Alcohol-Related Liver Disease (ARLD) and its management in primary care

Introduction

Around 90% of liver deaths are related to lifestyle and unhealthy environemnts, with the vast majority of these being alcohol related. Increasing mortality from ARLD over the last three decades closely parallels rising alcohol consumption in the UK over the same period[1]. While the evidence-base shows that one third of patients with ARLD have severe alcohol dependence[2], the majority of those who develop ARLD have either a lower level of dependence or are harmful drinkers without dependence – it is important to realise that it is not just the severe alcohol-dependent patients who will develop irreversible liver disease.

Currently, around a quarter of the UK population drinks more than recommended guideline amounts[1] and around 20–30% of lifelong heavy drinkers will develop cirrhosis[1]. There is a steep social gradient for alcohol-related deaths including ARLD-related deaths, with the poorest in society bearing the greatest burden[3]. Why some heavy drinkers develop liver disease and others don't is not fully understood, though gender and genetic factors may play a role.

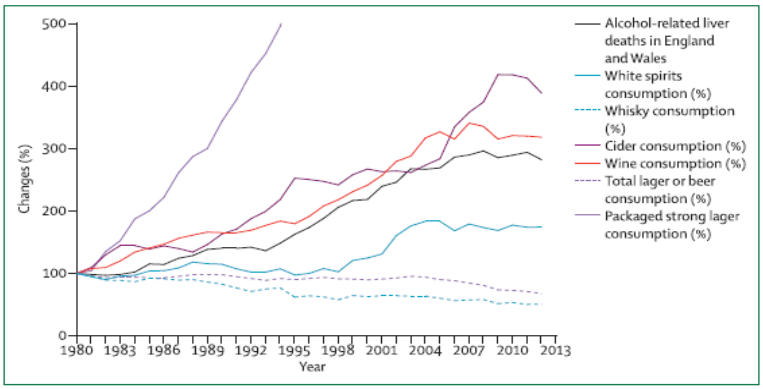

***Figure 3*: Changes in the UK alcohol market, 1980–2013**
Alcohol-related liver deaths for England and Wales were taken from Office of National Statistics Deaths Registered series,[15] consumption data are from HMRC collated in the British Beer and Pub Association Handbook.[16] Comparing liver mortality with consumption of white spirits, wine, cider, and strong lager shows R^2=0·987, p<0·0001. Analysed by Nick Sheron (May, 2014).

Liver disease related to alcohol misuse includes acute alcohol-induced liver injury and a spectrum of long-term pathological conditions. In its early stages liver disease can be reversed, although if liver insult persists through ongoing alcohol misuse or other causes, irreversible fibrosis and cirrhosis may develop.

In ARLD the lag time between the beginnings of liver injury to the development of cirrhosis is likely to be years or decades though it can be quicker in some patients. Symptoms tend to develop late in the course of disease progression and may only be apparent when there is irreversible decompensated cirrhosis. Taking these two features of ARLD together, it is clear that there are both opportunities and imperatives for case-finding and early interventions to prevent the development of end stage liver disease.

In patients with other risk factors for developing liver fibrosis and cirrhosis, such as chronic hepatitis B or C infection, or features of the metabolic syndrome, excessive alcohol use is related to faster progression of liver disease.

Acute alcohol-induced liver injury (acute alcohol-related hepatitis)

This may occur after extended periods of severe binge drinking or as feature of more prolonged alcohol misuse when there may be underlying chronic liver disease. Symptoms and signs include right upper quadrant pain, nausea, vomiting, malaise and anorexia fever, tachycardia and tender enlarged liver and there may be jaundice on examination or on liver blood tests. There may be signs of ascites and coagulation abnormalities with more severe disease, and patients may develop complications such as hepatic

encephalopathy and renal failure. This may be further complicated by alcohol withdrawal symptoms in alcohol-dependent patients who stop drinking acutely.

Mild cases can be managed at home with supportive care, and the prognosis is good where the patient stops alcohol use. Where there is severe hepatitis or complications, patients need hospital admission for specialist treatment as these features are associated with a high mortality rate.

Alcohol-related fatty liver disease (AFLD, alcohol-related steatosis)

Fatty liver describes the pathological process where fat is deposited in liver cells, but there is no inflammation or scarring. There are many causes of fatty liver, including chronic viral hepatitis, non-alcohol-related fatty liver disease and alcohol misuse.

Alcoholic fatty liver is the earliest stage of alcohol-related liver disease and can develop after only weeks of heavy drinking. It is thought to be present in 90% of people who drink more than recommended limits[6]. It rarely causes symptoms, liver function is preserved and liver blood tests are often normal, though fatty liver may be an incidental finding on abdominal ultrasound scan. Alcohol-related steatosis is fully reversible and can resolve within six weeks of abstinence. However, if excessive alcohol use continues, liver disease may progress.

Alcohol-related steatohepatitis (ASH)

Alcohol-related steatohepatitis is a potentially serious condition that is caused by alcohol misuse over a longer period. In ASH fatty change is associated with the development of liver inflammation, hepatocyte injury and there may be associated fibrotic changes. The condition is generally asymptomatic, and if the patient stops drinking, is reversible. Some patients may complain of anorexia, nausea and abdominal pain, and in more severe ASH, there may be hepatomegaly and jaundice, and in some cases ascites and liver failure. Blood tests may be normal though gamma glutamyl transferase (GGT) may be raised. Transaminsases may be normal or mildly raised, with alanine aminotransferase (AST) generally higher than alanine aminotransferase (ALT).

