A Single Center Experience for a Feasibility of Totally Laparoscopic Living Donor Right Hepatectomy

Min-Su Park, M.D., Ph.D.

Department of Surgery, Kyung Hee University Hospital, Kyung Hee University School of Medicine, Seoul, Korea

Liver transplantation from living donors is a potential treatment for end-stage liver disease. With advancement of laparoscopic techniques and development of surgical devices, laparoscopic liver resection is becoming increasingly popular because of the minimal invasiveness and excellent cosmetic outcomes. However, owing to technical difficulties, pure laparoscopic donor hepatectomy develops relatively slowly. Pure laparoscopic donor hepatectomy has the great advantage of reducing morbidity, minimizing tissue trauma, and improving postoperative pain and cosmetic outcome. However, pure laparoscopic donor hepatectomy may result in a longer operation time and increased risk of bile duct injury. With continuous technical development and building experience for standardization of the technique, pure laparoscopic donor hepatectomy is expected to be further expanded in the future.

Keywords: Laparoscopy, Hepatectomy, Living donors, Liver transplantation

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Corresponding author

Min-Su Park

Department of Surgery, Kyung Hee University Hospital, Kyung Hee University School of Medicine, 26 Kyunghee-daero, Dongdaemun-gu, Seoul 02447, Korea

Tel: +82-2-958-8241

Fax: +82-2-966-9366

E-mail: ikireida@hanmail.net

ORCID:

<https://orcid.org/0000-0002-0707-2969>

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Liver transplantation is a potential treatment for end-stage liver disease. Because of an organ shortage, living donor liver transplantation (LDLT) has recently taken the place of deceased donor livers. To reduce morbidity and improve cosmetic outcome, various minimally invasive donor surgeries, including pure laparoscopic donor hepatectomy, have been attempted. Laparoscopic liver resections lead to less blood loss, less wound-related morbidity, decreased postoperative morbidity, and shorter length of stay.^{1,2} Improved laparoscopic techniques, better visualization of the operative field, and use of specialized laparoscopic instruments for transecting the liver parenchyma have allowed laparoscopic liver resection to be performed more widely. In 2002, the first case of laparoscopic donor hepatectomy was reported.³ Full laparoscopic donor right hepatectomy (LDRH) for adult LDLT was reported

afterwards.^{4,5} However, owing to technical difficulties, it can only be recommended to be performed by highly experienced surgeons and transplantation teams.

This study compared the outcomes of conventional open donor hepatectomy (CDRH) and LDRH based on retrospective analysis of a single-center experience. Previous studies reported that LDRH reduced morbidity, minimized tissue trauma, and improved postoperative pain and cosmetic outcome.⁶ Adequate liver mobilization, minimized hepatic injury and improved visualization by advanced laparoscopic techniques lead to the rapid recovery of patients and shorter hospital stay compared to open surgery. In this study, LDRH showed reduced blood loss and few complications. Donor safety is the most important problem in LDLT, and it is emphasized that the long operating time and increased risk of bile duct injury

are important factors that need to be overcome in the future for donor safety. It should also be noted that this study is limited in that it was retrospective with a small number of patients and therefore subject to selection bias. However, the authors presented valuable data with a specific focus on LDRH for LDLT. It is expected that a collection of small retrospective studies such as this study will provide good evidence of the benefits of LDRH. LDRH is an appropriate minimally invasive procedure for living donor hepatectomy that is expected to be expanded further in the future.

CONFLICT OF INTEREST

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