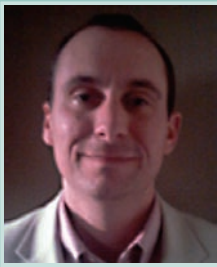


Review of Hepatocellular Carcinoma



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Hepatocellular carcinoma (HCC) was reported in ~24,000 patients in 2010 in the United States. The mortality, based on the stage at which the majority of cases were being diagnosed, is such that ~19,000 of these cases were recorded as cancer deaths in 2010, which translates as a five-year survival rate of ~12% [1]. The significance of this is that HCC has become the fastest growing cause of cancer death in the United States [2,3]. This epidemiological pressure can be visualised by the increasing incidence of cirrhosis, driven by the 3.2 million hepatitis C virus-infected patients in the US that rapidly expands the population at risk of developing HCC (Figure 1) [2]. HCC's global impact represents approximately 750,000 cases annually, making it the sixth most common cancer and the third leading cause of cancer death worldwide. Almost 300,000 of these cases are found in China, and about 52,000 in Africa. Over 85% of new HCC cases occur in developing countries [3].

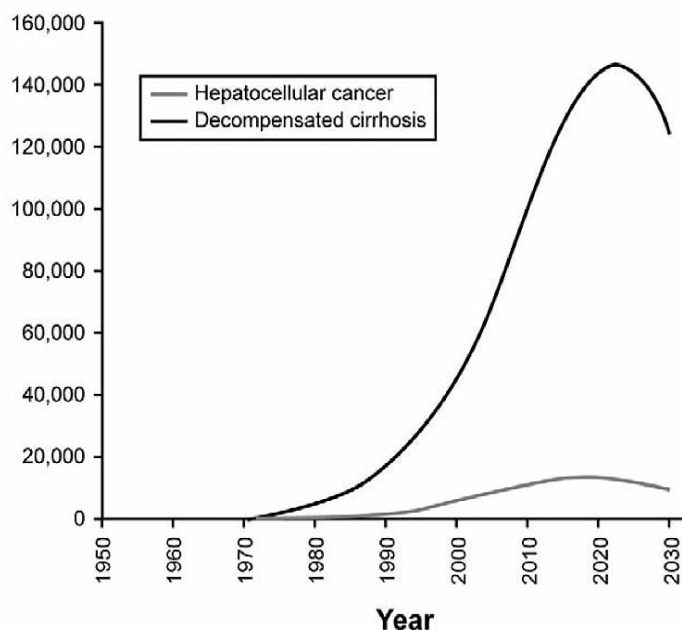
Unfortunately, despite better knowledge about the patients at risk and the increasing number of patients, the current penetration of or adherence to surveillance guidelines is only ~30% in patients who were diagnosed with HCC between 1994-2002 [4]. This seems to have contributed significantly to HCC's poor prognosis, as the vast majority of patients at risk were not actively or appropriately monitored, thus presenting with much later stage disease. Active surveillance of at risk groups is essential, either under the auspices of their primary care providers or at the level of the gastroenterology practice where they are being managed for their chronic hepatitis and/or cirrhosis. Current risk factors for HCC that indicate a patient should undergo surveillance with ultrasound every six months are: established cirrhosis, chronic hepatitis B virus (CHBV) infection and, to a yet to be fully defined degree, non-alcoholic steatohepatitis (NASH) [5].

With respect to treatment, over the last decade, further development in science has led to a broadening of treatment options for the HCC patient. Surgical resection or radio frequency ablation (RFA) in the non-cirrhotic or compensated cirrhotic patient population with HCC confined to the liver offer a five-year survival of around 60% [5]. With the introduction of an appropriate organ allocation measure, such as the Milan criteria (three lesions <3cm or one lesion <5cm), the transplant scenario has offered a five-year survival of ~70%, rivaling outcomes in patients transplanted for liver failure [6]. Trans-arterial chemoembolisation therapy (TACE) in patients who are not candidates for resection, RFA, or transplant, and have HCC confined to the liver without vascular invasion, gave a one-year survival of 60-80% [6]. In patients with more advanced HCC that is metastatic and/or invading the vasculature, oral systemic therapy with Sorafenib gave a one-year survival of ~44% [7]. This evidence-based multidisciplinary approach is best represented by the Barcelona Clinic for Liver Cancer (BCLC) Staging and Treatment guideline (Figure 2 overleaf).