Alcohol-related cirrhosis

Cirrhosis is the final stage of ARLD where the liver has become significantly scarred through inflammation leading to fibrosis. There may be no symptoms, particularly in early cirrhosis, though some patients may have fatigue, anorexia, nausea or weight loss. Patients may present with the complications of cirrhosis including portal hypertension and bleeding oesophageal varices or other features of decompensated liver disease including ascites and encephalopathy. In addition, there may be co-existent jaundice, coagulopathy and potentially hepatocellular carcinoma.

Blood tests, including ALT, are often normal in cirrhosis, though when liver function is significantly impaired there may be raised bilirubin, reduced albumin, coagulation abnormalities and a low platelet count. Hyponatraemia is common in advanced cirrhosis and is a poor prognostic sign. The gold-standard diagnostic test for cirrhosis for many years has been liver biopsy, though this is no longer always clinically necessary. Non-invasive methods of diagnosing cirrhosis and severe fibrosis include transient elastography (commonly known by the trade name ‘Fibroscan’), and serum fibrosis markers hyaluronic acid and collagen P3 peptide including the commercial ELF test (1,2).

Cirrhosis is not reversible, however liver function can improve dramatically after stopping drinking alcohol. In ARLD, abstinence from alcohol can reduce the risk of further liver damage, development of complications and progression to end-stage liver failure.

Primary care strategies to prevent and manage ARLD – roles and interventions

Government and public health bodies have important roles in the primary prevention of alcohol-related liver disease through strategies such as progressive alcohol taxation that can reduce the per-person consumption of alcohol on a population-wide basis[1]. Primary care physicians can take positive roles supporting initiatives both on a local and national scale.

Primary care has a crucial role in working with individuals with hazardous and harmful drinking patterns to reduce their alcohol consumption, and in the early identification of those with asymptomatic and reversible liver disease.

There is good evidence that early identification of hazardous and harmful drinking followed by brief interventions and advice to reduce consumption is successful and cost-effective in the primary care setting[4]. Alcohol misuse and the potential for harm are best identified by recording how many alcohol units a patient drinks on a typical week and by using the 10 question AUDIT screening test. Clinicians may use one of the shorter variants of the AUDIT test, the AUDIT-C test and FAST AUDIT, both of which have high specificity and sensitivity, as screening tests. A positive result should be followed by the full AUDIT screen.

For patients who are unable to modify harmful drinking patterns following brief interventions, signposting and referral to local alcohol services for more structured psychosocial interventions may be beneficial. Patients who are alcohol-dependent may benefit from referral to specialist alcohol services for support in addressing their alcohol use. In dependent drinkers, prescribed thiamine may reduce the risk of Wernicke's encephalopathy and permanent cognitive impairment.

Harmful drinkers are at risk of a range of health conditions, and should be screened for hypertension. If overweight they should be encouraged to lose weight – obesity increases the risk of liver damage at all levels of alcohol use.

To stratify the risk of developing cirrhosis for those who misuse alcohol, recent NICE guidance[5] has recommended investigation of men who drink over 50 units of alcohol per week and women who drink over 35 units of alcohol per week and have done so for several months. NICE recommends transient elastography (TE) measurement to assess for advanced liver fibrosis or cirrhosis as the investigation of choice. Patients diagnosed with advanced fibrosis or cirrhosis on TE measurement should be referred for specialist assessment, monitoring and treatment. If the TE measurement is within the normal range the patient can be targeted for support to reduce alcohol consumption and to reduce calorie intake and increase activity if this is appropriate.

TE is not yet available for direct GP referral in all areas. Where TE is not available there are various options for assessing fibrosis. The NICE CKS page on fatty liver, which was updated in 2021, recommends either the NAFLD fibrosis score (NFS) or the Fibrosis-4 (fib-4) score, both of which can be easily calculated in primary care using markers such as age, ALT, AST and platelets. In some areas the Enhanced Liver Fibrosis (ELF) test may also be available to request in the same way as other blood tests. A NFS score of greater than -1.455 or a fib-4 score of greater than 2.67 suggest advanced liver fibrosis, as does an ELF score of 10.51 or above

The role of liver blood tests in ARLD

Routine liver-panel blood tests (LFTs) are of low value in identifying or stratifying ARLD. Up to 90% of people with early alcohol-related fibrosis and 75% of people with severe fibrosis have normal results from liver blood tests[7].

Documents and other useful resources available in the toolkit:

- NICE CG115: Alcohol-use disorders: diagnosis, assessment and management of harmful drinking and alcohol dependence (2011)
- Toolkit resource: Clinical audit ideas: reducing the risk of liver disease in those with high alcohol consumption
- Toolkit resource: Top ten tips non-alcohol-related liver disease
- Toolkit resource: Reflective practice template
- Patient leaflet on alcohol-related liver disease
- Patient information on British Liver Trust website
- Guidance Liver disease: applying All Our Health, gov.uk website

References

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