

Evaluation and Management of Hepatocellular Carcinoma



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KEYWORDS

• Hepatocellular carcinoma • Evaluation • Management • Diagnosis • Treatment

KEY POINTS

- HCC is increasing in incidence.
- The role of HCC surveillance is to diagnose disease at a curative stage.
- Therapy for HCC is dependent upon the burden of tumor and degree of liver dysfunction.
- Potential curative options for HCC include hepatic resection, transplantation or ablation (in solitary lesion < 3 cm).
- Response to locoregional therapy, both radiographic and AFP decline, can be used to gain insight into tumor biology.

INTRODUCTION

The incidence of hepatocellular carcinoma (HCC) is increasing in the United States and is predicted to continue to increase.¹ Over the last several decades, the escalation in HCC has mirrored the increase in the incidence of hepatitis C virus (HCV)-induced cirrhosis, which carries the highest risk for the development of HCC, at an estimated 2% to 8% per year. The peak incidence of HCV-induced HCC is projected to occur in 2020. Despite an anticipated decline in HCV-induced cirrhosis and hence HCC, HCC related to nonalcoholic fatty liver disease is anticipated to increase.

There have been changing trends in the epidemiology of HCC in the United States, most notably with Hispanic men, who represent the fastest increase in the incidence of HCC, and a shift toward a younger age at diagnosis.²

Diagnosis at an incurable stage is associated with a dismal prognosis. Although there have been advancements in the treatment of HCC and a doubling of long-term survival, the overall 5-year survival remains low, at 18%, underscoring the need for novel therapeutic options.³

Disclosures: None.

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The management of HCC is complicated by the superimposed morbidity/mortality related to cirrhosis, which is present in 80% to 90% of cases of HCC. Treatment of HCC is equally dictated by tumor burden, degree of liver dysfunction (Child-Pugh [CP] class), and the patients' Eastern Cooperative Oncology Group (ECOG) performance status (Table 1). The Barcelona Clinic of Liver Cancer (BCLC) encompasses all these factors when making decisions regarding HCC therapy and is endorsed by the American and European associations (Table 2).⁴ More recently, a staging system from Hong Kong was published.⁵

Given the complexities of caring for a patient with HCC, the vital necessity of a multidisciplinary approach cannot be overstated. Improvement in patient outcome, including more patients receiving curative therapies and prolonged overall survival (OS), has been reported in the setting of a multidisciplinary team.⁶

In this article, the approach to patients at risk for the development of HCC and various treatment options are summarized.

RECOMMENDATIONS FOR HEPATOCELLULAR CARCINOMA SURVEILLANCE

The rationale for HCC surveillance is to diagnose at an early stage, when potential curative options are viable (resection, transplant, ablation). The recommendation for HCC surveillance is limited to a single randomized controlled trial (RCT) from China of 18,816 patients with hepatitis B that reported a 37% decrease in HCC mortality in those undergoing ultrasonography (US) + α -fetoprotein (AFP) every 6 months compared with the control group, despite low compliance in the surveillance group.⁷ The decline in mortality among the surveillance group was related to detection of early HCC in 60% compared with 0% in the control group and a resection rate of 47% among those randomized to US + AFP versus 7.5% in the nonsurveillance group. It is not clear if these findings would be applicable to patients with cirrhosis in the United States. Nonetheless, an RCT of HCC surveillance is unlikely because of ethical concerns, and the feasibility of such a study has been reported to be remote, with only 0.5% of patients agreeable to randomization.⁸

A meta-analysis,⁹ including more than 15,000 patients with cirrhosis, concluded that HCC surveillance led to earlier stage detection with improved curative treatment rates and OS. The results remained unchanged even after adjusting for lead time bias.

The screening interval is not determined by the risk for the development of HCC but rather the doubling time of HCC, which has been estimated to range from 1 to

Table 1 ECOG performance status	
Grade	ECOG
0	Fully active, able to carry on all predisease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature (eg, light house work, office work)
2	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair
5	Dead

From Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. *Am J Clin Oncol* 1982;5:649–55.

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