

# Clinical Focus

## Continuing education and moving points in medicine

### Continuing Education Module 21: Brain disease

# Alcohol in hypertension

Hypertension is a major health issue leading to significant mortality and morbidity, and alcohol is a major contributing factor, writes **Anne Gallagher**

*"IT HAS long been recognised that the problems with alcohol relate not to the use of a bad thing, but to the abuse of a good thing"*  
– Abraham Lincoln.

As with most things, balance is the key when it comes to alcohol. Hypertension is a serious worldwide health problem and too much alcohol can be a significant contributing factor in the condition.

#### Hypertension

A normal heart pumps blood around the body easily, at a low pressure. High blood pressure means that the heart must pump harder and the arteries carrying the blood are under greater pressure. Over time, this puts a strain on the arteries and the heart, increasing the risk of heart disease, stroke and damage to kidneys.

The incidence of hypertension is a worldwide problem. One in four people have high blood pressure, half of those do not know they have hypertension, and of those who do, only half are treated to target. Approximately one in three has raised blood pressure by the age of 50 years, and one in two by the age of 70 years.

#### Measuring and managing hypertension is a challenge

Standardised measuring practices are important. This includes:

- Proper training
- Proper positioning of the patient
- Appropriate size of cuff
- Independently validated and calibrated measuring devices
- Office or clinic measurement of  $\geq$ 140/90, twice, indicate a need for a 24-hour ambulatory blood pressure measurement or a period of self-measurement.

Other details and measurements would also influence direction and mode of treatment, such as age, gender, personal health and family health history, lipid levels, blood sugar, smoking status, alcohol intake, quality of diet, weight, physical activity, and other social and psychological influences.

Of note in the treatment for high blood pressure:

- Lifestyle measures needed for all hypertensive patients
- The major hypertensive medicines are equal for clinical use
- Target blood pressure <140/90mmHg.

A healthy diet is recommended as being the cornerstone of CVD prevention. This includes:

- Saturated fats to account for <10% of total energy intake, to be replaced by polyunsaturated fats
- Reduce trans fatty acids to as much as possible

#### Alcohol consumption in Ireland

On June 23, 2014, the Health Research Board published a report entitled 'Alcohol Consumption in Ireland 2013'. The survey conducted in 2013 involved almost 6,000 people aged 18-75 years. The findings indicated that more than 150,000 people in Ireland are dependent drinkers and more than 1.3 million people are harmful drinkers according to WHO standards.

- The report also reveals that we underestimate what we drink by about 60%
- 75% of all alcohol consumed was during binge drinking sessions
- The highest percentages of harmful and dependent drinkers were in the 18-24 age group
- 43% of standard drinks are consumed at home, 42% in a pub/nightclub, and 10% in restaurant/hotel
- 21% of those surveyed had not consumed alcohol at all in the previous 12 months

- <5g salt per day
- 30-45g fibre per day, from wholegrain products, fruit and vegetables
- 200g fruit per day (two to three servings)
- 200g vegetables per day (two to three servings)
- Fish at least twice a week, one of which is oily fish
- Consumption of alcoholic beverages should be limited to two drinks per day for men (20g/d of alcohol) and one drink for women (10g/d of alcohol) for women

#### Alcohol

The production and drinking of alcoholic beverages has been part of the diet of many cultures dating back over the centuries. It has long played a part in spiritual and hospitality rituals, and has been used safely and enjoyably for thousands of years. When discussing alcohol intake in health and social terms, messages can be confusing. When consumed in moderation, it has been proven to have many benefits. Several studies have shown that it leads to an increase in the protective 'good' cholesterol, HDL, and a reduction in heart disease and stroke. It has also been shown to act as a blood thinner and reduce the risk of dementia and diabetes.

The key is in the amount of alcohol consumed – with a J-curve effect, where light drinkers have less risk than abstainers, but risk increases as intake exceeds recommended guidelines. However there is not enough evidence to suggest non-drinkers should start to drink.

When taken in excess, alcohol can be a contributory factor in accidents, violence and suicide. Over time, high level consumption raises the risk of high blood pressure, heart disease (disorders of the heart, blood vessels and blood circulation), certain types of strokes, various cancers, liver disease, pancreatic inflammation and birth defects.

### Safe levels of alcohol intake

Alcoholic drinks come in multiple forms and contain differing amounts of pure alcohol (ethanol). One standard drink is defined as approximately 10mg of ethanol, which can be found in:

- 285ml beer
- 100ml wine
- 30ml of 80%-proof distilled spirits.

