

# Total laparoscopic living donor right hepatectomy

Ho-Seong Han · Jai Young Cho · Yoo-Seok Yoon ·  
Dae Wook Hwang · Young Ki Kim ·  
Hong Kyung Shin · Woohyung Lee

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## Abstract

**Background** Right lobe living donor liver transplantation (LDLT) is the predominant form of adult-to-adult LDLT. Accordingly, cosmetic and functional demand by young donors is increasing. We developed the world first total laparoscopic donor right hepatectomy (LDRH) in adult living donors.

**Methods** Total LDRH was performed in two young donors without vascular clamping. Modified extended right graft (right liver including all the middle hepatic vein branches) was retrieved from suprapubic transverse incision.

**Findings** After full mobilization of right liver, hilar dissection was done. First, right portal vein was isolated under retracting common bile duct laterally. Right hepatic artery was cautiously dissected and isolated without injuring. An exact transection line was drawn during transient clamping of the hepatic artery and portal vein on the right side of the liver using bulldog clamp. Dissection was meticulously performed along the right side of the middle hepatic vein until the origin of middle hepatic vein until exposure of the hilar plate. Anterior section vein branches (V5 and V8) were finely dissected and were reconstructed using an artificial vascular graft. A modified extended right graft

with preservation of the middle hepatic vein branches was extracted through the suprapubic incision. There was no complication in both donors and recipients. Postoperative hospital stay of donors was 10 and 8 days, respectively. After follow-up of more than 1 year, all donors and recipients live well with normal liver function.

**Conclusion** Total LDRH was feasible in selected adult donors. If this procedure will be more standardized, then total LDRH will be new option for adult LDLT, which meets demand by donors and diminish guilty feeling by recipients [1–5].

**Keywords** Liver transplantation · Living donor · Right liver graft · Cosmesis

**Disclosures** Ho-Seong Han, Jai Young Cho, Yoo-Seok Yoon, Dae Wook Hwang, Young Ki Kim, Hong Kyung Shin and Woohyung Lee have no conflicts of interest.

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H.-S. Han · J. Y. Cho (✉) · Y.-S. Yoon ·  
D. W. Hwang · Y. K. Kim · H. K. Shin · W. Lee  
Department of Surgery, Seoul National University Bundang  
Hospital, Seoul National University College of Medicine, 300  
Gumi-dong, Bundang-gu, Seongnam-si 463-707, Gyeonggi-do,  
Republic of Korea  
e-mail: jycho@snu.ac.kr