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Survival outcomes according to the Milan criteria after living donor liver transplantation in 359 patients with hepatocellular carcinoma

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Purpose: To investigate survival outcomes after living-donor liver transplantation (LDLT) for hepatocellular carcinoma (HCC) according to the Milan criteria and find the associated risk factors for survival outcomes.

Methods: We included 359 patients with HCC undergoing LDLT in this study. Overall survival (OS) and HCC recurrence-free survival (RFS) were analyzed, and risk factors for these outcomes were assessed.

Results: The 3- and 5-year OS rates of WM patients were better than those of BM patients (93.5% and 87.3% vs. 69.4% and 64.1%, respectively; $P < 0.001$). The 3- and 5-year RFS rates of WM patients were also better than those of BM patients (90.4% and 87.6% vs. 61.2% and 57.8%; $P < 0.001$). In total patients, unfavorable factors for RFS were AFP >400 ng/mL, largest tumor size, Edmondson-Steiner histologic grade III–IV, microvascular invasion, and satellite nodule, which were also identified as risk factors in the multivariate analysis of OS. Microvascular invasion was the only unfavorable factor of RFS in WM patients, whereas SFSS, AFP >400 ng/mL, largest tumor size, microvascular invasion, and satellite nodule were unfavorable factor of RFS in BM patients.

Conclusion: After LDLT for HCC, the OS and RFS rates of WM patients are better than those of BM patients. Risk factors affecting the RFS after LDLT should be distinguished according to the Milan criteria.