

Assessment of clinical outcome of lateral pancreatico jejunostomy for chronic calculous pancreatitis in a tertiary care teaching hospital¹Dr. Ambikavathy M, Professor, Dept of General Surgery, MVJMC & RH Hoskote Bangalore 562114²Dr. Kumar S, Professor, Dept of General Medicine, MVJMC & RH Hoskote Bangalore 562114³Dr. BalajiManickam, Junior Resident, Dept of General Surgery MVJMC & RH Hoskote Bangalore 562114⁴Dr. Sujith M, Junior Resident, Dept of General Surgery MVJMC & RH Hoskote Bangalore 562114⁵Dr. Prashanth Kumar N, Junior Resident, Dept of General Surgery, MVJMC & RH Hoskote Bangalore 562114⁶Dr. Suhas L, Junior Resident, Dept of General Surgery, MVJMC & RH Hoskote Bangalore 562114**Corresponding Author:** Dr. Ambikavathy M, Professor, Dept of General Surgery MVJMC & RH Hoskote Bangalore 562114**How to citation this article:** Dr. Ambikavathy M, Dr. Kumar S, Dr. BalajiManickam, Dr. Sujith M, Dr. Prashanth Kumar N, Dr. Suhas L, “Assessment of clinical outcome of lateral pancreatico jejunostomy for chronic calculous pancreatitis in a tertiary care teaching hospital”, IJMACR- February - 2023, Volume – 6, Issue - 1, P. No. 118 – 123.**Open Access Article:** © 2023, Dr. Ambikavathy M, et al. This is an open access journal and article distributed under the terms of the creative commons attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.**Type of Publication:** Original Research Article**Conflicts of Interest:** Nil**Abstract**

Pancreatic calculi is a condition seen with irreversible destruction and fibrosis of exocrine parenchyma leading to progressive pancreatic insufficiency. It is usually associated with duct stones and requires a decompressive /drainage procedure. Lateral pancreatico jejunostomy provides favorable results with good patient satisfaction

Methods: This descriptive prospective study included 60 patients diagnosed with chronic calculous pancreatitis admitted at VIMSRC between January 2016-December 2018 were admitted investigated and underwent side to side lateral pancreatico jejunostomy.

Patients with recurrent calculi, hyperparathyroidism and duct diameter less than 10mm and mass in the head of pancreas were excluded. All patients were confirmed by usg/cect abdomen and MRCP. Preoperatively physician opinion was sought and correction of malnutrition, anaemia, dehydration, diabetes was done. All received ceftriaxone 1gm 12 th hourly and metrogyl 500mg 8th hourly and LPJ performed under general anaesthesia. The pre and post operative data was analysed using SPSS 23 to assess the efficacy of the surgical procedure.

Results: Most patients were in the age group of 30-40.50 were male and 10 females. 55 were alcoholics, 6 nonalcoholic, 10 had gall stones cholecystectomy was performed. Pain abdomen noted in all patients.

Steatorrhea in 10 and 12 had mild jaundice. 3 developed leak and 2 surgical site infection. All patients were relieved of pain abdomen (VA Scale 9) at follow up. 5 patients had uncontrolled diabetes.

Conclusion: Lateral Pancreatico Jejunostomy is easy to do with less complications. Decompression favours good outcome with less morbidity and mortality. Patients report improvement in Pain relief.

Keywords: Lateral pancreatico jejunostomy, Calculous pancreatitis

Introduction

Chronic pancreatitis is a progressive inflammatory disease with stone formation, Pancreatic duct calculi leads to an out-flow obstruction-ductal hypertension, increased parenchymal pressure, and ischemia. Pain is the predominant symptom in most patients with chronic pancreatitis. Removal of pancreatic duct stone with restitution of pancreatic flow improves physiological function of the pancreas. Pancreatic duct obstruction due to stones can be treated by surgery, endoscopic, or extracorporeal shock wave lithotripsy (ESWL) according to the location of the stones in the pancreatic duct. If the stones are in the body of pancreas with significant dilation of duct, Puestow-Gillesby procedure (pancreatojejunostomy) is done. Resection of the tail of the Pancreas with or without splenectomy is done if the stones are located in the tail of the pancreas. For stones in the head of the main duct of the pancreas excision of the head is done with preservation of duodenum and CBD called the Berger's procedure. Excision of the duct of Wirsung and Santorini in the head with Long length LPJ is called Frey's operation.

