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Technical Feasibility And Outcome Of Salvage Living Donor Liver Transplantation After Major Hepatectomy

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Background : Salvage living donor liver transplantation (LDLT) is technically challenging due to adhesions caused by previous liver resection (LR) in addition to the inherent difficulties short vasculo-biliary stumps and co-existing vasculo-biliary injury. The purpose of this study was to assess the technical feasibility of LDLT after major hepatectomy and determine whether there was a difference in surgical outcome according to the type of LR received previously.

Methods : We retrospectively reviewed the medical records of consecutive 83 patients who underwent LDLT after major hepatectomy from December 2004 and June 2022, at Asan medical center, Seoul, Korea.

Results : Among 83 patients, 74 patients underwent salvage LDLT for recurrent hepatocellular carcinoma. Of the 74 patients, 44 patients received right hemihepatectomy (RL group) and 30 patients received left hemihepatectomy (LL group) prior to LDLT. The operative time longer (mean ±SD, 861.05±151.02 vs. 737.67±94.61 min; p = 0.000) and intraoperative RBC (median (IQR), 8 (2, 19.5) vs. 0.5 (0, 6) units; p = 0.003) and FFP (8.5 (0, 19) vs. 0 (0, 6) units; p = 0.003) transfusion requirements were higher in the RL group. In the RL group, the incidence of postoperative surgical complication was higher, but not statistically significant (45.45% vs. 30.0% p=0.181). No difference was detected regarding survival rate. The 1-, 3-, and 5-year overall survival rates were 93.2%, 80.5%, and 80.5%, respectively, for the RL group, and 96.7%, 85.5%, and 85.5%, respectively, for the LL group (P=0.789). The 1-, 3-, and 5-year disease-free survival rates were 84.0%, 76.3%, and 76.3%, respectively, for the RL group, and 83.3%, 76.1%, and 66.6%, respectively, for the LL group (P=0.628).

Conclusions : Salvage LDLT can be safely performed for patients with recurrence or deterioration of liver function even after major hepatectomy. However, salvage LDLT is technically demanding procedure, it should be performed by experienced transplant surgeon.

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