Laparoscopic Anatomical Segmentectomy of Liver Segment VII by the Anterior Approach in Situ----Technical Process and Primary Evaluation

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Lecture : Background

The traditional segmentectomy of liver segment VII requires exposing and controlling the root of the right hepatic vein(RHV) in advance after the full mobilization and reversal of right liver, which make laparoscopic anatomical resection challenging, and also appears to conflict with the "no-touch" principle for malignant tumors. Until now, the reports of totally laparoscopic anatomical segmentectomy VII are rarely seen. This study describes our experience in laparoscopic anatomical segmentectomy VII by the anterior approach in situ. To our knowledge, this is the first description of this novel minimally invasive operation. Methods

From September2017 to October 2018, all consecutive patients who underwent laparoscopic anatomical segmentectomy VII for hepatocellular carcinoma at the HPB Surgery Department, Sun Yat-Sen Memorial Hospital in Guangzhou, China were enrolled into this retrospective study. For the anterior approach in situ, priority should be given to dissect the right posterior lobe hepatic pediclevia rouviere groove. Follow the right posterior lobe hepatic pedicle to find and ligate the hepatic pediclesof segmentectomy VII, to obtain the ischemic line which determines the dissection boundary between segment VI and VII.Determine the dissection plane horizontally just above the bifurcation of the portal pedicles going toward segment VI and VII, andfind the trunk of RHV during the parenchyma transection. Then dissectlongitudinally along RHV to the root.Dissociate the perihepatic ligaments in the last to complete the resection of segment VII without the reversal of right liver. Results

There were 8 women and 8 men. The average age was 49.5 years (range 28–68 years). The average diameter of the tumor lesions on preoperative CT/MR was 3.7cm(range 2-6cm). All the procedures were performed successfully. There was no perioperative death. The average operative time was 232.8 min (range 180–310 min). The average blood loss was 308.4 ml (range 120–620 ml). The main postoperative complication was biliary fistula (3 patients, or 18.8%). All the complications responded well to conservative treatment. The mean postoperative hospital stay was 5 days (range 3–9days).

Conclusions

Laparoscopic anatomical segmentectomy VII by the anterior approach in situ provided a minimally invasive approach to obtain simultaneous surgical margin and safety forhepatocellular carcinoma. The laparoscopy can provide better view and operation in the crampedspaces compared with traditional laparotomic approach, and better complies with the "no-touch" principle for malignant tumors. The long-term oncological outcomes require further studies.

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