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Laparoscopic Pancreas-Sparing Duodenectomy (LPSTD) with Roux en Y Reconstruction for Duodenal Polyposis

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Abstract
Background: Duodenal polyposis (DP) is often associated in patients with in patients with familial adenomatous polyposis (FAP) and the risk of malignancy is endoscopically assessed using the Spigelman score. Endoscopic therapy is the first option for PD while surgery is indicated for the advanced stages of the disease (Spiegelman III-IV). Pancreas-sparing duodenectomy (PSD) was proposed as a less aggressive alternative to pancreatoduodenectomy (PD), leaving the entire pancreas "in situ" while the number of anastomoses is reduced. Open PSD with Billroth or pillorus preserving reconstruction is the general used. The use of a Roux limb is very limited in literature, as it increases the procedure complexity, the number of anastomosis and it may reduce the endoscopic access for the postoperative surveillance after total duodenectomy. We aim to describe the technique for Laparoscopic Pancreas Sparing Total Duodenectomy (LPSTD) with Roux-en-Y reconstruction and to present the procedure's outcomes in a patient presenting Spigelman IV duodenal polyposis associated with FAP after open total colectomy.
Method: Laparoscopic Pancreas Sparing Total Duodenectomy (LPSTD) with antrectomy cholecystectomy and Roux en Y reconstruction was performed in a 39-year-old man with a history of FAP, open colectomy with ileorectal anastomosis and duodenal polyps. The preoperative investigations and the surgical steps of the laparoscopic approach are described in details.
Results: The operative time was 280 minutes. Two postoperative complications were encountered, a self-limited pancreatico-jejunal anastomosis hemorrhage occurred in POD 1 and necrosis of the cystic duct stump with bile peritonitis (POD7). Both of them required laparoscopic exploration. Oral feeding was introduced in the POD 2. The patient has been discharged in the POD 14. No other complications like delayed gastric emptying, pancreatic or biliary fistula at the site of PJA or ulcer were encountered. The 6 months postoperative evaluation, including the CT scan and the endoscopic retrograde inspection of the neo-papilla revealed no recurrence on the jejunum.
Conclusions: Although it is a complex technique, LPSTD represents a good alternative to PD for patients with FAP and large, periampullary villous adenoma especially those with high grade dysplasia. The use of laparoscopy and of Roux en Y reconstruction may reduce the postoperative morbidity rate in PSD.
Key words: familial adenomatous polyposis, duodenal adenoma, pancreas-sparing total duodenectomy, laparoscopy, Roux en Y reconstruction