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THE IMPACT OF RESECTED-TO-ORIGINAL MIDDLE HEPATIC VEIN LENGTH PROPORTION ON POSTHEPATECTOMY LIVER FAILURE IN PERIHILAR CHOLANGIOCARCINOMA AFTER RIGHT SIDED HEPATECTOMY

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Background : Right-sided hepatectomy with caudate lobectomy and bile duct resection is a common approach for perihilar cholangiocarcinoma (PHCC), often complicated by posthepatectomy liver failure (PHLF). This study investigates the impact of the resected-to-original middle hepatic vein (MHV) length ratio on PHLF in PHCC patients after extensive liver resection.

Methods : A retrospective analysis of patients undergoing right hemihepatectomy plus caudate lobectomy and bile duct resection between January 2013 and March 2023 in Seoul Asan Medical Center was conducted. Preoperative liver volumes and MHV lengths were assessed using contrast-enhanced CT scans using dedicated liver analysis application. Original length of MHV was defined as the main trunk before the last branch draining the segment IV. The primary outcome was PHLF and 90-day mortality.

Results : The cohort had an average age of 65.3 ± 8.0 years with 64.4% males. Significant differences were noted in age (69.3 ± 6.2 vs. 64.8 ± 8.0, p=0.001), remnant liver volume (34.6 ± 6.2% vs. 39.4 ± 9.5%, p<0.001), remnant MHV (79.9 ± 30.3% vs. 90.2 ± 24.3%, p=0.027), and preoperative bilirubin levels (4.1 ± 1.8 mg/dL vs. 2.7 ± 1.4 mg/dL, p<0.001) between those with and without PHLF. Although MHV resection was significantly associate with PHLF, it failed to be proven as independent factor in multivariate analysis

Conclusions : While the resected-to-original MHV length ratio or any resection did not independently affect PHLF and 90-day mortality in this study, it showed the tendency. Further study warranted for the verification of the hypothesis

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