Over 530,000 people are living with heart failure (HF) in the UK (British Heart Foundation, 2017). Heart failure is more likely to occur in people aged 65 and over, and this group has a high incidence of repeated hospital admissions related to the condition (Nicholson, 2014). The number of over-65s is growing and the increasing numbers of people surviving cardiac events, means that prevalence of HF is likely to increase.

While reducing alcohol intake can reduce the risk of developing HF it is not known whether abstaining from consuming alcohol benefits patients who already have the condition. This article discusses whether people diagnosed with HF that is not related to excess alcohol consumption should abstain from alcohol or significantly reduce their intake.

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Abstract: The costs associated with treating heart failure (HF) in the NHS are high, as are incidences of repeated hospital admissions related to HF in those aged over 65 years. It has been demonstrated that excess alcohol consumption over long periods can lead to heart failure but it is not known whether abstaining from consuming alcohol benefits patients who already have the condition. This article discusses whether people diagnosed with HF that is not related to excess alcohol consumption should abstain from alcohol or significantly reduce their intake.

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Clinical Practice

Discussion

daily alcohol consumption sustained over 10 years were at risk of developing symptomatic ACM. The symptoms described were exertional dyspnoea (breathlessness on exercise), orthopnoea (breathlessness when lying flat) and paroxysmal nocturnal dyspnoea (breathlessness and coughing at night). However, it should be noted that, although the authors found specific alcohol consumption levels, the data was limited with regards to amounts of alcohol, length of time over which the alcohol had been consumed, and symptoms of ACM (Djoussé and Gaziano, 2008).

Gender differences have also been noted, with several studies showing that women are affected by ACM after consuming smaller amounts alcohol than men and doing so over a shorter period of time (Urbano-Marquez and Fernández-Solà, 2005; Piano, 2002).

However, not all people who drink alcohol to excess will develop ACM; in England, alcoholic liver disease is the biggest cause of alcohol-related death (Harker, 2017). This could be due to the liver failing before symptomatic ACM develops, but there is evidence to suggest that there may be a genetic element to ACM (Fernandez-Sola et al, 2002).

The way alcohol causes HF is not completely understood. It is known that alcohol – a myocardial depressant – reduces the contractility of the myocardium (Skotzko et al, 2009), while excess alcohol is known to induce hypertension, and increase heart rate and contractility due to catecholamine release (Skotzko et al, 2009). Over a sustained period, these effects – especially hypertension – are known to cause the left ventricle to become hypertrophic and dilated, thereby exacerbating the negative effects of alcohol on the heart.

Studies have shown that abstinence or tightly controlled drinking in people with ACM improves cardiac function (Urbano-Marquez and Fernández-Sola, 2005). If excess alcohol consumption over a sustained period can lead to ACM, how does abstinence or low-to-moderate drinking affect the heart and how does it affect people with HF?

Guidance on alcohol consumption

In current guidelines for the treatment and management of HF, there is no consensus regarding alcohol consumption. In the UK, National Institute for Health and Care Excellence guidance advises that people with ACM should abstain from consuming alcohol. The guidance, however, is vague for those with other types of HF and there is no suggested limitation on the consumption of alcohol (NICE, 2010) on which health professionals treating and managing patients with HF can base their advice.

The European Society of Cardiology and National Heart Foundation of Australia (NHFA) recommend that alcohol consumption in the general population should not exceed two units a day for men and one unit a day for women (McMurray et al, 2012; NHFA, 2011). UK guidelines on ‘safe’ alcohol consumption were revised two years ago – the recommended limit for both men and women is now 14 units per week and it is advised that people have several alcohol-free days per week (Department of Health, 2016).

Evidence linking alcohol and heart disease

Until recently it was thought that light-to-moderate drinking had cardio-protective benefits that reduce coronary heart disease mortality. However, the chief medical officer acknowledges in the current UK guidance that the cardio-protective benefits of alcohol are no longer thought to be as great as previously believed and that these benefits are thought to apply only to women over the age of 55 and are less likely to apply to men (DH, 2016). We must therefore question whether alcohol has the same cardio-protective effects in people with HF. This could be important as people with a diagnosis of HF are required to make significant lifestyle changes to manage their symptoms.

Requirements such as fluid restriction may encourage people with HF to abstain from alcohol completely; they may think this is an important way of improving their mortality. However, the Framingham Heart Study found that the risk of developing HF was 59% lower in men who consumed 8-14 alcoholic drinks a week compared with those who did not drink alcohol (Walsh et al, 2002); this finding was supported by Bryson et al (2006).

Djoussé and Gaziano (2007) also found similar statistical evidence that people who drank moderate amounts of alcohol had a lower risk of developing HF. Their study also included people who had previously had a myocardial infarction (MI); given that ischaemia is one of the most common causes of HF in the UK, this is of great importance.

In their left ventricular dysfunction prevention trial, Cooper et al (2000) found no significant decrease in mortality in people with HF who consumed 1-14 alcoholic drinks per week. They did, however, find this light-to-moderate alcohol intake could reduce the risk of MI in people with ischaemic forms of HF. Again, this is important, as people with HF are at higher risk of cardiac problems than the general population (Go et al, 2013).

