Surg. Gastroenterol. Oncol. 2020;25(2):89-92 DOI: 10.21614/sgo-25-2-89

Standardization of Isolated Caudate Lobectomy by Extrahepatic Glissonean Pedicle Isolation and HV Root - At First One-way Resection Based on Laennec's Capsule: Open and Laparoscopic Approaches

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ABSTRACT
Isolated caudate lobectomy (ICL) is technically demanding and its surgical techniques are not standardized. Herein, we describe our method of open and laparoscopic ICL by the extrahepatic Glissonean pedicle approach (GPA) and hepatic vein (HV) root-at first one-way parenchymal resection, which are both based on Laennec's capsule. Firstly, all the Glissonean pedicles of the caudate lobe are isolated and divided extrahepatically without parenchymal dissection. We have devised two different techniques for the extrahepatic pedicle control. One is 'the central hilar technique', where all the major hilar pedicles are utilized to isolate caudate pedicles, and the other is 'the left-to-right tracking technique', where the caudate pedicles are serially divided along the hilar plate from the left to the right sides. After controlling all pedicles of the caudate lobe, it is mobilized from the vena cava. Parenchymal dissection starts from exposing the roots of left, middle and right hepatic veins and the dorsal surface of their walls are tracked by dissection in the cranio-caudal direction. Parenchymal resection is completed at the hilar plate and right-side demarcation line. In conclusion, ICL, either open or laparoscopic, can be standardized by the extrahepatic GPA and HV-root at first one-way parenchymal resection based on Laennec's capsule.
Key words: isolated caudate lobectomy, laparoscopic liver resection, Glissonean pedicle, Laennec's capsule, plate system, hepatic vein