SUBSTANCE MISUSE FACT SHEETS

CATEGORY III – ALCOHOL WITHDRAWAL

1.0 Introduction

In up to 30% of all admissions to inpatient units, alcohol is a major contributory or coincidental factor and can complicate the treatment and course of the presenting illness. Patients who drink excessively can develop a wide range of health problems, and hence present to a wide range of services. An awareness of the role alcohol can play in these presenting illnesses can assist in identifying the problem drinker.

LEARNING OUTCOMES

Medical students will gain knowledge in:

1. Recognition of alcohol withdrawal symptoms.
2. Ensuring that appropriate treatment is given to prevent complications.
3. Describing the principles of detoxification.

Vignette

Duncan aged 46 attends an outpatient appointment for a recurrent ear infection at the ENT department. He went out drinking with his work mates yesterday and can't remember much of the evening but his girlfriend took him to the appointment. He has had no contact with alcohol services; he does not consider that he has a problem with alcohol. Unfortunately he is kept waiting longer than expected and he has missed his usual tot of vodka. He is asked not to leave the department as the doctor is on her way to the clinic. He begins to feel a little unwell, hot and sweaty, a little nauseous and he informs the clinic reception. Duncan has no idea why he is feeling unwell and wonders if it is something he has eaten. A nurse is called and she takes his blood pressure and pulse, he has a slight pyrexia (37.5). He has a tachycardia, but his BP is within normal limits. He is fidgeting and seems anxious. She considers taking him to A&E and then the doctor arrives.

What questions would you ask?

What other signs and symptoms would you be looking for and why?

2.0 Context

Alcohol withdrawal syndrome is a set of symptoms that can occur when an individual reduces or stops alcohol consumption after long periods of use. Prolonged and excessive use of alcohol leads to tolerance and physical dependence. The withdrawal syndrome is largely a hyper-excitable response of the central nervous system to lack of alcohol. Symptoms typical of withdrawal include agitation, seizures and delirium tremens. Binge drinking is associated with increased impulsivity, impairments in spatial working memory and impaired emotional learning. These adverse effects are believed to be due to the neurotoxic effects of repeated withdrawal from alcohol on aberrant neuronal plasticity and cortical damage. Repeated periods of acute intoxication followed by acute detoxification have profound effects on the brain and are associated with an increased risk of seizures as well as cognitive deficits.

Alcohol withdrawal can occur in people who are dependent on alcohol, and in those who drink in a binge pattern of heavy drinking for a few days followed by no drinking before resuming drinking again.

3.0 Common presentations

Signs and symptoms of alcohol withdrawal

- Anxiety
- Tremor
- Tachycardia
- Hypertension
- Agitation
- Anorexia and nausea
- Hyper-reflexia
- Insomnia
- Nightmares
- Sweating
- Hyperthermia
- Disorientation
- Seizures
- Hallucinations (visual, tactile, and occasionally auditory)
- Delirium

Why does alcohol withdrawal syndrome take place?
Alcohol withdrawal can occur for a number of reasons: (Crome & Bloor, 2008)

- Lack of money to purchase alcohol
- Undetected alcohol problem in police custody or entry to prison
- Acute illness or injury preventing access to obtain alcohol
- Nausea or vomiting
- Decision to stop drinking

Neurological nutritional deficiencies can occur during alcohol withdrawal and signs can include:

- Peripheral neuropathy
- Cardiovascular disorder such as hypotension or high output cardiac failure (e.g. beriberi due to thiamine deficiency)
- Mild peripheral or severe incapacitating sensory motor neuropathy
- Foot drop where lower limbs are affected more than upper limbs
- Distal muscle weakness or wasting

3.1 Barriers to detection or access

- Patients may choose to cope with the symptoms and not seek help for fear of being labelled as "an alcoholic" or being judged.
- Fear of being "found out" e.g. medical students, doctors or other allied professions whereby the risk of detection has an impact on the individual's job.

- A lack of knowledge by the practitioner making the assessment, and the issue of alcohol not being identified when assessing the presenting problem.

4.0 Assessment

As part of routine assessment, it is useful to use screening tools such as the AUDIT questionnaires, Identification Test (AUDIT and AUDIT C), FAST, or CAGE.

For a more detailed assessment tool, the Severity of Alcohol Dependence Questionnaire (SADQ) is a useful tool. The SADQ is a short, self-administered, 20-item questionnaire designed by the World Health Organisation to measure severity of dependence on alcohol.

Alcohol withdrawal syndrome refers to symptoms and signs that occur in a person who has been drinking excessively every day, and who stops drinking abruptly or significantly reduces their consumption.

Alcohol detoxification is the management of alcohol withdrawal with medication.

The mechanism underpinning alcohol withdrawal is the neuroadaptation to continued excessive alcohol consumption leading to tolerance to the effects of alcohol.

Cessation (or reduction) of consumption following this neuroadaptation leads to a hyper-aroused state with associated symptomatology (see below).