All the studies discussed lacked evidence on the effects of high alcohol intake in people with or at risk of developing HF. In addition, all the studies were undertaken in the US, so it is pertinent to question the extent to which the results apply to the UK. Cultural attitudes to alcohol in the UK and the US differ: there is a bigger drinking culture in the UK and the age at which it is legal to drink alcohol is lower; these differences could be significant in relation to drinking patterns and risk of HF.

A systematic review by Djoussé and Gaziano found that systematic review found that evidence on the effects of alcohol consumption on the mortality of people with HF was scant (Djoussé and Gaziano, 2008). One study of people with ischaemic left ventricular systolic dysfunction (LVSD) who consumed 1-14 alcoholic drinks per week found they had a 23% lower mortality risk compared with those with LVSD who abstained from alcohol (Cooper et al, 2000).

Djoussé and Gaziano (2008) suggested that, although the data is limited, it could be argued that moderate alcohol consumption may have some benefit for people with HF. However, they concluded that, until a large randomised control trial has been conducted into the effects of moderate alcohol consumption in people with HF, health professionals should not advise patients with the condition who currently abstain to start drinking alcohol, nor should alcohol be recommended as a means of reducing the risk of developing HF.

A year-long multi-centre observational study by Salisbury et al (2005) looked at 420 people with HF to explore the effects of low-to-moderate alcohol intake on mortality, hospitalisation rates and health status. Of the 420 participants, 245 classed themselves as abstainers and the remaining 175 as moderate drinkers. The study found that, overall, hospitalisation rates and mortality rates between the groups were similar, with no significant
Statistical difference; there was also no difference between the two groups in terms of health status. It could be concluded from the study’s outcomes that low-to-moderate alcohol intake does not increase mortality or reduce hospitalisation rates in people with HF. Based on their results, Salisbury et al (2005) concluded that people with HF should not be told to abstain from alcohol.

It should be noted that Salisbury et al’s (2005) study looked at monthly, rather than weekly, alcohol consumption, which varied from one to six drinks over a month. This could be deemed a limitation of the study, as the amount of alcohol consumed could vary greatly from month to month and the data does not include information on binge-drinking sessions that may have occurred during the month (Djoussé and Gaziano, 2008). The study did not state whether low-to-moderate drinkers drank the same amount of alcohol each month at one-year follow-up as they did at assessment. It could also be argued that a one-year follow-up period is too short for a study looking for changes to health status, including LVSD (Djoussé and Gaziano, 2008).

Gargiulo et al (2013) conducted a cross-sectional study into the effects of low-to-moderate alcohol consumption on the 12-year mortality of people aged over 65 with and without HF over a 12-year period. The study population comprised 1,187 people aged over 65, of whom more than half had a diagnosis of HF and more than half were women. Participants gave details of specific amounts of alcohol consumed daily and the researchers had a baseline figure for what they considered to be moderate consumption (<25ml of wine per day). They found that moderate alcohol consumption had a positive effect on mortality rates in participants without HF; however, in participants with HF, moderate alcohol consumption increased the mortality risk.

The study demonstrated that at one year, survival rates were the same across both groups but that from the sixth year onwards survival rates in participants with HF worsened compared with those without the condition. The authors did not explain why they thought this might be the case. One possible explanation is that the group of participants with HF may have had a high alcohol intake in the past and, due to their age, been at a higher risk of mortality anyway. Participants with HF in this study also had more comorbidities than those without the condition. Another explanation may be that, as discussed earlier, the survival rate of people with a diagnosis of HF is 50% at five years’ post diagnosis (Gargiulo et al 2013; Go et al, 2013), and this study may have simply reflected that statistic.

Another limitation of Gargiulo et al’s study is that it only included people who drank wine, excluding those who drank spirits or beer. In addition, the study was conducted in Italy; as with the US studies, its transferability to the UK is therefore debatable; it could be argued that Italians are more likely to follow a Mediterranean diet than people in the UK.

A further limitation of Gargiulo et al’s (2013) study is that it did not explore the differences between men and women. It could, therefore, be argued that the level of moderate alcohol consumption that was set in this study may not be considered moderate for women. Since women made up a larger proportion of the sample in this study, this may have affected the mortality rates.

Conclusion

The incidence of HF in the UK is increasing and the number of people living with the disease is growing. With UK government figures from 2012 showing that a third of adult men and a fifth of adult women drink more than the recommended daily amount of alcohol (Health and Social Care Information Centre, 2012), the number of people at risk of developing HF may increase further.

Although there is an abundance of research regarding the effects of alcohol on CHD and reducing the risk of developing HF, there is very little research into its effects on people who already have HF, and that which is available is contradictory. However, while evidence may not be conclusive enough to make firm conclusions about alcohol consumption for people with HF in general, those with a diagnosis of ACM should be advised to abstain from alcohol completely. Health professionals may also need to educate patients on the recent changes to the guidelines on alcohol consumption.

Knowing what advice to give about alcohol consumption and HF is confusing – more research is required for a definitive answer to be given. NT

References


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