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**Introduction of minimal invasive living donor liver transplantation: Hybrid cases and Totally laparoscopic living donor liver transplantation with partial clamping of the inferior vena cava**

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As minimal invasive surgery is increasingly performed in liver surgery, the procedure is starting to expand throughout the leading centers. Until now our center performed 2 hybrid cases with laparoscopic explant hepatectomy combined with implantation using upper midline incision and 3 cases of totally laparoscopic living donor liver transplantation. Among the 3 cases, the second case was converted to open surgery. The laparoscopic explant hepatectomy was performed with the patient in French position and the usual trocar insertion. Clamping of the portal vein was delayed to the last step for minimizing bowel congestion. After mobilization of most of the liver, portal vein was clamped, and hepatic vein was ligated using laparoscopic stapler. Inferior vena cava was partially clamped using Aortic clamp inserted through the epigastric incision. Hepatic vein, portal vein, hepatic artery and bile duct anastomosis was performed with the usual method mimicking open procedure. The total operation time of the first two hybrid cases were 279 and 312 minutes respectively. The total operation time of the three totally laparoscopic living donor liver transplantations were 315 minutes, 455 minutes, and 595 minutes respectively. All the recipients were discharged without delay in the usual post-transplantation course.