A comparative study between duct-to-mucosa and invagination technique for reconstruction after pancreaticoduodenectomy

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Background: The pancreaticojejunostomy has notoriously been known to carry a high rate of operative complications; morbidity, and mortality mainly due to anastomotic leak and ensuing septic complications.

Patients and methods: From January 2012 to October 2015, we presented a prospective study which included 24 patients who underwent pancreaticoduodenectomy (PD) operation through either Whipple resection or modified Whipple (pylorus-preserving). Patients were reviewed and divided into 2 groups (A, B) according to the type of pancreaticojejunostomy (PJ), (invagination vs duct-to-mucosa).

Results: 24 patients were operated on: Group A; twelve patients had invagination technique for PJ, while the twelve patients in group B had duct-to-mucosa anastomotic technique for PJ. 1 (8.3%) case in group A developed pancreatic fistula (PF), while 3 (25%) cases in group B developed PF, and 1 case (8.3%) in group A had mild anastomotic leak which was managed conservatively, while 3 cases (25%) in group B developed moderate to severe anastomotic leak with intra-abdominal collection which required CT-guided percutaneous drainage and operative intervention. Average age was (mean ± SD) = (55 ± 12), average operative time was (245 ± 75) min.

Conclusions: P. Fistula after PD represents an alarming trigger of potentially life-threatening complications. Although the best method for dealing with the pancreatic stump after PD remains controversial, many reports described that with the invagination technique; the rate of PF could decrease significantly compared to the duct-to-mucosa technique.

Keywords: Pancreatic fistula (PF), pancreaticoduodenectomy (PD), pancreaticojejunostomy (PJ).

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