Method

Patient diagnosed by Ultrasonography with dilated MPD diameter more than 8mm with pancreatic duct stone

were included, further evaluated with CBC, Creatinine, Liver function test, Serum calcium, plain X-ray abdomen, CT scan and in some Magnetic Resonance Cholangio Pancreatography (MRCP). The data was recorded as per proforma. We excluded patients with mass in the head of pancreas, hyperparathyroidism and recurrent pancreatic calculi.

All the patient were operated with upper midline incision under general anesthesia. In patients with dilated pancreatic duct, studded with multiple large stones, the duct was opened directly using cautery over the stone and by needle puncture to confirm the site of duct and then the puncture was extended with cautery. The jejunal limb was divided 20 cm distal to duo-deno-jejunal flexure. The Roux limb was taken to the supracolic compartment through the mesocolic window and fixed to the tail of the pancreas. The main pancreatic duct was opened until all stones removed and strictures opened, length of pancreato-docotomy was 6 to 10 cm based on number of stones and Strictures. Side to side jejuno-jejunal (J-J) anastomosis was done 60 CMS from LPJ., and the common enterotomy site was closed using polypropylene 3-0, in single layer continuous fashion. Patients with incidental gall stones underwent cholecystectomy with LPJ. All patients were discharged on complete remission of post-operative pain and resumption of normal Diet. Patients were followed up one week after discharge 3 and 6 months and 1 year after surgery.

They were evaluated for abdominal pain, malabsorption and diabetes. Review ultrasound of abdomen and plain X-ray was done to assess the status of pancreas and recurrence of stone. Oral Tramadol was given sos for pain, Pancreatic enzyme was given for patient with

steatorrhea and persistent diarrhoea. Insulin therapy was continued in diabetic patients.

Fig. 1: Operative picture showing jejunal loop divided and stump sutured with pancreato-cholecystostomy

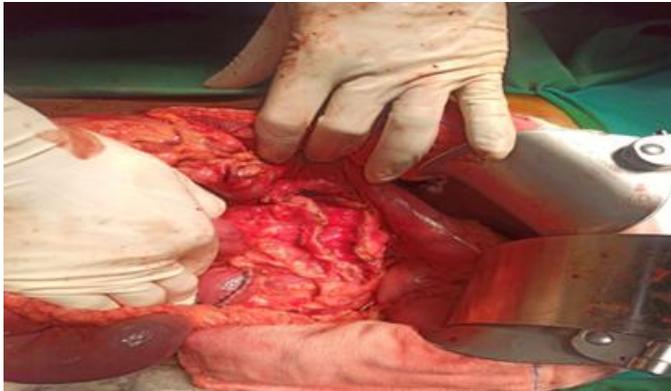


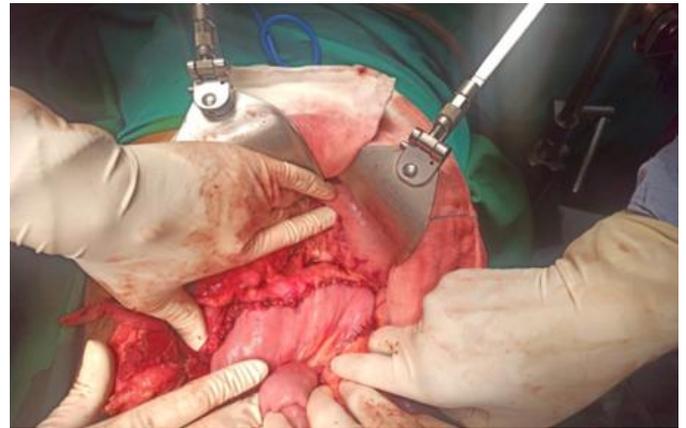
Fig. 2: Operative picture showing Roux Y limb incised on antimesenteric border and side-to-side anastomoses to the posterior wall of pancreas



Fig. 3: Operative picture showing anastomoses of the anterior wall of pancreas



Fig. 4: Operative picture showing lateral pancreaticojejunostomy completed



Results

Most patients were in the age group of 40-50 years (table-2). 50(83.3%) male and 10(16%) female (table-1). 55(91%) Alcoholics 5(8.33%) non-alcoholic, The average diameter of the main pancreatic duct was 13.7 mm and ranged from 8 to 15 mm(table-4). Pain abdomen was noted in all patients.

