

LETTER TO THE EDITOR

Pancreaticenteric Anastomosis, Thinking Beyond Post-Operative Pancreatic Fistula - Time to Stop Comparing and Start Standardisation?

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Lot of ink has flown in the form of randomized controlled trials, prospective studies, retrospective studies, meta-analysis and systemic reviews to establish the superiority of different techniques of pancreatic-enteric anastomosis over one another, with post-operative pancreatic fistula as an endpoint. Although, there is no doubt that post-operative pancreatic fistula is the prime precursor of major post pancreaticoduodenectomy complications, however the incidence of POPF doesn't seem to differ between myriad of techniques that have been described for pancreatic reconstruction after PD. We are of the same opinion as others, that among modifiable factors meticulous surgical technique, surgeon volume and dedicated postoperative management; determine the outcome of pancreatic reconstruction after PD rather than any specific technique. Post PD remnant function is a complex issue determined by array of pre-operative and post-operative issues. However, I want to highlight a different aspect of pancreatic reconstruction following PD i.e., functional outcome. Pre-operative chronic pancreatitis as well as pre-operative morphological abnormalities are strong risk factors for poor post PD remnant function. Postoperatively after PD, exocrine insufficiency may increase by 38% after surgery and endocrine insufficiency increases upto 24%, however these aspects of pancreaticenteric anastomosis have not been studied yet [1]. Pancreatic resection significantly affects pancreatic function that can be partly explained by pyloro-duodenal and proximal jejunal resection as well as by pancreatic parenchymal resection and neuro-hormonal alterations.

The concern I am raising is regarding the invagination techniques of pancreaticenteric anastomosis and the isolated roux limb pancreaticojejunostomy post pancreaticoduodenectomy. The principle of invagination

technique is against the basic surgical principles i.e., leaving pancreatic cut end inside the jejunum or stomach without any mucosa to mucosa contact, predisposing cut end to stenosis, ductal obstruction followed by ductal dilatation and finally pancreatic atrophy. Secondly, my concern is regarding isolated roux limb reconstruction and I believe that it is very important to first preserve jejunal loop in reconstruction of the alimentary circuit as it helps in maintaining the physiological secretin and CCK secretion, after removal of the duodenal source of CCK and secretin that compensates for loss of duodenal hormonal release [2, 3]. Thirdly, there is a concern regarding pancreaticogastrostomy, where the remnant pancreas is vulnerable to regurgitation of acid and food, predisposing the duct to stenosis and remnant parenchyma to atrophy, apart from causing direct deactivation of enzymes. Fourthly, I want to re-establish the fact that normal secretion of PP, CCK and Secretin that is essential to maintain exocrine pancreatic function is significantly disturbed post PD. Both basal and post-prandial levels of CCK and Secretin are significantly reduced post standard PD. There is enough literature available comparing basal levels of CCK and Secretin post standard PD or PPPD, with results suggesting that basal CCK and post-prandial Secretin are significantly lower in patients undergoing standard PD when compared to controls or PPPD. Higher basal and post-prandial levels of CCK and Secretin tend to make PPPD physiologically more appropriate, and regarding stomach resection in standard PD, there are two physiological aspects that need to be identified; stomach preservation leads to better calorie intake and weight gain and distal stomach is the major source of gastrin that acts as trophic for remnant pancreas, resection of which predisposes the patient to atrophy of remnant pancreas. I strongly believe that if these patients are followed over longer time with dynamic secretin stimulated MRI and faecal elastase levels, these procedures would be associated with worse functional outcomes. Data is scanty regarding this issue of reconstruction following PD as most of the data is focussed on POPF only. I sincerely feel that further studies should focus on technical standardisation and functional outcomes of pancreatic-enteric anastomosis

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are required to be understood and studied, rather than comparing myriad of non-physiological invagination techniques among themselves.

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