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LigaSure versus monopolar cautery for recipient hepatectomy in liver transplantation: A propensity score-matched analysis

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Introduction: The recipient hepatectomy process during liver transplantation is one of the most challenging parts of surgery because massive bleeding may be expected. The energy device has an excellent hemostatic effect with the sealing effect compared to the monopolar cautery. The purpose of this study was to compare and analyze the usefulness of the energy device with monopolar cautery in liver transplantation.

Methods: We reviewed those who underwent liver transplantation from March 2019 to June 2020. A total of 187 recipients who underwent liver transplantation were included in this study. Sixty-nine cases of recipient who underwent recipient hepatectomy with LigaSure 118 cases included as a control group. We used propensity score matching to adjust baseline characteristics and possible factor that affects postoperative bleeding.

Results: Blood loss and total amounts of RBC transfusion were not different between both groups (mean, $5,486.5 \pm 9,024.6$ vs. $4,754.3 \pm 6,819.5$ cc; $p = 0.592$; 11.01 ± 13.75 vs. 10.21 ± 12.52 pack; $p = 0.447$). The rates of bleeding and infectious complication were significantly lower in the LigaSure group than in the monopolar cautery group (3/69, 4.35% vs. 13/69, 18.8%; $p = 0.015$ and 1/69, 1.45% vs. 9/69, 13.0%; $p = 0.017$). The length of postoperative hospital stay was shorter in the LigaSure group (mean, 23.1 ± 16.1 vs. 39.6 ± 58.2 days; $p = 0.024$).

Conclusions: Recipient hepatectomy using the LigaSure energy device had a shorter hospital stay due to fewer re-operations rate and postoperative bleeding. And it also had fewer secondary complications related to bleeding than the conventional monopolar cautery group.

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