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Clinical outcomes of Laparoscopic living donor right hepatectomy without Pringle's and Hanging maneuver

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Introduction : Careful preparation and blood-saving surgery will significantly lower the postoperative morbidity in laparoscopic liver resection (LLR). To reduce bleeding during hepatectomy, it is significant to decrease central venous pressure (CVP) and apply Pringle's & hanging maneuver (P&H). However, P&H are cumbersome and has the potential for further injury by excessive mobilization and dissection of inferior vena cava and right lobe of liver, especially in living liver donors. We would like to present the experience and outcomes of laparoscopic living donor right hepatectomy (LDRH) performed without P&H.

Methods : Between December 2014 and October 2018, among 97 cases of living donor right hepatectomy, 50 donors underwent LDRH. During LDRH, mean pneumoperitoneal pressure was 12 mmHg and CVP was less than 5 mmHg. The right liver was mobilized to the inferior half portion of retrohepatic IVC and large right inferior hepatic veins were preserved. The caudal approach without P&H was applied for liver parenchymal transection. The V5 and V8 for reconstruction were also preserved until just before the right hepatic duct transection.

Results : Mean total operation time was 367 minutes and the warm ischemic time was 9.2 minutes. No donors required blood transfusion, conversion to open surgery, and re-operation. The postoperative course was uneventful. All donors' liver function was recovered to normal range within 2 weeks and mean postoperative hospital stay was 8 days.

Conclusions : Conclusively, LLR under low CVP and constant pneumoperitoneal pressure without P&H can help reduce blood loss and prevent further liver graft injury by excessive mobilization of liver.

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