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# Outcomes and biliary complications of staged biliary reconstruction in living donor liver transplantation: A Propensity Score Matched Analysis.

**Teng Yuan Hou[1]**, Chih-Chi Wang[2], Chao-Long Chen[2], Chih-Che Lin[2], Shih-Ho Wang[2], Chee-Chien Yong[2], Tsan-Shiun Lin[3], Wei-Feng Lee[2], Cheng-Hsi Yeh[2]

[1]Department of Surgery, Kaohsiung Chang Gung Memorial Hospital, Chinese Taipei
[2]Department of Transplantation Surgery, Kaohsiung Chang Gung Memorial Hospital, Chinese Taipei
[3]Department of Plastic and Reconstructive Surgery, Kaohsiung Chang Gung Memorial Hospital, Chinese Taipei

**Introduction:** Uncontrolled massive bleeding and bowel edema are critical issues during performing liver transplantation. In encountering these circumstances, temporal intra-abdominal packing with staged biliary reconstruction (SBR) had been mentioned as comparable results in deceased donor liver transplantation. However, data in living donor liver transplantation (LDLT) are scarce. Therefore, we aim to analyze the survival and biliary complications of SBR in LDLT.

**Methods:** From January 1, 2009, to January 31, 2020, 1269 patients underwent LDLT at Kaohsiung Chang Gung Memorial Hospital. Among them, 55 Patients receiving LDLT with SBR were included in SBR group. One-to-two propensity score matching was performed by age, gender, blood loss, MELD score, Child-Pugh score, and operation period. 110 patients receiving one-stage biliary reconstruction (OSBR) LDLT are as OSBR group. Primary outcomes were graft and patient survival. Secondary outcomes were postoperative biliary complications.

**Results:**

The mean follow-up was 63 months. Mean blood loss was 8987 mL in SBR group and 8582 mL in OSBR group. Patients in SBR Group had more abdominal operation history (49.1% vs 25.5%; p=0.002), longer anhepatic time (86 vs 67 mins; p=0.007), and more intraoperative blood transfusion (32 vs 19 units of leukocyte-poor red blood cells; P=0.010) comparing to OSBR group. Roux-en-Y hepatico-jejunostomy was performed in 74.55% (SBR group) and 3.64% (OSBR group) (p<0.001). Patients receiving SBR-LDLT had higher incidence of sepsis (69.01% vs 43.64 %; p=0.002), intra-abdominal infection (60.0% vs 30.9%; p<0.001) and antibiotic duration (35 vs 18 days; p<0.001) compared to OSBR-LDLT. Biliary complication rates (30.9% vs 21.8%; p=0.203) and 1-and 5-year survival rates for graft (87.27%, 74.60% vs 83.64%, 72.71%; p=0.978) and for patient (89.09%, 78.44% vs 84.55%, 73.70%; p=0.752) were comparable between two groups.

**Conclusion:** Despite a higher post-operation complication rate, the long-term survival and biliary outcome of SBR group are comparable. SBR is a life-saving procedure for patients in complex critical LDLT.