HCC represents a current and emerging cancer epidemic in the US that urgently needs the concerted multi-disciplinary attention of the medical community. Given the fact that this is an emerging epidemic in which we have the privilege of foresight, we may be able to make a more significant difference. ■

Blue Faery: The Adrienne Wilson Liver Cancer Association is a 501(c)3 non-profit organisation. Our mission is to prevent, treat, and cure primary liver cancer, specifically HCC, through research, education, and advocacy. Visit our online website at <http://www.bluefaery.org>

Figure 1: Increasing prevalence of Cirrhosis due to HCV and its impact on HCC prevalence [2].



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Barcelona Clinic Liver Cancer (BCLC) Staging System, 2008

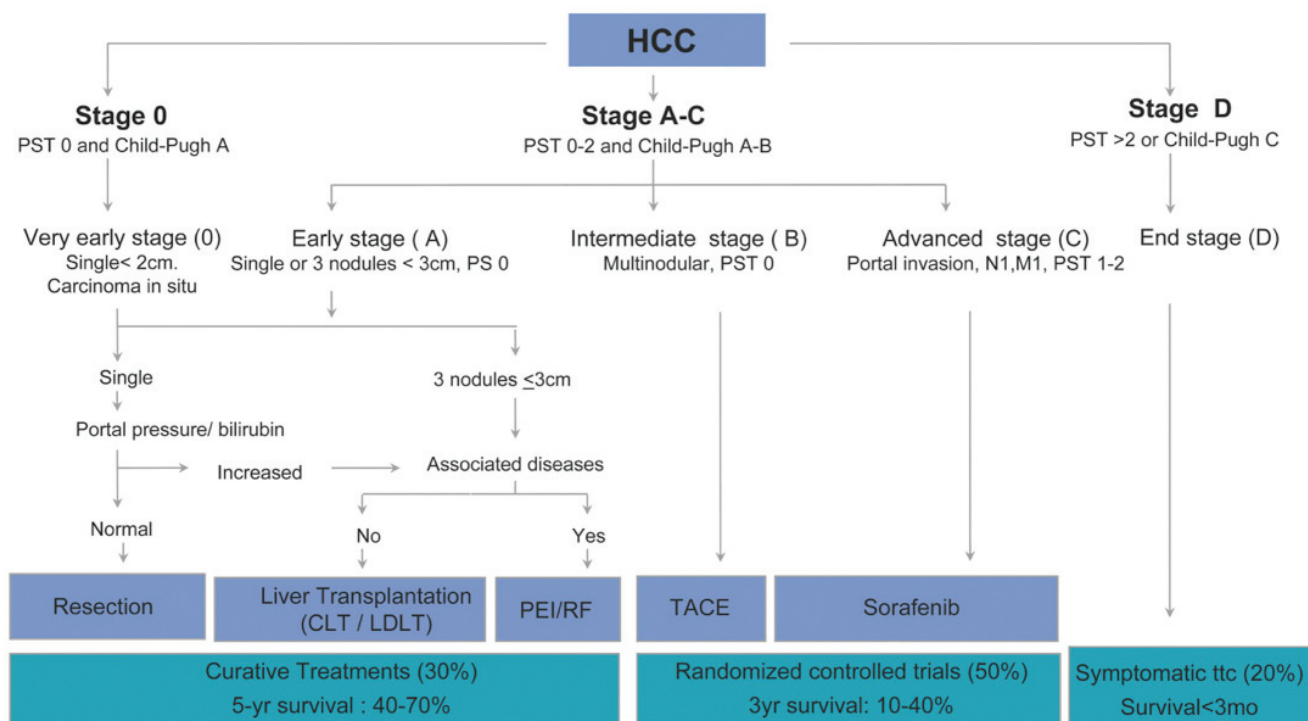


Figure 2: (Current stage-based evidence-based multidisciplinary approach to treating HCC).

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