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Association of postoperative biomarker response with recurrence and survival in patients with hepatocellular carcinoma and high alpha-fetoprotein expressions (> 400 ng/mL)

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Introduction: High alpha-fetoprotein (AFP) expressions (> 400 ng/mL) are associated with poor oncological characteristics for hepatocellular carcinoma (HCC). However, prognosis after liver resection for high-AFP HCC is poorly studied. To investigate long-term recurrence and survival after hepatectomy for high-AFP HCC, and to identify the predictive value of postoperative incomplete biomarker response (IBR) on overall survival (OS) and recurrence-free survival (RFS).

Methods: Patients undergoing curative resection for high-AFP HCC were analyzed. According to the decline magnitude of serum AFP as measured at first follow-up (4–6 weeks after surgery), all patients were divided into the complete biomarker response (CBR) and IBR groups. Characteristics, recurrence, and survival rates were compared.

Results: Among 549 patients, the overall and early recurrence rates in patients with IBR were significantly higher than patients with CBR (97.8% vs. 56.4%, and 92.5% vs. 33.3%, both $p < 0.001$). On multivariate analysis, postoperative IBR was the strongest risk factor with the highest hazard ratio in predicting poor OS (2.97; 2.49–3.45; $p < 0.001$) and RFS (4.29; 3.31–5.55; $p < 0.001$).

Conclusions: Postoperative biomarker response of serum AFP can be used in predicting recurrence and survival for high-AFP HCC patients. Once postoperative IBR was identified at first follow-up, subsequent enhanced recurrence surveillance and available treatments against recurrence should actively be considered.

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