Pretransplant hepatic malignancy increases risk of de novo malignancy after liver transplantation

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Background: Hepatocellular carcinoma (HCC) recurrence and development of de novo malignancy (DNM) after liver transplantation (LT) are the major causes of late recipient death.

Methods: We analyzed the incidence of extrahepatic DNM following living donor LT according to the status of pretransplant hepatic malignancy. We selected 2,076 adult patients who underwent primary LDLT during 7 years from January 2010 to December 2016.

Results: The pretransplant hepatic malignancy group (n=1,012) showed 45 cases (4.4%) of the following extrahepatic DNMs: posttransplant lymphoproliferative disease (PTLD) in 10; lung cancer in 10; stomach cancer in six; colorectal cancer in five; urinary bladder cancer in three; and other cancers in 11. The pretransplant no hepatic malignancy group (n=1064) showed 25 cases (2.3%) of the following extrahepatic DNMs: colorectal cancer in three; stomach cancer in three; leukemia in three; lung cancer in three; PTLD in two; prostate cancer in two; and other cancers in nine. Incidences of extrahepatic DNM in the pretransplant hepatic malignancy and no hepatic malignancy groups were as follows: 1.1% and 0.5% at 1 year, 3.2% and 2.0% at 3 years, 4.6% and 2.5% at 5 years, and 5.4% and 2.8% at 8 years, respectively (P=0.006). Their overall patient survival rates were as follows: 97.3% and 97.2% at 1 year, 91.6% and 95.9% at 3 years, 89.8% and 95.4% at 5 years, and 89.2% and 95.4% at 8 years, respectively (P<0.001). Pretransplant hepatic malignancy was the only significant risk factor for posttransplant extrahepatic DNM.

Conclusions: Our results suggest that patients who had pretransplant hepatic malignancy be followed up more strictly because they have a potential risk of primary hepatic malignancy recurrence as well as a higher risk of extrahepatic DNM than patients without pretransplant hepatic malignancy.

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