

Standardization of Laparoscopic Central Bisectionectomy by Extrahepatic Glissonean Pedicle Isolation and HV Root - At First One-way Resection Based on Laennec's Capsule

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ABSTRACT

Laparoscopic central bisectionectomy (LCBS) is a highly advanced procedure for centrally located liver tumors. According to our approaches for anatomic liver resection composed of the Laennec's capsule-based extrahepatic Glissonean pedicle approach (GPA) and hepatic vein (HV) root-at first one-way parenchymal resection, we have standardized techniques for LCBS. The extrahepatic GPA starts with cystic cholecystectomy facilitating extrahepatic isolation of the anterior section pedicle (G-ant), which is ligated. The segment IV pedicle (G-IV) is isolated extrahepatically. Under occlusion of G-ant and G-IV, parenchymal dissection starts from exposing the root of middle hepatic vein (MHV) and continues in the cranio-caudal direction along the umbilical fissure vein, according to the left demarcation line. During parenchymal dissection, G-IV and MHV are divided. Then, the right hepatic vein (RHV) is exposed at its root and tracked downward, and during the rightward liver dissection along the hilar plate, G-ant is divided. The one-way resection continues along RHV and between the anterior and posterior sections toward the right liver edge, where LCBS is completed. In conclusion, LCBS can be standardized by the Laennec's capsule-based extrahepatic GPA and HV-root at first one-way parenchymal resection. Moreover, laparoscopic caudal vision provides a good surgical view for one-way parenchymal resection.

Key words: central bisectionectomy, laparoscopic liver resection, Glissonean pedicle, Laennec's capsule, plate system, hepatic vein