LV BEST OP 4

Preoperative Prediction Score of Hepatocellular Carcinoma Recurrence in Living Donor Liver Transplantation: Validation of SNAPP score Developed at Asan Medical Center

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Introduction : The previously proposed scoring systems are not readily available due to the lack of simplicity for predicting hepatocellular carcinoma (HCC) recurrence. We aimed to develop and validate the new score system, which can predict HCC recurrence after living donor liver transplantation (LDLT) by using morphologic and biologic data.

Methods : Predictors for HCC recurrence after LDLT were developed (n = 627) and validated (n = 806) in 1433 patients who could collect information to date between 2007 and 2016 at Asan Medical center (AMC) to create the SNAPP score [tumor Size and Number, alpha-fetoprotein (AFP), vitamin K absence-II (PIVKA-II), positron emission tomography (PET)].

Results : On logistic regression based on 3-year recurrence-free survival, the SNAPP factors were independently associated with HCC recurrence. The SNAPP score was highly predictive of HCC recurrence (C statistic, 0.920), and 5-year post-LT recurrence rates were significantly different between low, intermediate, and high SNAPP score groups. The performance of the SNAPP score (C-index [95%CI], 0.840 [0.801-0.876]) on predicting tumor recurrence after LDLT was better than that of the NYCA, the RETREAT, and the MoRAL score.

Conclusions : The SNAPP score provides excellent prognostication after LDLT for HCC patients. Hence, we can help voluntary patients' decisions about whether to undergo LDLT or not.

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