



Pure Laparoscopic Right Posterior Sectionectomy Using the Glissonean Approach and a Modified Liver Hanging Maneuver (Video)

Ji Hoon Kim^{1,2} 

Received: 22 October 2018 / Accepted: 21 November 2018 / Published online: 18 December 2018
© 2018 The Society for Surgery of the Alimentary Tract

Abstract

Background Laparoscopic right posterior sectionectomy is technically challenging secondary to poor exposure of the surgical field and difficulty with controlling hemorrhage during deeper parenchymal transection Cho et al., *Surgery* 158:135–141, 2015; Lee et al., *Surgery* 160:1219–1226, 2016. We present laparoscopic right posterior sectionectomy using the Glissonean approach and a modified liver hanging maneuver.

Methods A 57-year-old man presented with a single mass in segment 7 of the liver. He was placed in the lithotomy position, and five trocars were used in the upper abdomen. The hepatoduodenal ligament was encircled using an umbilical tape to perform the intermittent Pringle maneuver.

After detachment of the hilar plate, the right posterior Glissonean pedicle was dissected and clamped to confirm ischemic delineation Takasaki, *J Hepato-Biliary-Pancreat Surg* 5:286–291, 1998. After complete mobilization of the right liver, the hanging tape was placed along the inferior vena cava between the caval ligament and the right hepatic vein. The hanging tape elevates the liver and guides the surgeon to achieve an accurate transection plane

Belghiti et al., *J Am Coll Surg* 193:109–111, 2001; Kim et al., *Surg Endosc* 30:3611–3617, 2016; Kim, Choi, *J Gastrointest Surg* 21:1181–1185, 2017; Kim et al., *Langenbecks Arch Surg* 403:131–135, 2018. The transection plane used during a right posterior sectionectomy is horizontal and follows the inferior vena cava. However, with the liver hanging maneuver, the horizontal transection plane becomes vertical.

Result The operation time was 290 min, the estimated blood loss was 120 mL, and the total Pringle maneuver time was 60 min. Final histopathological diagnosis showed a 1.7-cm-sized hepatocellular carcinoma with the resection margin measuring 1.5 cm. The patient was discharged on postoperative day 7 without any complications.

Conclusion A Glissonean approach with a modified liver hanging maneuver is feasible and useful for laparoscopic right posterior sectionectomy.

Keywords Laparoscopic liver resection · Right posterior sectionectomy · Glissonean approach · Liver hanging maneuver

Author Contribution Ji Hoon Kim was involved with study conception and design, acquisition of data, analysis and interpretation of data, drafting of manuscript, and critical revision.

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s11605-018-4066-5>) contains supplementary material, which is available to authorized users.

✉ Ji Hoon Kim
asist10@hanmail.net

¹ Department of Surgery, College of Medicine, Eulji University, Daejeon, Republic of Korea

² Department of Surgery, Eulji University Hospital, Dunsan 2(i)-dong, Seo-gu, Daejeon, Republic of Korea

Compliance with Ethical Standards

Conflict of Interest The author declares that there is no competing interests.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

References

1. Cho JY, Han HS, Yoon YS, Choi Y, Lee W. Outcomes of laparoscopic right posterior sectionectomy in patients with hepatocellular carcinoma in the era of laparoscopic surgery. *Surgery* 2015;158:135–141

2. Lee W, Han HS, Yoon YS, Cho JY, Choi Y, Shin HK, Jang JY, Choi H, Jang JS, Kwon SU. Comparison of laparoscopic liver resection for hepatocellular carcinoma located in the posterosuperior segments or anterolateral segments: A case-matched analysis. *Surgery* 2016;160:1219–1226
3. Takasaki K. Glissonian pedicle transection method for hepatic resection: a new concept of liver segmentation. *J Hepato-Biliary-Pancreat Surg* 1998;5:286–291
4. Belghiti J, Guevara OA, Noun R, Saldinger PF, Kianmanesh R. Liver hanging maneuver: a safe approach to right hepatectomy without liver mobilization. *J Am Coll Surg* 2001;193:109–111
5. Kim JH, Ryu DH, Jang LC, Choi JW. Lateral approach liver hanging maneuver in laparoscopic anatomical liver resections. *Surg Endosc* 2016;30:3611–3617
6. Kim JH, Choi JW. A modified liver hanging maneuver in pure laparoscopic left hemihepatectomy with preservation of the middle hepatic vein: video and technique. *J Gastrointest Surg* 2017;21:1181–1185
7. Kim JH, Cho BS, Jang JH. Pure laparoscopic anatomical segment VI resection using the Glissonian approach, Rouviere’s sulcus as a landmark, and a modified liver hanging maneuver (with video) *Langenbecks Arch Surg* 2018;403:131–135