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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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