Impact of previous abdominal surgery on laparoscopic donor hepatectomy for living donor liver transplantation

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Background: Laparoscopic donor hepatectomy (LDH) has many advantages over open donor hepatectomy. However, previous abdominal surgical history can be considered to cause difficulties in laparoscopic surgery. Few studies have evaluated the impact of previous abdominal surgery (PAS) on LDH. Therefore, we studied the effect of PAS on LDH.

Methods: This study is a retrospective study conducted at a single center. We reviewed the data of 361 patients who underwent LDH at Samsung Medical Center from January 2017 to December 2020. These patients divided into 72 patients with PAS group and 289 patients with non-PAS group. Two groups were compared with respect to operation factors such as estimated blood loss, operation time, and intraoperative blood transfusion. Postoperative outcomes such as length of hospital stay, postoperative complications, aspartate transaminase (AST), alanine transaminase (ALT), and international normalized ratio (INR), albumin, and total bilirubin trends (preoperative, peak-postoperative, and after 1 month) were also compared.

Results: Seventy-two patients has previous abdominal surgical history (cholecystectomy, four; splenectomy, one; pyloromyotomy, one; cesarean section, 28; appendectomy, 19; uterine surgery, eight; ovarian surgery, seven; hernia repair, three; laparoscopic anterior resection, one). There was no statistical difference in estimated blood loss and operation time between the two groups. No donors received intraoperative blood transfusion. Complications occurred in seven patients (9.7%) in the PAS group and in 26 patients (9%) in the non-PAS group, and there was no statistical difference between the two groups. There were no significant differences in the changes in AST, ALT, INR, albumin, and total bilirubin (preoperative, postoperative and 1 month). All donors fully recovered and returned to their normal activities.

Conclusions: The outcomes of our study show the feasibility and safety of LDH in patients with previous abdominal surgical history. Therefore, even if there is a history of PAS, LDH can be performed safely enough, so it is not a contraindication.

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