



Intercostal and Glissonian Pedicle Approach in Laparoscopic Liver Resection for Bilobar Tumors

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Abstract

Background Bilobar liver metastasis is challenging for laparoscopic liver resection. Especially, subphrenic liver tumors in S7 or S8 are technically difficult to be resected out because the space is limited and the angle of instruments to lesions cannot be perpendicular.^{1,2} Major liver lobectomy is also challenging for laparoscopic liver resection. Glissonian pedicle approach has benefit that any variation of vascular and bile duct elements does not need to be considered in the hepatoduodenal ligament under the hilar plate. Glissonian pedicle approach is simpler and faster than individual dissection of hepatoduodenal ligament.

Methods This video illustrates a hand-assisted laparoscopic left lobectomy and partial liver resection of S8 in a 48-year-old male with metastatic colorectal carcinoma to the liver. He received 6 cycle of FOLFOX as neoadjuvant chemotherapy. The patient was positioned in semi left lateral decubitus so that a lesion in S8 was easily approached. A tumor in S8 was approached after right lobe mobilization. The liver resection was performed by a harmonic scalpel. A 5-mm balloon port was placed in 6th intercostal space to approach the lesion perpendicular. For left hepatectomy, glissonian pedicle approach was applied to control vascular inflow. Dissections was performed at bifurcation on the right glissonian and left glissonian pedicles. Dissection direction to the left side was above hepatogastric ligament. The tunnel was created including all left glissonian sheath, and a vessel loop was taped. An endovascular stapler was inserted and fired with dividing the left glissonian pedicle as en bloc. Hepatic parenchymal dissection was performed by the harmonic scalpel. Left hepatic vein was divided using an endoscopic vascular stapler. The specimens were removed from a hand-port.

Results The operative time was 290 min. Blood loss was 250 ml, and no blood transfusion was required. He resumed a regular diet the next day and was discharged on postoperative day 4.

Conclusions Intercostal approach is useful for subphrenic liver tumors, and glissonian pedicle approach is also useful for major lobectomy for laparoscopic liver resection.

Keywords Laparoscopic liver resection · Glissonian pedicle approach · Intercostal approach

Authorship Tadahiro Uemura—design the study, the acquisition, analysis and interpretation of data, and writing manuscript. Molly Vincent PA—the acquisition of data. Lorenzo Machado—analysis of data. Ngoc Thai—analysis of data.

Compliance with Ethical Standards

All authors met the guidelines of the International Committee of Medical Journal Editors (ICMJE).

Conflict of Interest The authors declare that they have no conflict of interest.

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