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THE WEIGHTY ISSUE OF LIVER DISEASE

The average age of death from liver disease is 59, whereas someone who dies from a stroke is expected to live until they are 82. Liver cancer cases have also tripled in the last 30 years, underlying the fact that liver disease in the UK is now the fifth largest cause of death and the only killer on the rise.

Professor Chris Day
The British Liver Trust

Professor Chris Day is Pro-Vice-Chancellor for the Faculty of Medical Sciences at the University of Newcastle and is part of the British Liver Trust's Medical Advisory Committee. He is a Consultant Hepatologist with a keen interest in the area of fatty liver disease relating to obesity and alcohol.

Perhaps the most striking of statements is that projections suggest that liver disease could overtake stroke and coronary heart disease as a cause of death within 10 to 20 years.

What is the reason for this? Lifestyle factors play a huge role in the development of liver disease and it is thought that 95 percent of cases are preventable. Although most people would attribute liver disease in adults to excessive alcohol consumption or hepatitis infection through drug abuse, obesity is fast becoming one of the main causes and may even overtake alcohol as a leading cause of liver disease in the future. It is even believed that if the forecasts hold true, today's obese teenagers could be dying of obesity-related liver disease in their 50s or 60s.

Despite the worrying statistics and facts, the liver receives relatively little public attention. This is largely due to the stigma surrounding the main causes of liver disease (alcohol, obesity and drug use) and the belief held by people that it is self-inflicted undeserving of any interventions or treatment.

If diagnosed with liver disease the majority of people stay quiet with the fear that they will be branded an alcoholic or a druggie. Those who do speak out about their condition usually report such stigma and are frustrated by the reaction they receive from not only their friends and family, but also healthcare professionals. An analysis of calls to the British Liver Trust's helpline in January last year illustrated that stigma plays a huge role in an individual's experiences of liver disease. Many people reported issues with stigma in the NHS, in addition to wider society. The Trust firmly believes that these issues, partly based on ignorance and partly on outdated attitudes, need to be challenged to improve care for liver patients.

THE ROLE OF OBESITY IN LIVER DISEASE

England is not immune from what has been called the 'global epidemic' of obesity. The incidence of obesity is rising so rapidly that the Health Survey for England has warned that 13 million people in England are likely to be obese by the time of the London Olympics in 2012. Additionally, if these rates continue over the next 10 to 15 years, less than one-quarter of the population will be of a normal weight.

Ninety per cent of morbidly obese individuals have 'fatty' livers and most liver experts now believe that obesity plays a key role in the development of liver disease. Unfortunately, there have been few large-scale studies to confirm this.

Definitively establishing a link between obesity and liver disease is, however, complicated by a number of factors. It is difficult to separate alcohol misuse from obesity as a cause of adult liver disease, as the two risk factors are often found in the same individual. Moreover, other conditions associated with obesity, such as diabetes may also play a role in the development of liver disease.

PROJECTIONS FOR THE IMPACT OF OBESITY ON LIVER DISEASE

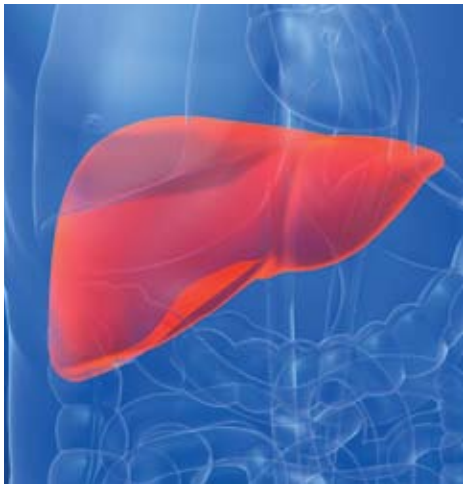
Despite the difficulties of establishing the absolute risk of liver disease attributable to obesity, reasonable projections from recent studies (Targher G Bundred et al) suggest that more than one percent of the male and one percent of the female population of England may develop cirrhosis as a result of obesity.

WHAT IS LIVER DISEASE?

Liver disease is usually caused by inflammation of the liver. This can be provoked by alcohol, chronic viral hepatitis, antibodies, excessive iron or fat deposition in the liver and rarer disorders. Chronic inflammation eventually leads to cirrhosis, which is an excessive scarring of the liver and the development of nodules of tissue.

Once advanced (decompensated) cirrhosis develops, it tends to lead to liver failure. At this final stage, patients can bleed from the gullet and other organs, develop salt and water retention leading to the formation of ascites (up to 25 litres of fluid in the abdominal cavity) and suffer mental confusion. Cirrhosis has a high mortality rate. Patients may be offered a liver transplant, but most are treated conservatively, meaning that complications are mostly managed as and when they develop.

Liver disease is almost entirely preventable and considerably easier to treat in its early stages. Unfortunately, because the condition is largely asymptomatic until its relatively late stages and there is currently no formalised system for identifying at-risk individuals, diagnosis is invariably made too late.



