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Comparisons of short-term outcomes of anastomotic methods of duct-to-mucosa pancreaticojejunostomy: Out-layer continuous suture vs. modified Blumgart method

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Introduction: Postoperative pancreatic fistula (POPF) is the most common and troublesome complication after pancreaticoduodenectomy (PD). To reduce POPF, various types of pancreaticojejunostomy (PJ) anastomosis have been introduced. The study aimed to compare the short-term outcomes of two different anastomotic methods of duct-to-mucosa PJ, out-layer continuous suture anastomosis (OCA) and modified Blumgart method (mBM).

Methods: In this retrospective cohort study, patients who underwent curative-intent open PD between 2015 and 2020 were enrolled. In in-layer anastomosis, duct-to-mucosa anastomosis using 5–6 interrupted sutures were performed. In mBM, two transpancreatic U-sutures was done in both dorsal and ventral side of jejunal loop with reinforced suture in the central part. Patient's demographics, diagnosis and intraoperative factors, postoperative complications, and POPF defined by the International Study Group on Pancreatic Fistula were investigated. Clinically-relevant POPF (CR-POPF) included grade B, C POPF.

Results: OCA was performed in 184 patients (65.7%) and mBM was performed in 96 patients (34.3%). There were no significant differences between the OCA and mBM group in CR-POPF rates (7.1% vs. 7.3%; $p = 0.944$), and overall surgical complication rates (21.7% vs. 30.2%; $p = 0.097$). Total operation time (242 vs. 233 minutes; $p = 0.103$) were comparable, but operation time for PJ is shorter in mBM (20.0 vs. 18.1 minutes; $p < 0.001$).

Conclusions: No significant differences were shown in postoperative outcome between OCA and mBM groups, but operation time for PJ in mBM was shorter. Since mBM is safe, relatively simple, and time-saving technique, it can be a good choice when duct-to-mucosa PJ is performed.

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