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ORIGINAL ARTICLE – HEPATOBILIARY TUMORS

# Ventral Approach to the Middle Hepatic Vein During Laparoscopic Hemihepatectomy

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## ABSTRACT

**Background.** The caudal approach constitutes a conceptual change in laparoscopic hepatectomy.[1–4] The middle hepatic vein (MHV) located in the midplane of the liver serves as a landmark during hemihepatectomy.[5] However, it is difficult to expose the MHV from its peripheral branches toward the main root via the caudal approach because of anatomical variations in branching patterns.[6] We present the ventral approach to the MHV during laparoscopic hemihepatectomy.

**Method.** The ventral approach involves liver transection from the ventral to the dorsal aspect using a flexible laparoscope, similar to an open hepatectomy.[7] The key characteristic of the ventral approach is early transection of the cranial portion of the liver, which facilitates accurate transection and maintains an open cutting plane. After achieving a wide surgical plane, the MHV is exposed from the main root toward its peripheral branches. The plane of parenchymal transection is easily modified based on the type of hemihepatectomy.

**Results.** This technique was used in 15 patients between March 2016 and July 2018, of whom 7 underwent right hemihepatectomy and 8 underwent left hemihepatectomy. The median operative time was 240 min (range 180–410), and the intraoperative blood loss was 150 mL (range 80–310). The median postoperative hospital stay was 8 days (range 5–14). No major postoperative morbidity or mortality was reported.

**Conclusion.** The ventral approach to the MHV involving exposure of the vein from the main trunk toward its peripheral branches may be an effective and feasible technique during laparoscopic hemihepatectomy.

## COMPLIANCE WITH ETHICAL STANDARDS

**DISCLOSURES** Dr. Ji Hoon Kim has no conflicts of interest or financial ties to disclose.

**INFORMED CONSENT** All patients received an explanation regarding the procedure and provided informed consent. This study was approved by the Institutional Review Board of our institution.

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