Put another way, at worst, more than half a million people in England could end up with obesity-related cirrhosis, with a large number of today's obese adults dying in their 60s and 70s with liver failure. More worryingly, it is anticipated that today's obese adolescents may go on to develop cirrhosis and liver failure in their 50s and 60s.

As with many other causes of cirrhosis, once cirrhosis develops, patients with NAFLD are at high risk of developing hepatic decompensation (liver failure) and dying from a liver-related cause, including liver cancer (HCC). As a result, patients with NAFLD related cirrhosis are placing an increasing burden on the liver units of the UK and taking up an increasing proportion of places on the liver transplant waiting list.

This growing condition comes at a cost to society and the Foresight report predicted that, with this alarming growth of obesity, the burden of NAFLD on primary care and liver services will double from a current annual cost of £4.2 billion by 2050.

CO-MORBIDITIES

'The international epidemic of obesity raises the possibility that heavy alcohol intake and obesity could be working in unison to elevate risk of liver disease.' (BMJ 2010; 340:c1240)

As already highlighted by the difficulty in establishing an absolute link to liver disease and obesity, due to the role alcohol plays in everyday life, co-morbidity factors need to be considered. Last year, The Lancet published two studies that showed the double whammy effect on the liver if an individual is overweight and they drink alcohol. The research confirmed that excess body weight not only plays a role, but may exacerbate the effects of drinking or vice versa on the liver.

As well as a risk factor for progression of other liver diseases including alcoholic liver disease and hepatitis C (in patients with hepatitis C, obesity and the associated insulin resistance may also impair response to anti-viral treatment), NAFLD may also contribute to the cause and consequences of diabetes and cardiovascular disease.

SO WHAT IS NON-ALCOHOLIC FATTY LIVER DISEASE (NAFLD)?

NAFLD is closely associated with obesity and can be considered as the liver manifestation of the metabolic syndrome. It encompasses a spectrum of disease ranging from:

- The most common – fatty liver (accumulation of fat in the liver, also known as steatosis)
- Non alcoholic steatohepatitis (NASH, fat associated with inflammation and liver cell damage – 'ballooning')
- Cirrhosis (irreversible, advanced scarring of the liver as a result of chronic inflammation)

It is important to highlight that individuals with Type 2 diabetes are at increased risk of steatosis. In one study of a large cohort of patients with Type 2 diabetes, fatty liver was present in 70 percent of cases. Additionally, the prevalence of NAFLD in individuals with metabolic syndrome, characterised by central obesity, hypertension, diabetes and dyslipidaemia (an abnormal concentration of lipids in the blood) may be as high as 80 to 90 percent.

WHAT CAN BE DONE?

Based on these projections, urgent action is required. Recent initiatives based on reducing the growing obesity epidemic are likely, in time, to reduce the incidence of NAFLD.

From the clinician's point of view, obesity, diabetes and dyslipidaemia should be seen as risk factors for progression of most types of liver disease. Patients should be encouraged in a proactive manner to lose weight by diet and exercise and, where necessary, be offered support, counselling, pharmacological therapies and/or obesity surgery.

Importantly, the provision of obesity surgery in the UK lags behind the rest of the Western world and needs to be urgently addressed. Only by a combined effort of individuals, the health service, the food industry and the government, can we hope to tackle the wide variety of conditions associated with obesity, including NAFLD.

The Trust hopes that the new National Liver Disease Strategy, which we campaigned so hard for, will embrace the challenges and look to prevent fatty liver disease and diagnose and treat it effectively before patients progress to NASH, cirrhosis and liver cancer. The Trust firmly believes it needs dedicated action across the NHS that could save lives and stem the rising tide of liver disease and death. In addition, there is a pressing need to increase GP and specialists in nutrition awareness of NAFLD while also giving them the tools to spot the signs earlier.

The British Liver Trust is the national liver charity for adults working to reduce the impact of liver disease in the UK through support, information and research. The Trust works hard to raise awareness of the potential risks for liver cancer. We also have a range of medically reviewed publications that provide valuable information on a range of liver diseases. We have a publication dedicated to NAFLD and this is due to be updated during 2011 to include new therapies and guidelines.

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Questions relating to: *The weighty issue of liver disease.*
Type your answers below and then **print for your records.** Alternatively print and complete answers by hand.

Q.1	Briefly describe why liver disease is now the fifth largest cause of death in the UK.
A	
Q.2	What are the three main causes of liver disease?
A	
Q.3	Why is diagnosis of liver disease so difficult?
A	
Q.4	What is the percentage of morbidly obese individuals with fatty livers?
A	
Q.5	Why is it difficult to establish a clear link between obesity and liver disease?
A	
Q.6	Obesity in the UK is rising fast. The Health Survey for England has warned of what statistic by the London Olympics?
A	
Q.7	NAFLD encompasses a range of diseases. Please describe two of the most common.
A	
Q.8	Patients with Type 2 diabetes are at an increased risk of what?
A	
Q.9	Once the disease is advanced (decompensated), cirrhosis develops leading to liver failure. Describe three symptoms that can occur at this final stage.
A	

Please type extra notes here . . .