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Tumor markers at the time of liver transplantation: reliable predictors of hepatocellular carcinoma recurrence after locoregional treatment.

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Introduction : Prediction of the hepatocellular carcinoma (HCC) recurrence after liver transplantation (LT) is important for clinicians to make a treatment decision. Alpha fetoprotein (AFP) and protein induced by vitamin K absence-II (PIVKA-II) are useful tumor markers for HCC. We conducted a study of 158 HCC patients underwent liver transplantation after locoregional treatment to clarify when is optimal time point to assess HCC recurrence from serum tumor maker.

Methods : We retrospectively recruited data of AFP and PIVKA-II at various time points; at the time of LT, pre-LT maximum, pre-LT minimum, maximum after last LRT. Also we found cutoffs of two markers for HCC recurrence and assessed hazard ratio (HR) of cutoffs adjusted with cancer staging on explanted pathology, Esmond grade, liver function and total number of pretransplant LRT.

Results : AFP at LT (cutoff 20 ng/mL; HR 3.67, 95% CI 1.86-7.25), maximum AFP after last LRT (cutoff 75 ng/mL; HR 2.60, 95% CI 1.36-4.99) were independently predictive for HCC recurrence. PVIKA-II at LT (cutoff 2.22 mAU/mL; HR 2.22, 95% CI 1.05-4.67), maximum PIVKA-II after last LRT (cutoff 130 mAU//mL; HR 2.38, 95% CI 1.16-4.89) were also significantly associated with HCC recurrence. Pretransplant maximum level or degree of decline of both tumor markers were not significant factors.

Conclusions : Current study demonstrated that AFP and PIVKA-II at the time of LT were reliable predictors of hepatocellular carcinoma recurrence after locoregional treatment regardless of maximum pretransplant values. Clinicians can rely on the current level of tumor markers at the time of LT.

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