

## 22. Liver

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### Authors

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### Emerging Prognostic Factors for Clinical Care

#### c-Met

c-Met receptor tyrosine kinase is the focus of several clinical trials of tyrosine kinase inhibitors and monoclonal antibodies as a therapeutic target. A prognostic impact has been suggested,<sup>1</sup> but this has yet to be assessed in larger, prospective studies.

#### Insulin-like Growth Factor 1

Insulin-like growth factor 1 (IGF-1) has been shown to correlate with hepatic reserve in patients with HCC.<sup>2</sup>

#### Vascular Endothelial Growth Factor

Higher plasma levels of vascular endothelial growth factor (VEGF) have been shown to correlate significantly with advanced clinicopathologic parameters and poor overall survival.<sup>3</sup>

### Risk Assessment Models

The AJCC recently established guidelines that will be used to evaluate published statistical prediction models for the purpose of granting endorsement for clinical use.<sup>4</sup> Although this is a monumental step toward the goal of precision medicine, this work was published only very recently. Therefore, the existing models that have been published or may be in clinical use have not yet been evaluated for this cancer site by the Precision Medicine Core of the AJCC. In the future, the statistical prediction models for this cancer site will be evaluated, and those that meet all AJCC criteria will be endorsed.

### Recommendations for Clinical Trial Stratification

The following stratification criteria stem from the prognostic factor analyses that are suggested for use in clinical trials focusing on HCC, depending on the specific objectives of the study, the cancer stage(s), and the population under study, including sample size.

For curative studies:

Extent of local disease

For locally advanced palliative studies:

Extent of locally advanced disease

For advanced disease studies:

Locally advanced versus metastatic

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Macrovascular invasion

For all studies:

Extent of fibrosis, if applicable  
Assessment of cirrhosis (Child–Pugh score)  
Etiology  
Geography  
AFP level

### Bibliography

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