Liver Transplantation for Hepatocellular Carcinoma in the MELD Era: Leading Roles of MELD Score, AFP Level, and Recipient Age as Predictors of Survival

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Dear Editor,

Adequate patient selection criteria and predictors of long-term survival are topics of major interest and discussion in liver transplantation (LT) for hepatocellular carcinoma (HCC). In a recent publication in *Digestive Diseases and Sciences*, in a study performed by our group on live-donor liver transplantation under a liberal HCC policy, sophisticated multivariable statistical analysis showed that while patient age >60 years and MELD >22 were negative predictors of short-term outcome, patient age >60 years and AFP >400 ng/ml inversely correlated with long-term survival [1, 2]. The above-mentioned cut-off values were statistically derived and not arbitrarily defined.

We were very excited to find out that almost the same predictors were defined by the largest contemporary series under a conservative HCC transplant policy, including 5,776 HCC transplant recipients [3]. Indeed, in a quasi-simultaneous publication in *Gastroenterology*, Ioannou and co-workers reviewed the United Network for Organ Sharing (UNOS) database for LT performed between 1997 and 2007 and concluded that the adoption of MELD led to a 6-fold increase in the transplantation of HCC patients [3]. They also observed that recipients with solitary HCC 3–5 cm in size, α -fetoprotein (AFP) levels ≥ 455 ng/ml (hazard ratio, 2.15; 95% CI: 1.5–2.0), MELD scores ≥ 20 (hazard ratio, 1.61; 95% CI: 1.3–2.1), age (hazard ratio,

1.32; 95% CI: 1.0–1.7 for age >61 years), and AFP ≥ 455 ng/ml combined with MELD ≥ 20 had a detrimental effect on survival [3].

The observation that MELD scores and AFP levels are predictors of survival is certainly of great clinical importance. Since age >60 years was also associated with diminished survival in the UNOS series, it would be interesting to have the risk of death in the UNOS recipients when combining AFP ≥ 455 ng/ml, MELD ≥ 20 , and age ≥ 61 , which is unfortunately not provided. However, as it is clearly shown by these two contemporary and simultaneous studies, with liberal or conservative transplant HCC policy in Europe and USA, respectively, this new combination could prove to be an even better and applicable tool to evaluate patients with HCC and cirrhosis!

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