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Case Report

A clinical study on lateral pancreaticojejunostomy in a case of chronic pancreatitis

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ABSTRACT

Lateral pancreaticojejunostomy is a seldom performed procedure in a peripheral tertiary health care centre. Very few numbers of cases are reported that undergoes surgical procedures for chronic pancreatitis. We report a such rare case in our institute that undergone pancreatic drainage procedure. A 70 year old poor patient was admitted in our institute with a complaint of chronic abdominal pain, subsequently diagnosed to be having chronic pancreatitis with complications with pancreatic duct calculus. Pancreatic drainage procedure, lateral pancreaticojejunostomy was performed and we analysed for the outcome of the procedure with regards to pain relief, anastomotic leak, quality of life and return to work. Patient recovered well post-operatively, reported pain relief, suffered no anastomotic leak and experienced improved quality of life. Lateral pancreaticojejunostomy provides excellent surgical choice for patients of chronic pancreatitis with pancreatic duct calculus with acceptable rates of pain relief, morbidity and mortality, without worsening pancreatic insufficiency.

Keywords: Pancreaticojejunostomy, Chronic pancreatitis, Pain

INTRODUCTION

Chronic pancreatitis is an incurable, chronic inflammatory condition of the pancreas that is associated with irreversible morphological changes in pancreatic tissue with exocrine and endocrine pancreatic insufficiency and severely impacts the quality of life. Chronic pancreatitis affects between 3 and 10/100,000 persons.[1] Recurrent attacks of the pain, malabsorption, weight loss and development of the secondary diabetes mellitus are few of the presentation of the chronic pancreatitis.

The medical management consists of administering antibiotics, antacids, pain killers and pancreatic enzymes along with management of diabetes and complications of pancreatic insufficiency. The surgical management consists of drainage procedures (e.g. Duval's caudal pancreaticojejunostomy, Puestow's lateral pancreaticojejunostomy, modified Puestow's lateral pancreaticojejunostomy) and resectional procedures (e.g. Frey procedure and Beger's duodenum preserving pancreatic head resection procedure).

We presented a case of 70 year old male patient with chronic pancreatitis with pancreatic duct calculus who was managed successfully with lateral pancreaticojejunostomy (Partington Rochelle modification of Puestow procedure) in a peripheral tertiary care health centre.

CASE REPORT

A 70 year old man was admitted in our surgery unit with a history of abdominal pain since 5 days and nonbilious

vomiting 3 episodes since 2 days. The abdominal pain was dull aching in nature, gradually increased in intensity, located above the umbilicus and radiating to the back, would aggravate on taking food. Patient was passing stools and flatus normally. Patient had similar complaint of intermittent episodes of abdominal pain since last 8 months. The pain would be relieved by taking injectable analgesic medicines. He also had history of taking oral hypoglycemic medicines (metformin 500 mg OD) since last 6 months. Patient did not had history suggestive of fever, gastrointestinal bleeding of any type, loose motions. Patient was chronic alcoholic since 20 years and stopped taking alcohol 8 months ago. The family history was not significant, there was no history of allergy to any medicines.

On examination, patient was thin built, moderate general condition, afebrile, normal vitals. Abdominal examination revealed normal central umbilicus, no distension, no scar, no dilated veins and no visible abdominal lump or swelling. On abdominal palpation, moderate tenderness was present in epigastric region, there was no guarding, no rigidity, no palpable mass and hernia sites were normal.

On laboratory work-up, patient had normal hematological values, normal liver function test, normal kidney function test and normal random blood sugar values. Patient did not show any abnormal findings on chest X-ray and electrocardiography. Patient had elevated pancreatic enzymes like serum amylase was 311 IU/L and serum lipase was 581 IU/L. Abdominal ultrasonography revealed features of chronic pancreatitis. Patient was kept NPO (nil per oral) and was started with injectable antibiotics, antiemetics, analgesics, proton pump inhibitors and was rehydrated with intravenous crystalloids. Patient was subjected to contrast enhanced computed tomography (CECT) scan of abdomen which suggested features of chronic pancreatitis with extrapancreatic complications in the form of mild ascites and multiple pseudocyst formations with multiple pancreatic calcifications with calculi in terminal part of pancreatic duct largest measuring 6 mm with proximal dilatation of pancreatic duct measuring 9 mm. Thoracic high resolution computed tomography (HRCT-thorax) showed mild bilateral pleural effusion with fibrotic changes sequelae to old infective etiology.

