

Mesenteric approach during pancreaticoduodenectomy for pancreatic ductal adenocarcinoma

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Lecture : Background: Mesenteric approach is an artery-first approach during pancreaticoduodenectomy (PD). In this study, we evaluated clinical and oncological benefits of this procedure for pancreatic ductal adenocarcinoma (PDAC) of the pancreas head.

Methods: Between 2000 and 2015, 237 consecutive PDAC patients underwent PD in Wakayama Medical University Hospital (WMUH). Among them, 72 experienced mesenteric approach (mesenteric group) and 165 conventional approach (conventional group). A matched-pairs group consisted of 116 patients (58 patients in each group) matched for age, sex, resectability status, and neoadjuvant therapy. Surgical and oncological outcomes were compared between the two groups in unmatched- and matched-pair analyses.

Results: Intraoperative blood loss was lower in mesenteric group than in conventional group in both resectable PDAC (R-PDAC) and borderline resectable PDAC (BR-PDAC) on unmatched- and matched-pairs analyses (R-PDAC, unmatched; 312.5 vs. 510 ml, $P=0.008$, matched; 312.5 vs. 501.5 ml, $P=0.023$, BR-PDAC, unmatched; 507.5 vs. 935 ml, $P<0.001$, matched; 507.5 vs. 920 ml, $P=0.003$). The negative surgical margins (R0) and the overall survival (OS) rates in mesenteric group were better in R-PPDAC patients (R0 rates, unmatched; 100 vs. 87.7%, $P=0.044$, matched; 100 vs. 86.7%, $P=0.045$, OS, unmatched; $P=0.008$, matched; $P=0.021$), although there were no significant differences in BR-PDAC patients.

Conclusion: Mesenteric approach might reduce blood loss by early ligation of the vessels to the pancreatic head. Furthermore, it might increase R0 rate, leading to improvement of survival for R-PDAC patients. However, R0 and survival rates could not be improved only by mesenteric approach for BR-PDAC patients. Therefore, effective multidisciplinary treatment is essential to improve survival in BR-PDAC patients (Hirono, Yamaue et al. Ann Gastroenterol Surg 2017). To confirm our data of this retrospective study and oncological benefits of mesenteric approach for PDAC, we're going to perform multicenter randomized clinical trial comparing conventional approach vs. mesenteric approach during PD for PDAC, in which registration will start from December 1, 2018 (MAPLE-PD trial, ClinicalTrial.gov 03317886, UMIN000029615).

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