Liver cirrhosis refers to the presence of severe scarring of the liver caused by chronic liver disease of various aetiologies, most commonly excessive alcohol consumption, viral hepatitis or non-alcoholic fatty liver disease (NAFLD) (Figure 1). There are an estimated 30,000 people with liver cirrhosis in the UK, and 7000 new diagnoses are made every year (Fleming et al, 2008).

Liver cirrhosis is a significant risk factor for the development of liver cancer, known as hepatocellular carcinoma (HCC) (Figure 2), which worldwide is the fifth most common tumour and the second most common cause of cancer-related death (World Health Organization, 2017). The prevalence of HCC is expected to continue to rise along with an overall increase in liver disease.

### Diagnosing cirrhosis

Guidelines support the use of transient elastography (Fibroscan) to diagnose cirrhosis (National Institute for Health and Care Excellence (NICE), 2016). Anecdotal evidence suggests that transient elastography is yet to be consistently adopted for diagnosis in the UK, and there are still a number of patients whose cirrhosis was diagnosed from historical ultrasound scans, even though the subjective nature of ultrasound images makes them unreliable diagnostic tools.

### Surveillance

As those diagnosed with cirrhosis can be readily identified, HCC surveillance programmes can be carried out at the local level (Heimbach et al, 2017). Regular surveillance for HCC results in more tumours being detected at an early stage, when there are more treatments options available. This has a consequent improvement in survival, reducing overall mortality by 38% (Mittal et al, 2016). Guidelines recommend that HCC surveillance be offered every 6 months for the following patient groups:

- Those with advanced liver fibrosis (F3)
- Those with liver cirrhosis (Child-Pugh stages A and B)
- Those with liver cirrhosis awaiting liver transplantation (Child-Pugh stage C)
- Non-cirrhotic hepatitis-B carriers with active hepatitis or family history of HCC
- Non-cirrhotic patients with chronic hepatitis C (Llovet, 2012). This includes those whose cirrhosis is classified as stable (NICE, 2016). Surveillance includes an ultrasound scan with or without measurement of the tumour marker alpha-fetoprotein (AFP) (NICE, 2016). In isolation, the AFP level is not a reliable indicator of cancer, as elevated levels are seldom seen in HCC, and AFP levels may increase during periods of hepatitis or regeneration of liver inflammation, therefore introducing risk of false positive results (Omata et al, 2017).

Should surveillance ultrasound or AFP level raise suspicion of a liver lesion, diagnostic evaluation using computed tomography (CT) or magnetic resonance imaging (MRI) is recommended. In the case of indeterminate lesions, a liver biopsy may be necessary for timely diagnosis (Heimbach, et al, 2017).

However, the efficacy of recommending regular HCC surveillance is debatable. Taylor et al (2017) argued that the limited evidence in support of regular surveillance is outweighed by the risk of harm introduced by investigations including CT scans and liver biopsy. Although they identified that 11% of patients in a Child-Pugh stage A cohort would develop HCC, they suggested that benefit of surveillance was small and that harm was demonstrated through false-positive investigations.

Therefore, patients should be given a balanced perspective on HCC surveillance so that they can make an informed decision on whether to consent to participate in a surveillance programme. Cost-effectiveness...
studies have indicated that an annual HCC incidence of 1.5% or greater in cirrhotic patients would warrant surveillance. It may be possible to exclude cirrhotic patient groups where surveillance is not cost-effective, such as those at low risk of developing HCC or those with Child-Pugh stage C, at which point curative therapies are no longer possible (Llovet et al, 2012).

Nursing role

The Bolton nurse-led HCC programme adopted the Making Every Contact Count (MECC) approach to encouraging behaviour change. It was hoped this would enable the team to go above and beyond the task at hand of meeting recommended guidelines and make interactions even more fruitful for both patients and nurses (Health Education England, 2017). For specialist nurses, patient contact and relationship building is a fundamental part of their role. Furthermore, to make sure that care remains compassionate, it is vital that nurses be able to understand patients’ lifestyles without prejudice. This approach aids patient support and education, with a view to equipping them to make decisions that will lead to good outcomes and better self-management, and thus prevent their liver health deteriorating. It is for these reasons that nurse-led HCC surveillance clinics result in increased patient knowledge and attendance (Nazareth et al, 2016), and patients become more actively involved in decision making. To make informed decisions, patients should be made aware of the benefits and harms of HCC surveillance identified by Taylor et al (2017).

In the Bolton liver clinic, stable cirrhosis is defined as compensated cirrhosis at Child-Pugh stage A and no issues with symptom management. Standard practice follows NICE (2016) guidelines in asking patients with stable cirrhosis to attend every 6 months for a clinical review of LFTs, AFP and an ultrasound scan. Nurses take this opportunity to provide patients with personalised lifestyle advice on topics including include alcohol consumption, diet, bodyweight and risky behaviours.

It is hoped that these conversations may improve patients’ self-awareness and therefore avoid future episodes of deterioration and/or decompensation. In certain circumstances, patients are also offered telephone appointments to lessen the burden of numerous hospital visits. It was expected that adopting this quality approach would result in cost savings further down the line.

Conclusion

Nurse-led HCC surveillance is achievable as a service offering and is likely to result in a better-quality, more cost-effective service with increased patient participation and ultimately better outcomes for patients. Multidisciplinary team discussion and patient feedback are vital for future evaluation and development of the nurse-led clinics. Reviewing the purpose of HCC surveillance has been an important reminder about how best to approach this group of patients.


