A Case Report

Lateral Pancreaticojejunostomy for Pancreatic Duct Stones

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INTRODUCTION

Chronic pancreatitis is a chronic inflammation of the pancreas, which causes irreversible morphological changes and exocrine and endocrine insufficiency. Initially, pancreas becomes hard and enlarged in size due to fibrosis. Alcoholic abuse is the most common cause of the chronic pancreatitis. However familial and idiopathic groups are also well recognized. In certain parts of the tropical areas, tropical calcific pancreatitis (TCP) is common [1]. Recurrent attacks of the pain, weight loss and development of the secondary Diabetes Mellitus are few of the presentation of the chronic pancreatitis. Medical management of this condition includes, control of pain and diabetes and prescription of the pancreatic enzyme supplementation. Surgical treatment of this condition includes, celiac plexus Block, Frey's procedure, Pancreatodudenectomy, distal Pancreatectomy and Lateral Pancreatojejunostomy. We present a case of 35 years old male who had stones in the main pancreatic duct for which Lateral Pancreatojejunostomy was done successfully.

CASE REPORT

A male patient of 35 years (Fig- 1) was admitted in our surgical unit as an already diagnosed case of chronic pancreatitis on the basis of the history, examination and available investigations.

Fig-1: A 35 years male with chronic pancreatitis

He was suffering from the episodes of the abdominal pain on the background of the continuous pain for the last 2 years. Pain radiated through the right side of the abdomen to the back and was associated with nausea, partially relieved by the injectible analgesics and aggravated by food ingestion. This made him felt not liking eating food leading to weight loss which was also worsened by the presence of occasional episodes of malabsorbtion and the development of insulin dependent Diabetes Mellitus.

When probed for the etiology of the chronic pancreatitis, he proved to be smoker for 40 pack-years but he denied the use of the alcohol or other narcotics. There was also no family history of the similar condition in parents, siblings or first-degree relatives. Moreover history of the abdominal trauma in the past was absent.

Patient had many admissions in different hospitals for the recurrent attacks of the pain. But apart from this illness, he had never been to hospital for any other medical or surgical condition.

He was on Analgesics, insulin therapy and pancreatic enzyme supplementation and had never been allergic to the exposed medications.

Family history and the systemic inquiry were unremarkable except for occasional bouts of cough with sputum and occasional steatorrhea.

Examination revealed an emaciated man looking older than his chronological age, having pallor but no clinical evidence of jaundice. Abdominal examination showed no remarkable findings. Chest examination revealed expiratory ronchi. Rest of the physical examination was normal.

Patient was investigated which showed anemia, raised levels of blood sugar but normal values of serum amylase, renal function tests and Liver Function Tests (LFT's). No attempt was done to establish the insufficiency of the exocrine pancreatic function. Chest X-Ray and ECG were normal. Plain

radiology(Fig-2,3) showed multiple opacities and areas of narrowing and dilatation in the region of the pancreas (chain of lakes appearance).

Fig- 2: Plain radiology showing multiple opacities and areas of narrowing and dilatation in the region of the pancreas (chain of lakes appearance).

USG showed enlarged pancreas with 1.3 cm dilated main pancreatic duct, full of multiple stones but with no evidence of dilatation of extra hepatic or intra hepatic billiary channels. Although B-mode ultrasonography is thought to be the best choice for the diagnosis of pancreatolithiasis [2],

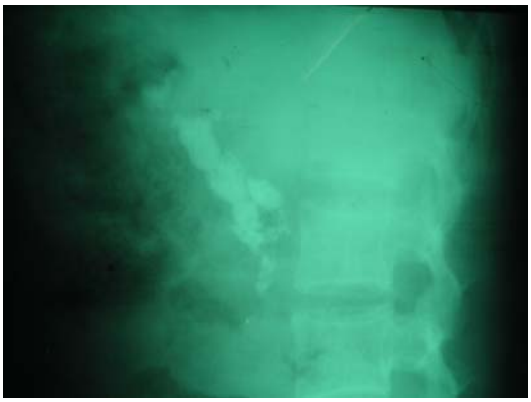

Fig- 3: Plain radiology; lateral view showing opacities and areas of narrowing and dilatation

CT abdomen was done, the objective of which was to rule out other associated pathologies like pancreatic pseudo-cyst and pancreatioplueral, pancreatogastric or pancratocolonic fistulae as surgical procedure would have been different in the presence of any of the complications. CT confirmed the findings of the USG.

Preoperatively patient was managed to improve the nutrition and anemia and to control the diabetes mellitus and pain. Pre op counseling was done to make him to stop smoking and chest physiotherapy advised to improve the pulmonary functions post-operatively. Informed consent was taken after discussing the early and late post-op morbidity and mortality along with the benefits of the procedure.

Under G/A upper midline laparotomy was done. Opening the gastrocolic ligament exposed area of the pancreas. Main pancreatic duct was opened after confirming it (Fig- 4) by aspirating the pancreatic juice. Stones were removed in (Fig-5).