A decision was taken to do lateral pancreatico-jejunostomy which is modified Puestow's procedure (Partington Rochelle modification of original Puestow's procedure) in the patient. Patient was counseled for the procedure; risks of early a late morbidity and mortality was explained along with the benefits of the procedure. A written informed consent was taken and patient was posted for routine surgical procedure. Under general anaesthesia, midline incision was taken over abdomen and pancreas was accessed by opening the gastrocolic ligament. The pancreatic duct was confirmed by aspirating the pancreatic fluid from the cystic swelling and was opened along its length. The pancreatic head was calcific with enlarged pancreatic duct with thickened wall with no evident calculi in pancreatic duct. A loop of jejunum was mobilized so as to fashion Roux-en-y anastomosis. Roux loop of jejunum was closed at its end and opened longitudinally.

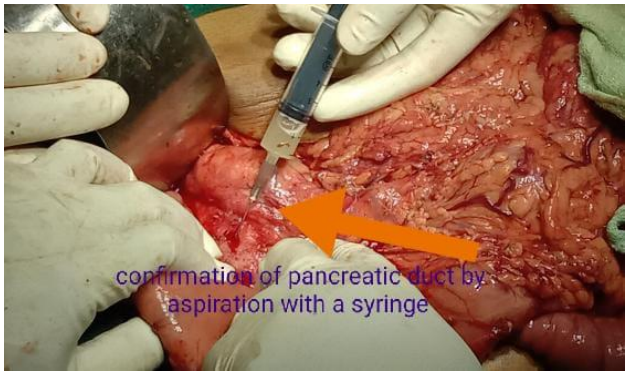

Figure 1: Confirmation of dilated pancreatic duct.

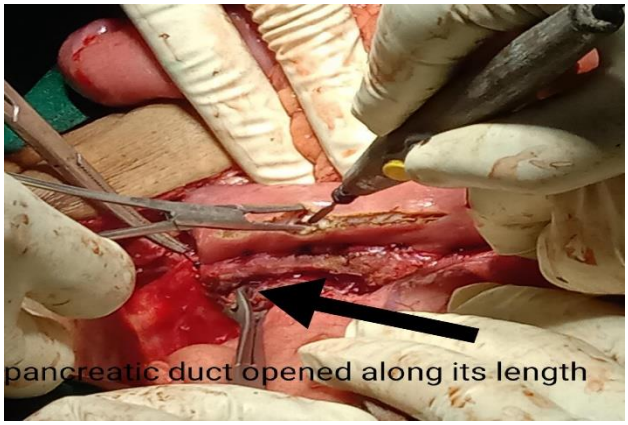

Figure 2: Opened up pancreatic duct longitudinally.

The opened pancreatic duct was anastomosed to the Roux loop longitudinally in two layers with silk 3-0. Inner continuous interlocking stitches with outer intermittent simple stitches were taken.

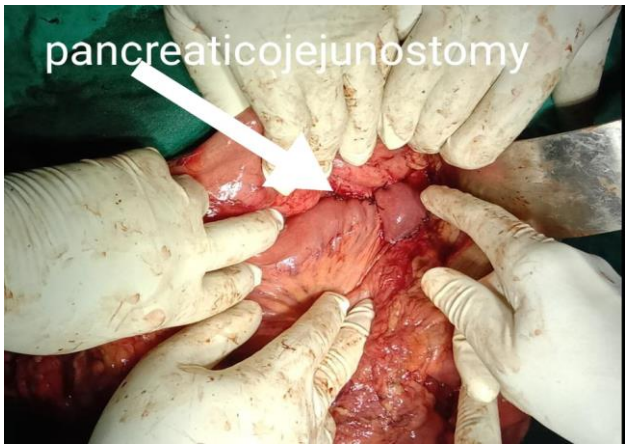

Figure 3: Lateral pancreaticojejunostomy performed.

Subsequently side-to-side jejunojejunal anastomosis was done. The opening made in gastrocolic ligament was obliterated by taking simple stitches so as to avoid future internal hernia. Abdominal drains were placed and abdomen was closed in layers. The whole surgical procedure went uneventful without any intra-operative complications.