As previously written, there is extensive evidence to show the considerable burden caused by alcohol-related injuries, such as road traffic accidents, falls, drowning, suicide, poisonings and social and domestic violence. Emergency departments and psychiatric services have combined resources to establish processes to deal with the more severe problems. However, when surveyed – less than one in ten people were clear on the various measures and recommended weekly number of standard drinks for men and women.

Safe levels in alcohol intake, from the Irish Heart Foundation, indicate a maximum of 17 standard drinks per week for men, and 11 for women.

Aside from the other health implications, heavy alcohol use contributes to and exacerbates hypertension, atrial fibrillation and alcoholic cardiomyopathy.

The affect of alcohol on blood pressure is dose related – emerging in those drinking more than two drinks per day and particularly evident in those consuming more than five drinks per day.

Drinking four to five drinks in one sitting is described as binge drinking. Four or more drinks temporarily raises blood pressure, but repeated binge drinking has a more prolonged effect. However stopping a long-term habit of excessive drinking can also cause raised blood pressure, therefore a tapering-off is recommended.

In the overall management of hypertension, it is therefore essential to establish alcohol use as part of the overall assessment and treatment plan – as well as smoking history, food intake, weight, salt intake awareness and levels of physical activity.

Many people are keen to make lifestyle changes particularly when there are health problems and risks, but are not always sure what action to take. Because of the integral part alcohol plays in Irish life, it can be tricky to establish exactly the intake of the individual. For example, alcohol consumption based on a questionnaire often poses a problem as people can have poor recollection and are like to provide socially acceptable answers.

It is therefore more useful to have an established system when managing hypertension in each clinical setting. Building a relationship of trust is essential, and in relation to alcohol – a non-judgemental system of asking about drinking habits to establish actual intake.

In cases of heavy alcohol use and dependence, guidance and referral to specialised support would be indicated. In most cases, brief interventions are an effective tool to help the person's level of awareness, and give clear guidance on something they can do for themselves. For example, in our cardiac rehabilitation setting

## Intervention opportunities

When discussing risk factors and lifestyle in our one-to-one session with patients in cardiac rehab, it usually involves a few guided questions to establish patterns and amount consumed on a regular basis:

### Do you drink alcohol?

If yes then you can ask: Do you drink beer, wine or spirits – or a combination?

### Do you tend to drink mainly at home or at the pub?

Then you can tease out the frequency and volume involved.

Next you can ask if they know what the guidelines are regarding safe levels of drinking and then, if indicated, you could make suggestions regarding using a measure for drinking spirits at home, and how they might slowly reduce levels if in excess.

Realistically, some patients will have dependent habits. In those cases we should ask if they would like help to make changes, and provide appropriate information or refer to specialist support if they agree.

As patients in rehabilitation attend the clinic several times within a short period, we have had an opportunity to build a relationship of trust.

There are many reasons why people may drink excessively. As yet in Ireland we do not have a comprehensive strategy with structured routine assessment of alcohol use and appropriate guidance, support and treatment. However, it is important to recognise the part alcohol can play in overall health and when managing hypertension it must be part of the discussion and treatment plan.

we use a risk-factor chart, which is held by the patient – and has a list of clinical measurements, and their lifestyle details. It acts as a prompt, and each aspect is also discussed in the group education sessions, inspiring many lively discussions.

Each topic is discussed both individually with a health professional, but also in a group setting with others going through often-similar experiences.

People often forget how many calories alcoholic drinks contain, when trying to reduce or manage weight, and managing blood sugar levels for those with diabetes.

As part of our database, we recorded alcohol unit intake. In 200 males, 43% drank in excess of the recommended 17 standard drinks per week, and in 76 females, 19% drank in excess of the upper limit of 11 standard drinks recommended for women.

Unfortunately, time constraints in many clinical settings and lack of implementation of many of the recommendations of the *Substance Misuse Strategy* – launched in 2012 – means that too often alcohol intake is not discussed. It can be complex, requiring sensitivity in how questions are broached – to identify harmful patterns of drinking.

As identified in *Reducing Alcohol Health Harm* April 2013, published by the Royal College of Physicians Ireland Policy Group on Alcohol, it is recommended that an integrated model of care be developed. The group proposals include that alcohol screening and brief interventions be embedded in clinical practice, and that an integrated model of care be developed for treatment of alcohol-related problems. This must include the role alcohol plays in the cause and treatment of hypertension.

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