

COMMENTARY

Pretreatment assessment of hepatocellular cancer: expert consensus conference

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Hepatocellular carcinoma (HCC) is one of the most common malignancies worldwide, with a wide spectrum of risk factors. Owing to changes in the prevalence of major risk factors such as hepatitis and non alcoholic steatohepatitis, there are several classification systems for HCC developed from different patient populations. It is well established that HCC develops as a consequence of underlying chronic liver disease (CLD). Therefore, there are two co-existing competing causes of morbidity and mortality, poor liver condition and cancer. The two-disease state significantly affects prognosis, which ultimately dictates treatment decisions and stratification of patients with HCC.

Hence, most of the currently reported 18 HCC prognostic staging systems, as presented at the conference, include factors related to assessment of the liver condition, in addition to the tumor parameters.¹ However, construction of an internationally accepted and preferentially used staging system for HCC has proven to be a daunting task.

Therefore, there was no consensus on a single staging system that can predict prognosis reliably in all patients' populations, with different predisposing factors and tumor and CLD stage. The conference adeptly describes the problems with international communication on this very widespread cancer related to variable staging methods and different terminology and practice standards in different parts of the world.

Thus, there is an unmet need for prospective validation of different scoring systems within similar patient populations, and risk factors, an approach which will need large number of patients

to draw firm conclusions. Furthermore, advances in molecular approaches, using tissue and blood samples assays, to identify biologic factors related to outcome, are expected to minimize the marked heterogeneity noted in all scoring systems available. Further advances in the circulating biomarkers research are important in this setting, since some patients are not subjected to biopsy prior to treatment based on the criteria set forth by the practice committee of the American Association for the Study of Liver Diseases (AASLD),² and adopted by many centers around the world.

In addition, the imaging of HCC, as presented in this conference, is a reflection of current practice with inclusion of CT and MR scan, including appropriate and in depth documentation of imaging sequences and the use of all possible contrast agents on both modalities. However, the benefit and superior performance of state of the art MRI technology is emphasized, including MRI elastography, for evaluation of liver fibrosis, and diffusion-weighted imaging (DWI).

With the addition of these newer techniques, both sensitivity and specificity for HCC evaluation are improved. An appropriate cautionary comment is made regarding the risk of radiation exposure with the choice of CT scan in this CLD population who require many imaging tests over time. Although the question of surveillance is not addressed, diagnosis is appropriately covered. The omission of contrast enhanced ultrasound (CEUS) reflects the American environment where ultrasound and CEUS are not part of any investigative situation related to lack of Food and Drug Administration approval for ultrasound contrast agents in spite of their approval in at least 70 other countries of the world.^{3,4} Because of enthusiastic adoption of CEUS in the international community, the AASLD acknowledges the role of ultrasound in the diagnosis of HCC and the investigation of small nodules found on surveillance scans in those at high risk for HCC.²

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In considering a liver resection for HCC, there is no strict maximum size nor tumor number that contraindicates resection; however, patients with larger tumors and those with multifocal disease or tumor invasion into a portal or hepatic vein have a higher incidence of recurrence. Two important considerations for resection are patient's 'hepatic risk' (assessment of liver function and presence of portal hypertension) and the size of the future liver remnant (FLR). In patients with cirrhosis, both the Child-Pugh and the MELD scores provide a valuable assessment of normal liver function and PHT. More sensitive determinants of PHT include thrombocytopenia $<100,000$, or radiologic evidence of ascites, splenomegaly or portosystemic collateral veins. Additionally in cirrhotics, if the volumetric measurement of the FLR is $<40\%$ of the total liver volume (TLV), a portal vein embolization to induce hypertrophy of the FLR achieving at least a 10% increase in the FLV to at least 40% of the TLV should be performed to reduce the risk of liver failure following resection.⁵⁻⁷

Finally, the treatment of HCC and the reasons for selection of one treatment over another provides a fascinating picture of the difficult questions which arise in the management of the patient whose liver has CLD and is found to have such a tumor. Therefore, the efforts to standardize different aspects of HCC management, from liver nomenclature to staging and treatment choices were highlighted at the conference, which may evolve with good international communication.

Conflict of interest

None declared.

References

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