

## Complete Transition From Open To Laparoscopy: 8-year Experience With More Than 500 Laparoscopic Living Donor Hepatectomy.

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**Background :** This study was designed to review the laparoscopic living donor liver transplantation of a single center of which achieved complete transition from open to laparoscopy.

**Methods :** Living donor liver transplantations performed during 2013 to July 2021 were reviewed. Comparison between open and laparoscopy were performed according to period divided into initial, transition and complete transition period.

**Results :** A total of 775 living donor liver transplantations, 506 laparoscopic and 269 open cases were performed. Complete transition was achieved since 2020. Bile duct variation were significantly abundant in the open group both in the initial period (30.2% vs. 8.1%,  $P<0.001$ ) and transition period. (48.1% vs. 24.3%,  $P<0.001$ ) Portal vein variation was more abundant in the open group only in the initial period. (13.0% vs. 4.1%,  $P=0.032$ ) Although donor's reoperation rate (0.0% vs. 4.1%,  $P=0.016$ ) and  $\geq$  grade III complication rate (5.6% vs. 13.5%,  $P=0.026$ ) were significantly higher in the laparoscopy group in the initial period, there were no differences during transition period as well as overall cases. Median number of opioids required by the donor (3 times, IQR 1–6 vs. 1 time, IQR 0–3,  $P<0.001$ ) was lower and median hospital stay (10 days, IQR 8–12 vs. 8 days, IQR 7–9,  $P<0.001$ ) was shorter in the laparoscopy group. Overall recipient's bile leakage rate (23.8% vs. 12.8%,  $P<0.001$ ) and overall  $\geq$  grade III complication rate (44.6% vs. 37.2%,  $P=0.009$ ) were significantly lower in the laparoscopy group.

**Conclusions :** Complete transition to laparoscopic living donor hepatectomy was possible after accumulating significant amount of experience. Since donor morbidity can be higher in the initial period, donor selection for favorable anatomy is required for both the donor and recipient.

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