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Topic : Liver

SUPERIOR PROGNOSTIC PERFORMANCE OF THE AFP MODEL OVER MILAN CRITERIA FOLLOWING HEPATIC RESECTION FOR HEPATOCELLULAR CARCINOMA: A MULTI-INSTITUTIONAL ANALYSIS

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Background : While both the Milan criteria and French alpha-fetoprotein (AFP) model effectively predict outcomes after liver transplantation for hepatocellular carcinoma (HCC), their comparative value in hepatic resection remains unclear. This study evaluated the prognostic performance of the AFP model versus Milan criteria following curative resection for HCC.

Methods : A retrospective analysis of patients undergoing curative hepatic resection for HCC across multiple Chinese institutions was conducted. Recurrence and survival outcomes were compared between groups stratified by the AFP model and Milan criteria. Predictive performance was assessed using time-dependent net reclassification improvement (NRI) and area under ROC curve analyses.

Results : Analysis included 1,968 patients with median follow-up of 54.3 months. The AFP model demonstrated superior predictive ability versus Milan criteria for both recurrence and survival (5-year recurrence: 57.4% vs 33.8% for beyond/within AFP model; 58.7% vs 35.2% for beyond/within Milan; $P<0.001$). Time-dependent analyses confirmed better discrimination by the AFP model, particularly for early recurrence. Among patients beyond Milan criteria, the AFP model identified a high-risk subgroup with significantly worse outcomes (5-year survival: 48.1% vs 67.0%; HR=1.598; $P<0.001$).

Conclusions : The AFP model outperforms Milan criteria in predicting post-resection outcomes for HCC, enabling more precise risk stratification. This enhanced prognostic capability could improve patient selection and guide personalized treatment strategies, particularly for cases beyond Milan criteria.

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