Steatorrhea in 10(16.7%) and mild jaundice 5(8.33%) (table-3). All 60 patients underwent lateral pancreaticojejunostomy, 10(16.7%) had gall stones and cholecystectomy was performed(table-5, fig-1-4).

The mean Operative time for pancreato-jejunosotomy was one hour and forty minutes. 1 (1.7%) developed leak who settled with conservative management and 2(3.33%) surgical site infection (table-6).

29 patients were discharged on eight post operative day followed by fifteen on 10th and 12th day one patient was discharged after two weeks (table-7). All patients were relieved of pain abdomen and control of diabetes at follow up (Table-8,9). There was no mortality in our study.

Table1: showing gender distribution of patients

Male	50(83.3%)
Female	10(16.7%)
Total	60(100%)

Table 2: showing age distribution of chronic pancreatitis

Age	Number
< 40	5 (8.33%)
40-50	50 (83%)
60-70	5 (8.33%)
>70	0

Table 3: showing symptoms

symptoms	Number
Pain Abdomen	60(100%)
Nausea & Vomiting	50(83%)
Jaundice	5(8.33) %
steatorrhoea	10(16.7%)

Table 4: showing diameter of MPD

MPD	Number
<8mm	0
8-10mm	10(16.7%0
10-12mm	20(33.33%)
12-13mm	15(25%)
>13	15(25%)

Table 5: showing surgical procedure done

Surgery	Number
LPJ	60 100%
LPJ+ Cholecystectomy	10(16.7) %

Table 6: showing post operative complications

Complications	Number
No complications	55(91%)
SurgicalSiteInfection	2(3.33%)
Leak	1(1.7%)
Respiratorytract infection	3(5%)
Electrolyte imbalance	3(5%)

Table 7: showing date of discharge

Days	Number
8 days	29(48.33%)

8-10 days	15(25%)
10-12days	15(25%)
>12 days	1(1.7%)

Table 8: showing preoperative intensity of pain before surgery

VAS Scale	Number
<5	0
5-6	0
6-8	5(8.33%)
>8	55(91.6%)

Table 9: showing patient feedback for pain abdomen at follow-up

Duration	Satisfaction	number
6weeks	satisfactory	60(100%)
6 months	good	55(91.5%)
1 year	good	56(93.33%)
2 years	good	56(93.33%)

Discussion

Diagnoses and evaluations of chronic calcific pancreatitis is by history and clinical examination, plain X-ray abdomen, ultrasonography, computed tomography (CT), endoscopic retrograde Cholangio-pancreatography(ERCP) and Magnetic Resonance Cholangio-pancreato-graphy. MRCP can precisely reveal pancreatic duct stones, pancreatitis, pancreatic tumor, and pancreatic cyst. Pancreatic Tumor marker like CA19-9 should also be done to exclude Malignancy.^{1,2,3}

Different surgical procedures can be chosen according to the location of the stones in the pancreatic duct.^{4,5,6} When the Stones are mainly located in the head of pancreas and stone size is less than 5 mm, endoscopic drainage and removal of stones is treatment. Larger Stones can be fragmented by ESWL.^{7,8,9} Stones located in the body of the pancreas, can be treated with Lateral

Pancreaticojejunostomy (LPJ), Resection of the tail of the pancreas or Combined resection with or without splenectomy is done if the stones are located in the tail of the pancreas. The stones found in the head of the pancreas require local excision of the head and lateral pancreatojejunostomy (LR-LPJ). This is called Frey's operation^{10,11,13,15}.

Treatments including surgical, endoscopic techniques, laser Lithotripsy, extracorporeal shock wave lithotripsy (ESWL), Balloon stenting, and medications are effective. The success of endoscopic intervention, as a less invasive procedure for stricture dilatation, small stone basketing is due to the advanced endoscopic techniques. Patients who undergo lateral pancreaticojejunostomy require a shorter hospital stay, and have a better quality of life^{12,14,15}.

Conclusion

Successful removal of pancreatic duct stones and drainage of the pancreatic duct can reduce pain and improve pancreatic function in majority of patients. Roux Y lateral pancreatojejunostomy is better drainage option.

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