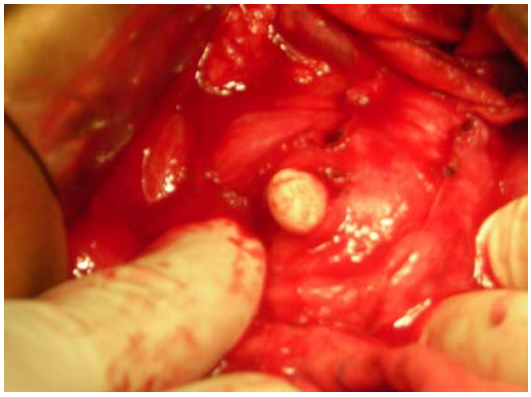

Fig- 4: Main pancreatic duct with stone being delivered

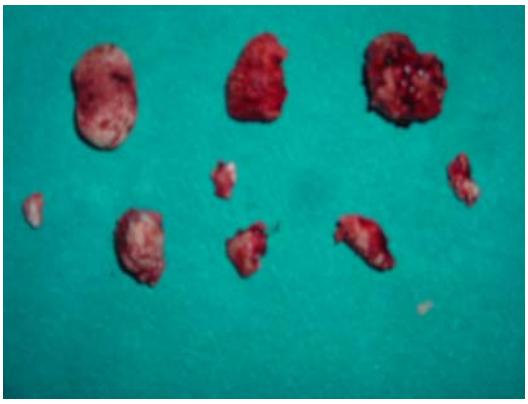

Fig- 5: Stones removed from the pancreatic duct

Roux-en- voy loop was mobilized and anastomosed with the dilated pancreatic duct (Fig-6) in two layers with silk 3/0 (LPJ).

Fig- 6:Lateral pancreaticojejunostimy

End to side jejuno-jejunal anastomosis was done. Drains were placed in the areas of the anastomosis and wound closed in layers.

In the ward, post-op management was done by N/G aspiration(Fig-7), fluids, antibiotics, insulin therapy, monitoring B.P. pulse, drain outputs, urine output and by specifically looking for complications like anastomotic leak, wound or drain site infection.

Recovery of the patient had been excellent with subjective declaration of the

Fig-7: Postoperative management in the ward

improvement in the pain for which he had been looking medical advice for the last two years and with development of none of the complications in the early post op period. Patient was discharged home on 10th post op day and regular follow up was advised.

DISCUSSION

Chronic pancreatitis is an ongoing inflammatory process of the pancreas leading to irreversible morphological changes. In the western world the cause of the chronic pancreatitis is exclusively the alcoholism, though the hereditary and idiopathic groups are also well recognized. In certain parts of the tropical countries, e.g. Kerala, India, chronic pancreatitis with stone formation and duct strictures occur at a relatively younger age and is labeled as tropical calcific pancreatitis (TCP) [1]. Possible genetic defects include mutations in pancreatic secretory trypsin inhibitor, cationic trypsinogen (PRSS1) and cathepsin B (CTSB) [3]. There is increased incidence of early onset diabetes in such patients [1]. Both medical and surgical treatments have their roles to play in chronic pancreatitis. Frey procedure, pancreaticodudene-ctomy, distal pancreatectomy and Lateral pancreaticojejunostomy are various surgical options available with with variable success rates. Lateral pancreaticojejunostomy is usually performed to relieve the pain intractable to the medical management[4]. We also found it effective for our patient. Adamas DB et al, Andresson et al and Kalddy et al [4,5,6] in their case series reported it as a safe and effective way of relieving pain substantially and completely in 65-85% of the cases. The complications that may arise in postoperative period include upper GI Haemmorage, pancreatic fistulae and wound infection. The over all morbidity rate is 5.9% reported in literatue [4].

Long-term complications include recurrent attacks of the pain and continued use of insulin and pancreatic enzymes due to derangement of the endo and exocreine function.

Anderssan et al [5] in their study reported that deterioration in the abdominal pain in long term follow up was in parelell with a tendency toward the decline in both exocrine and endocrine functuion and continued alcohol abuse.

Schnelldorfer T et al [7] in their retrospective study on 184 patients concluded that patients who underwent pancreaticojejunostomy for chronic alcoholic pancreatitis, continued alcohol abuse did not affect the success for the pain control and follow up.

Rehospitalization for recurrent attacks of pancreatitis and pain is necessary in 40% of patients. 16% patients require subsequent operations for complications of chronic pancreatitis. Late mortality rate is in the range of (26%).

Although the long term morbidity seems to be quite high associated with LPJ for chronic alcoholic pancreatitis but with careful selection and effective communication with the patient regarding alcohol and

narcotic abuse, an acceptable outcome can usually be achieved.

CONCLUSION

Tropical calcific pancreatitis, an inflammatory condition of the pancreas, is usually associated with the pancreatic duct stones for which lateral pancreaticojejunostomy provides excellent results with acceptable early morbidity and mortality. Further studies are needed to establish the long-term outcome of the procedure when done specifically for this condition.

REFERENCES

1. Russell RCG, Williams NS, Bulstrode CJK. Bailey & Love's short practice of surgery. 24th ed. London: Arnold Hodder, 2004:1114-32.
2. Wei Y, Li WS, Ali U, Guang LQ, En PC. The diagnosis and treatments of pancreatolithiasis with pancreatic cancer. Pak J Pathol 2001;12:23-6.
3. Mahurkar S, Idris MM, Reddy DN, Bhaskar S, Rao GV, Thomas V, etal. Association of cathepsin B gene polymorphisms with tropical calcific pancreatitis, Gut 2006;55:1270-5.
4. Adams DB, Ford MC, Anderson MC. Outcome after lateral pancreaticojejunostomy for chronic pancreatitis. Ann Surg 1994;219:481-9
5. Andersson R, Borjesson A, Blind PJ, Tingstedt B. Pancreaticojejunostomy: a valid operation in chronic pancreatitis? Scand J Gastroenterol 2008; 43:1000-3.
6. Kalady MF, Bloome AH, Meyers WC, Pappas TN. Immediate and long term outcome after lateral pancreaticojejunostomy for chronic pancreatitis. The American Surgeon 2001; 67:478-83.
7. Schnelldorfer T, Adams DB. Surgical treatment of alcohol associated chronic pain- the canges and pitfalls.Am Surg 2008;74:503-9.

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