The symptoms and signs of alcohol withdrawal will usually commence 6-24 hours after the last drink (Muncie et al, 2013). The symptoms will tend to peak at 48-72 hours, and occur primarily in the central nervous system, but in severe cases the symptoms may persist for several days or weeks. The severity of withdrawal can vary from mild symptoms such as insomnia, nightmares, nausea and anxiety to severe and life-threatening symptoms such as delirium, hallucinations, autonomic instability and seizures.

In alcohol withdrawal syndrome, patients must exhibit at least two of the following symptoms including:

- increased hand tremor
- insomnia
- nausea or vomiting
- transient hallucinations (auditory, visual or tactile)
- psychomotor agitation
- anxiety
- tonic-clonic seizures
- autonomic instability

The severity of symptoms is dictated by a number of factors, the most important of which are the degree of alcohol intake, length of time the individual has been using alcohol, and previous history of alcohol withdrawal (Bayard et al (2004). Other diagnoses are:

- Alcohol hallucinosis: patients have transient visual, auditory or tactile hallucinations, but are otherwise clear.
- Withdrawal seizures: seizures occur within 48 hours of alcohol cessation and occur either as a single generalized tonic-clonic seizure or as a brief episode of multiple seizures.
- Delirium tremens: hyperadrenergic state, disorientation, tremors, diaphoresis, impaired attention/consciousness, and visual and auditory hallucinations. This usually occurs 24 to 72 hours after alcohol cessation. Delirium tremens is the most severe form of withdrawal and occurs in 5 to 20% of patients experiencing detoxification and a third of patients experiencing withdrawal seizures. It can be fatal in about 5% patients if not treated or not treated promptly. It is a medical emergency.

In Duncan's situation, it will be important to build up a chronological picture of his drinking habits over the years. He may find this difficult to recall as it is unlikely he has had to think about it before if he has not been asked any questions. With his permission it may be useful to involve his girlfriend in building up a picture.

When taking a general history including concurrent physical and psychiatric illness always enquire about alcohol use, drinking history, recent levels of consumption and consumption patterns. Be aware of common conditions associated with excessive alcohol use and ask about previous episodes of alcohol withdrawal especially identifying episodes of seizures or delirium. Assessing the severity of alcohol withdrawal and the early identification of severe complications is a key task for clinicians.

Investigations should include liver function tests, (LFT), with particular reference to Gamma Glutamyl Transferase (GGT), magnesium (e.g. low); full blood count (FBC) with particular reference to Mean Cell Corpuscular, Volume (MCV) and clotting; all may be normal in a heavy drinker. Always consider thiamine deficiency.

Factors suggesting high risk of withdrawal include previous or current severe withdrawal, withdrawal with high alcohol level (use breathalyzer if available), pyrexia, tachycardia, significant physical illness (e.g. infection, diabetes), concurrent use of benzodiazepines and possibly other psychoactive drugs (e.g. opiates/stimulants).

5.0 Treatment

Complications of alcohol withdrawal must be identified early and managed appropriately. It is important to consider the most appropriate setting for managing alcohol withdrawal. This will often depend upon a number of factors, including supportive family members, carer or friend, home environment, and previous history of withdrawal in any setting.

If the patient has severe withdrawal, has comorbidities, has an unstable home situation, is a polydrug user, has had previous admissions for treatment of withdrawal, then admission to a hospital for detoxification is the appropriate option. If the patient has family/carers at home, and there are mild symptoms, with no significant medical problems, this may be undertaken in the community with full supervision from a community alcohol team.

1. Delirium Tremens (DTs) – the most severe complication of alcohol withdrawal and characterised by fluctuating confusion, severe tremor, autonomic features, visual and auditory

hallucinations. It is uncommon (<5% of those in withdrawal), but, untreated, carries a high mortality. The peak onset is 48-72 hours after cessation of drinking and symptoms can persist for several days or weeks. A suggested regime for treatment is outlined below:

Benzodiazepine as per the standard detoxification protocol.

IM/IV Pabrinex 2 pairs tds for 3-5 days.

Haloperidol 0.5-5mg prn for disturbed behaviour and may require parenteral benzodiazepines.

2. Alcohol withdrawal seizures – Generalized tonic-clonic (convulsive) seizures (isolated, multiple, or rarely status epilepticus) peak at 48 hours post-cessation. Seizures occur in 1-15% of alcohol withdrawals (increased risk if a previous history of withdrawal seizures, or co-morbid epilepsy).

Treatment: increase benzodiazepine dose and initiate/continue anticonvulsants.

Alcohol withdrawal Scales (e.g. CIWA-Ar, Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised, an alcohol withdrawal scale reporting template) may be used in clinical practice to enhance the identification of severe withdrawals and the onset of complications and assist in titrating detoxification medication doses. The CIWA-Ar scale can measure 10 symptoms. Scores of less than 10 indicate minimal to mild withdrawal. Scores of 10 to 15 indicate moderate withdrawal (marked autonomic arousal); and scores of 15 or more indicate severe withdrawal (impending delirium tremens)

http://www.merckmanuals.com/medical-calculators/CIWA.htm

Locally agreed policies and procedures in relation to the management of alcohol withdrawal must be observed. Severity can vary from mild tremor (often no medication needed) to life threatening delirium (medication obligatory). The treatment of choice in moderate to severe alcohol withdrawal is a long acting benzodiazepines (e.g. chlordiazepoxide, diazepam).

