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The High-Volume Center Experience In Living Donor Liver Transplantation For Patients With Secondary Biliary Cirrhosis Due To Hepatolithiasis

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Background : Due to its complicated pathological characteristics, including recurrent suppurative cholangitis and multiple surgical interventions, the management of hepatolithiasis challenges and often leads to conditions like portal hypertension and hepatic failure. This study aimed to validate living donor liver transplantation (LDLT)'s efficacy for treating secondary biliary cirrhosis (SBC) from hepatolithiasis and propose a secure surgical technique.

Methods : The medical records of 6772 patients who underwent LDLT between December 1994 and December 2022 at the Asan Medical Center (Seoul, South Korea) were retrospectively reviewed. A total of 30 patients, who presented with SBC resulting from hepatolithiasis as an indication for LDLT, were included in this study.

Results : The mean time between the first diagnosis of hepatolithiasis and the indication for transplantation was 163.3 ± 101.3 months (range: 7–375 months). The mean model for end-stage liver disease score was 18.7 ± 7.5 (range: 7–35), and 27 patients had a history of hepatobiliary surgery. The mean RBC transfusion requirement during operation was 37.6 ± 45.7 units (range: 0–213 units), and the median operative duration was 984 ± 195 minutes (range: 625–1391 minutes). The perioperative morbidity and in-hospital mortality rates were 50.0(15/30)% and 13.3(4/30)%, respectively, higher than those of patients receiving LDLT for other indication. The overall mean recipient follow-up was 85.0 ± 73.7 months (range: 0–238 months). Patient survival rates after 1, 3, 5, and 10 years following transplantation were 76.1%, 76.1%, 71.9%, and 64.7%, respectively. For liver grafts, the survival rates were 72.7%, 72.7%, 72.7%, and 59.7%, at 1, 3, 5, and 10 years, respectively.

Conclusions : Based on our experience, we believe that LDLT can serve as the final life-saving resort for patients with hepatolithiasis and SBC in end-stage liver disease. The use of veno-venous bypass during total hepatectomy can effectively decrease the occurrence of massive intraoperative bleeding.

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