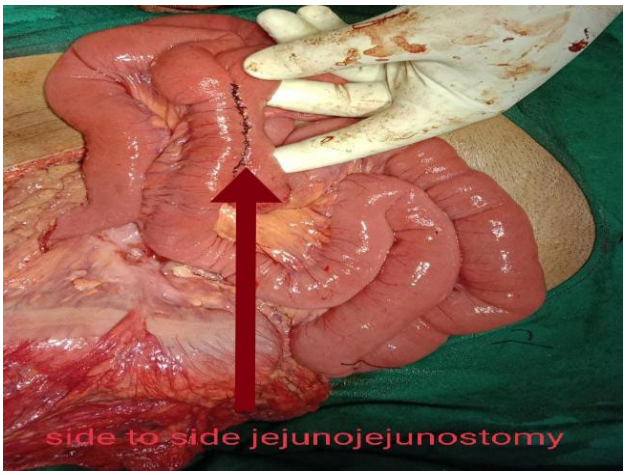

Figure 4: Side-to-side jejunojejunostomy.

Patient remained haemodynamically stable during the procedure and recovered excellently from general anaesthesia without any need of cardiovascular or ventilator support. Patient was closely monitored post-operatively regarding blood pressure, pulse rate, respiratory rate, central venous pressure, oxygen saturation, drain output and urine output. Chest physiotherapy was given regularly with regular nasogastric tube aspiration. The patient was mobilized and started oral feeding. The recovery of the patient was excellent with minimal morbidity with the symptoms relieved. Patient was discharged on eighteenth post-operative day. Patient did not have any complications in early post-operative period. Regular follow up was advised.

DISCUSSION

Chronic pancreatitis is a progressive inflammatory disease in which there is irreversible destruction of pancreatic tissue. Its clinical course is characterised by severe pain and, in the later stages, exocrine and endocrine pancreatic insufficiency. In the early stages of its evolution, it is frequently complicated by attacks of acute pancreatitis, which are responsible for the recurrent pain that may be the only clinical symptom. High alcohol consumption is the most frequent cause of chronic pancreatitis, accounting for 60-70% of cases, but only 5-10% of people with alcoholism develop chronic pancreatitis.[2] There is a linear relationship between exposure to alcohol and the development of chronic pancreatitis. The risk of disease is present in patients with even a low or occasional exposure to alcohol. Chronic pancreatitis may be less commonly due to genetic mutations, duct obstruction due to trauma, gallstones and tumors, metabolic diseases such as hyperlipidemia and hyperparathyroidism and auto-immune disease, tropical pancreatitis or due to idiopathic causes. Chronic pancreatitis can be demonstrated in 0.04% to 5% of autopsies. Incidence of chronic pancreatitis in western population ranges from 8 to 10 cases per year per 100,000 population and the overall prevalence is 27.4 cases per 100,000 population. Prevalence of chronic pancreatitis in southern India is 114-200 cases per 100,000 population as per a recent survey conducted in different countries in the Asia-Pacific region.[3] The spectrum of chronic pancreatitis in India is changing, with increased occurrence in older patients, incidence of milder disease including milder diabetes, increasing longevity and increasing association with alcoholism and smoking.[4]

Pain from chronic pancreatitis has been ascribed to multiple etiologies. Ductal hypertension, due to strictures or stones may predispose to pain that is initiated or exacerbated by eating. Chronic pain without exacerbation may be related to parenchymal disease or retroperitoneal inflammation with persistent neural involvement.[5]

The purpose of surgical management of chronic pancreatitis is to relieve symptoms and to treat complications of the disease. The main indication for elective operation is to alleviate pain. Lateral pancreaticojejunostomy is a safe procedure that can improve functional outcome in patients with chronic alcoholic pancreatitis and does not worsen pancreatic function.[6] Full-length lateral pancreaticojejunostomy is safe, feasible and effective for managing chronic pancreatitis. The technique prevents further exacerbations and maintains appropriate pancreatic endocrine and exocrine function.[7]

Overall pain relief in published studies occurs in 50-90% of patients. Another proposed advantage of the lateral pancreaticojejunostomy is preservation of endocrine and exocrine pancreatic function as long as the pancreas is not further damaged by alcohol.[8] Although lateral pancreaticojejunostomy is associated with readmissions and recurrent abdominal pain, but still it provides a better outcome in carefully selected and well counseled patients.

CONCLUSION

The alcoholism is a very common problem now a days and often associated with pancreatitis that may be acute or chronic. Patients surviving multiple clinical and sub-clinical episodes of pancreatitis suffer from chronic pancreatitis. For the pancreatitis associated with pancreatic duct calculus/calculi, lateral pancreatico-jejunostomy provides excellent benefits regarding the quality of life with acceptable rate of morbidity, mortality and pain relief, without precipitating pancreatic insufficiency.

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