



Total Laparoscopic Longitudinal Pancreaticojejunostomy for Chronic Calcific Pancreatitis: Our Experience of 33 Cases

KEYWORDS

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ABSTRACT *AIM: To study the results of laparoscopic pancreaticojejunostomy at our institute.*

Material method: 33 patients with chronic calcific pancreatitis (CCP) underwent laparoscopic longitudinal pancreaticojejunostomy (LPJ) in our institute. Mean age of presentation was 34.55 yrs. The most common presenting symptoms were abdominal pain and weight loss. In all patients, diagnosis was confirmed by magnetic resonance cholangiopancreatography. Mean pancreatic duct diameter was 12 mm.

Results: Mean operating time was 180 min, mean blood loss was 90ml and mean postoperative stay was 7 days. There were no intraoperative and major postoperative complications. On 1 year follow-up out of 33 patients 29 had complete pain relief and 4 patient had partial pain relief and all patients had significant weight gain

Conclusion: Laparoscopic LPJ is a safe, effective, and feasible technique for CP in selected patients in the presence of adequately dilated pancreatic duct containing stones, and has favourable outcome in short-term follow-up.

Introduction:

Chronic pancreatitis (CP), a chronic inflammatory disease of the pancreas, is often associated with complications that may require surgical intervention¹⁻³. The incidence of CP is approximately 5–10 cases per 100,000 population⁴⁻⁵ and has nearly quadrupled in the past 30 years. Ductal decompression and drainage are the basis for surgical treatment of a dilated and strictured main pancreatic duct, with or without additional calculi. We present our experience of undertaking laparoscopic longitudinal pancreaticojejunostomy (LPJ) in carefully selected patients.

AIM: To study the results of laparoscopic pancreaticojejunostomy at our institute.

Materials and methods:

33 patients with CP underwent laparoscopic LPJ in our institute. Both male (n = 17) and female (n = 16) patients were selected and patient's ages ranged between 19 and 45 years. The most common presenting symptoms were abdominal pain and weight loss. Preoperatively, all patients were on opioid analgesics and pancreatic enzyme supplements. All patients underwent a routine haemogram profile, serum amylase and lipase to rule out any associated acute inflammation of the pancreas, ultrasound abdomen and pelvis, as well as contrast enhanced computed tomography (CT) and to record duct diameter and to rule out any mass. In all patients, diagnosis was confirmed by magnetic resonance cholangio-pancreaticography (MRCP). Mean pancreatic duct diameter was 12 mm. After getting cardiopulmonary clearance, patients were posted for surgery. The bowel was prepared in all patients on the day before surgery, and patients were kept on plain liquids until the night before surgery and nil orally from then on. Patient was then posted for surgery all patients were operated under general anaesthesia.

Procedure:

Pneumoperitoneum created by either open/veress technique. A 10mm subumbilical port used as camera port.

Right(5mm) and left(10mm) mid clavicular port used as working port. Another 5mm sub xiphoid port used for retraction of stomach.

Lesser sac entered through gastrocolicomentum and pancreas is exposed. Adhesion of post wall of stomach to surface of the pancreas are released.

Pancreatic duct was identified with blunt probe and confirmed by percutaneous aspiration using thin lumbar puncture needle. Electrocautery hook dissector or harmonic scalpel is used to open pancreatic duct longitudinally and widely the impacted stones in duct were removed. If pancreatic head calcification were present head coring was done with removal pancreatic tissue in head region leaving behind rim of pancreatic tissue around duodenum.

Proximal jejunum was identified the site of Roux en Y formation was selected, Roux en Y loop performed by using ATG45 stapler then according to the length of pancreatic duct; jejunum was opened at its antimesenteric border around 40cm from DJ flexure. The enterostomy loop brought out through supracolic compartment by creating window in mesocolon.

Then pancreaticojejunostomy done with vicryl 2-0 R/B in continuous intracorporeal handsewn suturing. Haemostasis achieved, drain kept. Trocars removed and port site closed.

All intraoperative factors were noted like intra operative complication, causes of conversion, operative time, and blood loss. The blood loss was calculated by amount blood in suction bottles. In patients where required drains and Ryles tube were kept and patient kept nil by mouth until bowel sound appeared. Drains are removed ones drain output is less than 30 ml. Post operatively patients were started on antibiotics and analgesic. Postoperative recovery of patients is observed for any postoperative complication.

And patient was discharged if patient was taking orally and fit to discharge. Patients were followed up on 1st, 3rd and 6month and 1year and looked for pain and weight gain.

OBSERVATION AND RESULTS:

Mean age of presentation was 34.55yrs. There was no significant gender difference. The most common presenting symptom was abdominal pain and weight loss. Mean operating time was 180 min, mean blood loss was 90ml and mean postoperative stay was 7 days. In 8 cases where there was pancreatic head calcification pancreatic head coring done. All pancreaticojejunostomy were done by intracorporeal hand sewn suturing where as jejunojenostomy were done by intracorporeal stapled method. There were no intraoperative and major postoperative complications. On 1 year follow-up out of 33 patients 29(88.88 %) had complete pain relief and 4 (12.12%) patient had partial pain relief and all patients had significant weight gain.

DISCUSSION:

It has been shown in multiple studies that intractable pain is the symptom of chronic pancreatitis that is best resolved or ameliorated with surgical intervention.^{6,7,8} The type of surgical procedure performed is dependent on many factors. The anatomy of the diseased gland is of particular importance, with attention to the pancreatic duct size, regions of ductal stenosis, and glandular fibrosis or calcification. In the current era of pancreatic surgery, operations are planned based on ERCP and CT scan delineation of the ductal and glandular anatomy. The presence of pseudocysts does not significantly change the operative plan.^{9,10}

Puestow and Gillesby¹¹ originally described performing a splenectomy and distal pancreatectomy with a Roux-en-Y longitudinal pancreaticojejunostomy in patients with chronic pancreatitis, a dilated duct, and pain. Partington and Rochelle¹² modified this procedure by performing a side-to-side pancreaticojejunostomy with a Roux limb and without splenectomy. One review of several series of pancreaticojejunostomies noted successful pain relief in 50%–100% of patients, with a follow-up of 6 months to 24 years.⁷ Longitudinal pancreaticogastrostomy has been advocated by some as a superior drainage procedure, with 60% of patients having pain relief at 4 years.⁸

Other procedures for chronic pancreatitis have been presented by Beger et al.¹³ and Frey and colleagues. In the procedure of Beger and colleagues, the head of the pancreas is locally resected with preservation of the duodenum, and they noted 90% of the patients with pain relief at 2 years. In the procedure described by Frey et al.¹⁴ a 95% distal pancreatectomy is performed. Pain relief was achieved in 56%–60% of the patients at 5–8 years. In a later report, Frey and Smith¹⁵ describe a local resection of the head of the pancreas with longitudinal pancreaticojejunostomy, and they note complete resolution of pain in 74.5% of the patients at 37 months. Pancreatoduodenectomy has also been performed for chronic pancreatitis localized to the head of the pancreas, with pain relief noted in 90% of the patients with up to a 3-year follow-up.⁷

Conclusion: Laparoscopic LPJ is a safe, effective, and feasible technique for CP in selected patients in the presence of adequately dilated pancreatic duct containing stones, and has favourable outcome in short-term follow-up.

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