are able to learn from lapses and relapses and recognise with hindsight what would trigger them to drink again. Negative emotional states are by far the most common triggers for relapse. Psychological and social support, and adequate treatment of anxiety and depression will help considerably in preventing relapse. Pharmacotherapy can be used as an adjuvant treatment.

Medications

Drug treatment can be used as an adjunct to other management strategies. There are three medications that may help to reduce relapse, however there is not good randomised control trial evidence to guide us in matching the medication to the patient.

Acamprosate

This drug is believed to work by modifying the effects of excitatory and inhibitory neurotransmitters on the brain, diminishing the craving for alcohol after withdrawal.[6] It is therefore usually started soon after detoxification. The recommended dose is two 330 mg tablets three times a day with meals. If the patient weighs less than 60 kg then four tablets per day is usually adequate. After one year's treatment 18% of patients will have remained abstinent compared with only 7% of patients given a placebo.[6]

Acamprosate does not interact with alcohol or benzodiazepines. Its few adverse effects include headaches, diarrhoea and less commonly, pruritis. Acamprosate is not metabolised to any extent in the liver but requires good renal function for excretion. It is not usually recommended in patients with severe renal impairment or severe liver disease and it is contraindicated during pregnancy.

Acamprosate is subsidised by the Pharmaceutical Benefits Scheme (PBS). An authority prescription is needed.

Naltrexone

This oral long-acting drug may influence drinking and craving by blocking the effects of endogenous opioids, which are part of the reward system activated by alcohol. Naltrexone reduces alcohol consumption in some patients and maintains abstinence in others. The recommended dose is one tablet (50 mg) daily commenced soon after alcohol cessation. In combination with psychosocial support it can be expected to halve relapse rates in dependent drinkers. However, after 13 weeks the rate of relapse with naltrexone (38%) is not significantly less than the rate with placebo (44%).[7]

Naltrexone does not interact with alcohol or benzodiazepines. The adverse effects include nausea which may be prominent, headache and dysphoria. Naltrexone should be avoided in patients with a known sensitivity to the drug or those with acute hepatitis or cirrhosis, as it is metabolised in the liver. It is not recommended for use in pregnancy. As naltrexone may precipitate opioid withdrawal, it is contraindicated in patients who are using opioids.

Naltrexone is available on the PBS. It requires an authority prescription.

Disulfiram

Disulfiram blocks the action of aldehyde dehydrogenase leading to an accumulation of acetaldehyde. If the patient drinks, this metabolite causes unpleasant effects such as headache, flushing, nausea, vomiting, and palpitations. Most patients require one tablet (200 mg) daily, some require more than this. It is usually restricted to individuals who have a desire for abstinence, who have failed other medications and whose medications can be supervised to ensure compliance.

Rare severe adverse effects of disulfiram include hepatoxicity and psychotic reactions. Liver function tests should be checked before and at regular intervals during treatment. Disulfiram should be stopped if a rise in liver enzymes occurs. It is also not recommended for patients with known or incipient vascular disease such as stroke, heart disease, hypertension or diabetes. It should not be given during pregnancy.

Choice of drugs

Individuals who regularly take medication 2–3 times a day and have a reasonably stable lifestyle will often do well on acamprosate. Likewise, if individuals need to take an opiate (e.g. codeine) for chronic pain, this drug is to be preferred over naltrexone.

Naltrexone is preferred if once a day medication is likely to lead to better compliance (e.g. in an individual with a disorganised work schedule), however this medication is not recommended for individuals for whom nausea and vomiting is a major problem.

Most binge drinkers do not do well on acamprosate or naltrexone (but it does not contraindicate their use). These individuals often do better on disulfiram. However, this drug is likely to be of benefit only if it can be supervised, to ensure compliance.

Conclusion

General practitioners and other primary care workers play an important role in helping the heavy drinker to change. This requires a high index of suspicion, the capacity to make a diagnosis and to support the individual in a sensitive way. Referral to specialist services may be required in those with complex problems.

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FURTHER READING

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Useful sources of information and support for health professionals and patients are listed in the electronic version of this article on the *Australian Prescriber* web site (www.australianprescriber.com).

Conflict of interest: none declared

Self-test questions

The following statements are either true or false (answers on page 75)

9. Patients should start acamprosate the day before they commence detoxification.
10. Patients taking disulfiram need regular tests of liver function.

Medicinal mishaps

Carbamazepine toxicity

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Case

A man in his forties was referred by his general practitioner for investigation of high fever associated with leucopenia, neutropenia, lymphopenia, thrombocytopenia and abnormal liver function. He had been off colour for two weeks with intermittent fevers, headaches and severe constitutional symptoms. According to the patient and his doctor's letter he had previously been well, did not smoke, consumed alcohol in moderation and was not receiving any long-term medications. He had not been overseas recently and did not have risk factors for hepatitis or HIV infections. He said his only medication was a recent prescription for cyproheptadine for poor appetite.

On examination, the patient was unwell, with a temperature of 39.8°C and there were a few petechiae on the trunk. The rest of the physical examination was unremarkable.

The patient was managed symptomatically and investigations excluded bacterial and viral infections, and haematological malignancies. Initial investigations revealed the following abnormal results:

- white blood cells 2.3 x 10^9/L (neutrophils 0.4 x 10^9/L, lymphocytes 0.5 x 10^9/L)
- platelets 28 x 10^9/L
- gamma-glutamyl transferase 789 IU/L
- alanine aminotransferase 285 IU/L
- aspartate aminotransferase 121 IU/L
- alkaline phosphatase 334 IU/L
- bilirubin 24 micromol/L.

Three days after admission during a ward round it was noticed that he had been prescribed carbamazepine 400 mg daily and his drug chart showed he had received one dose. His wife had informed the medical team about this medication two days after admission. The patient was then prescribed carbamazepine as it was felt that he was missing out on one of his usual medications.

Further enquiry revealed that the patient was prescribed carbamazepine 18 days before admission by his psychiatrist for a mood disorder. He was initially advised to take 200 mg daily and the dose was increased to 400 mg five days before admission. Before starting carbamazepine his blood tests had been normal apart from mild thrombocytopenia (platelets 121 x 10^9/L) and a low normal total white blood cell count (4.1 x 10^9/L).

With this new information it was realised that carbamazepine could have been the cause of the patient's illness. The carbamazepine was stopped and the fever settled after day four. The haematological and liver function abnormalities resolved completely over the following weeks. The bone marrow showed normal cellularity with granulomatous changes.

Comment

Febrile illness, leucopenia, neutropenia, lymphopenia, thrombocytopenia and liver function abnormalities are recognised features of carbamazepine toxicity. However, manifestation of all of these in one patient is rare. The temporal relationship, the doses of the drug used and the clinical syndrome would probably suggest that our patient had an idiosyncratic reaction. The normal cellularity of the bone marrow suggests a peripheral, probably immune-mediated, mechanism for the cytopenia.

Conclusion

This case illustrates how unwittingly breached basic medical principles may adversely affect patients. Had the full drug history been available to the treating team or if the team had been efficient in obtaining this vital information at the time of admission, the delay in diagnosis and many unnecessary investigations would have been avoided. There are many reasons why drug histories are not available, and the way a hospital