Diazepam	
Day 1	20mg diazepam qds (if high risk, start here)
Day 2-3	15mg qds 15mg tds
Day 4-5	10mgs qds 10mg tds (in community, usually start here)
Day 6-9	5mg qds tds bd nocte, then STOP

Suggested protocol for titrated fixed-dose chlordiazepoxide for treatment of alcohol withdrawal (Ghodse et al., 1998; South West London and St George's Mental Health NHS Trust, 2010) as cited in NICE 2011

Typical recent daily consumption	15-20 units		30-49 units		50-60 units
Severity of alcohol dependence	Moderate SADQ score 15-25		Severe SADQ score 30-40		Very severe SADQ score 40-60
Starting dose of chlordiazepoxide	15-25mgs qds	30-40mgs qds	50mg qds		
Day 1 (starting dose)	15 qds	25 qds	30 qds	40 qds*	50 qds*
Day 2	10 qds	20 qds	25 qds	35 qds	45 qds
Day 3	10 tds	15 qds	20 qds	30 qds	40 qds
Day 4	5 tds	10 qds	15 qds	25 qds	35 qds
Day 5	5 bd	10 tds	10 qds	20 qds	30 qds
Day 6	5 nocte	5 tds	10 tds	15 qds	25 qds
Day 7		5 bd	5 tds	10 qds	20 qds
Day 8		5 nocte	5 bd	10 tds	10 qds
Day 9			5 nocte	5 tds	10 qds
Day 10				5 bd	10tds
Day 11				5 nocte	5 tds
Day 12					5 bd
Day 13					5 nocte

*Note. * Doses of chlordiazepoxide in excess of 30 mg q.d.s. should only be prescribed in cases where severe withdrawal symptoms are expected and the patient's response to the treatment should always be regularly and closely monitored. Doses in excess of 40 mg q.d.s. should only be prescribed where there is clear evidence of very severe alcohol dependence. Such doses are rarely necessary in women and never in the elderly or where there is severe liver impairment.*

Key:
- Qds = Quater die sumendus: four times a day
- Tds = ter die sumendum: three times a day
- Bd = bis die: twice a day
- Nocte = at night

Symptom triggered medication can be used according to withdrawal assessment rating scales, potentially with closer titration of dose against symptoms and shorter periods of detoxification. Appropriate medication may be used for nausea diarrhoea, heartburn and itching.

Vitamin deficiency (Thiamine B1) is common and can cause serious problems on withdrawal.

Wernicke's encephalopathy: confusion with or without ataxia and ophthalmoplegia. Untreated, the mortality can rise to 20% and survivors may develop Korsakoff syndrome with profound short term memory deficits. All patients require oral thiamine 200mg bd and vitamin B Co Strong 2 tabs bd. Also, see local protocols regarding vitamin prophylaxis and treatment. Hospitalised patients should normally be treated with parenteral thiamine.

Treatment for alcohol detoxification can be managed in a hospital setting, prison or in the community. Patients with severe alcohol dependence and a history of severe and life threatening withdrawal symptoms are more appropriately treated in an in-patient setting.

Psychosocial interventions and support.

Alcohol detoxification should not be viewed as a standalone episode of treatment as there is strong evidence for the use of psychosocial interventions improving treatment outcomes from alcohol detoxification. Alcohol Nurse Specialists have an important role in all aspects of alcohol treatment, including screening, identification of at risk patients, brief interventions and motivational enhancement programmes. They can improve management by preparation, assessment of suitability for inpatient or outpatient treatment and promote engagement with alcohol services in the community for aftercare.

In Duncan's case it would be appropriate to liaise with the alcohol liaison nurse in the hospital to arrange a community detoxification for Barry within the community in conjunction with his GP as he has a supportive girlfriend who is able to take time off work in the week he commences the detoxification regime. However, if he is unable to manage, he can be admitted to hospital. See section above regarding factors to consider in relation to whether a community or inpatient detoxification would be appropriate.

6.0 Referral/networks/services

There are a range of services to support people with problems with alcohol both during and after detoxification. It is important to encourage patients to make contact with services at the earliest opportunity and it is helpful for staff to assist where possible, by making appointments or providing patients with contact numbers and addresses of local services, such as self help groups and specialist services.

Alcoholic anonymous (AA): Alcoholics Anonymous is a fellowship of people who share their experience, strength and hope with each other in order to solve their common problem and help others recover from alcoholism. AA run groups across the whole country, patients can call the free National Helpline 0800 9177 650 or email:
help@aamail.org

http://www.alcoholics-anonymous.org.uk/

Al-Anon: Al-Anon Family Groups provide support to anyone whose life is, or has been, affected by someone else's drinking, regardless of whether that person is still drinking or not. Helpline 020 7403 0888 or website www.al-anonuk.org.uk/

Alateen: Alateen is for teenage relatives and friends of alcoholics. Alateen is part of Al-Anon. Further information at http://www.al-anonuk.org.uk/public/what-alateam

7.0 References and useful resources

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