

A Comparitive Study Between Lateral Pancreatico-Gastrostomy And Longitudinal Pancreatico-Jejunostomy For Pain Relief In Chronic Pancreatitis

Madhumita Mukhopdhyay

Abstract:Aims : To compare the effectiveness of LPG and LPJ in relieving pain in patients of chronic pancreatitis. **Methods :** A prospective study was carried out in a tertiary care hospital in West Bengal over a period of four years. A total of 35 patients were allocated for LPG and LPJ operations. Study tools included pain gradation, investigations (lipase , amylase, total bilirubin, albumin), USG abdomen, CECT, MRCP, ERCP. Parameters of this study were duration of surgery and hospital stay, assessment of post operative pain relief and complications. Patients above 12 years of age with diagnosis of chronic pancreatitis , with or without duct calculi with MPD diameter ≥ 7 mm and in whom pain could not be controlled by medical means were included in the study. The exclusion criteria were MPD diameter < 7 mm , splenomegaly and pancreatic malignancy. For pain relief assessment patients were divided into three categories : complete (no pain), satisfactory (mild tolerable pain with normal daily activities) and unsatisfactory (moderate to severe pain requiring medication and hampered daily activities). **Results :** 18 patients in group A underwent LPG and 17 patients in group B underwent LPJ. Mean age in group A was 37.94 ± 3.76 years and in group B was 37 ± 4.27 years. Majority of the patients had gall stone etiology . The mean duration of illness in group A was 4.27 ± 0.96 years and that of group B was 3.7 ± 4.27 years. It was seen that LPG was easier to perform, took less time and the duration of hospital stay was less. Post operative complications were less in the LPG group . Pain relief was much better in the LPG group with more patients showing complete or satisfactory results than in the LPJ group. **Conclusion :** To conclude, LPG is an easier and safer surgery which achieves good pain relief. More comparitive studies should be done to establish which is a better procedure.

Key Words : Lateralpancreatico-gastrostomy, Longitudinal pancreatico-jejunostomy, pain relief, drainage

Date of Submission: 08-05-2018

Date of acceptance: 25-05-2018

I. Introduction

One of the causes of severe pain in chronic pancreatitis is multiple areas of blockage of the pancreatic duct and obstruction to the flow of pancreatic juice. Opening and decompressing the pancreatic duct through a large opening and directing the flow of pancreatic juice into the alimentary tract relieves the obstruction and leads to some amount of pain relief. Traditional form of decompression is construction of a longitudinal pancreaticojejunal anastomosis (LPJ) (1). Another alternative method is a lateralpancreaticogastrostomy (LPG). This study was done to evaluate and compare the effectiveness of the procedures in relation to pain relief and complications.

II. Methods

A prospective study was carried out in a tertiary care hospital in West Bengal over a period of four years. A total of 35 patients were randomly allocated for LPG and LPJ operations. Study tools included pain gradation, investigations (lipase , amylase, total bilirubin, albumin), USG abdomen, CECT, MRCP, ERCP. Parameters of this study were duration of surgery and hospital stay, assessment of post operative pain relief and complications. Patients above 12 years of age with diagnosis of chronic pancreatitis , with or without duct calculi with MPD diameter ≥ 7 mm and in whom pain could not be controlled by medical means were included in the study. The exclusion criteria were MPD diameter < 7 mm , splenomegaly and pancreatic malignancy. For pain relief assessment patients were divided into three categories : complete (no pain), satisfactory (mild tolerable pain with normal daily activities) and unsatisfactory (moderate to severe pain requiring medication and hampered daily activities).

Some operative procedure was followed for all. Pancreas was approached through the gastrocolicomentum. A piece of tissue from the margin of the opened duct was sent for histopathological examination. Intraductaal calculi were removed as far as possible from the entire length of the duct. Parameters of this study were duration of surgery and hospital stay, assessment of post operative pain relief and complications. Octreotide was given post operatively for 7 days. Follow up was done monthly for the first six months, then three monthly for the next six months and thereafter yearly.

III. Results

18 patients in group A underwent LPG and 17 patients in group B underwent LPJ. There were 10 female patients in group A and 9 female patients in group B. Mean age in group A was 37.94 ± 3.76 years and in group B was 37 ± 4.27 years. The commonest age range was between 35 to 45 years. Majority of the patients had gall stone etiology (Table 1). The duration of illness lasted from 3 years to more than 6 years. The mean duration of illness in group A was 4.27 ± 0.96 years and that of group B was 3.7 ± 4.27 years. It was seen that LPG was easier to perform, took less time and the duration of hospital stay was less (Table 2). Post operative complications were less in the LPG group(Table 3). Pain relief was much better in the LPG group with more patients showing complete or satisfactory results than in the LPJ group(Table 4). There were no mortality in our series.

Table 1 - Etiology

Aetiology	Group A	Group B	Total	Percentage
Gall stone	12	8	20	57.14 %
Alcohol	5	3	8	22.86 %
Tropical pancreatitis	0	2	2	5.71 %
Idiopathic	1	4	5	14.29 %

Table 2 - Various Post Operative Outcomes

	GROUP A n=18	GROUP B n = 17
DURATION OF SURGERY	90.44 \pm 3.79 min	137.71 \pm 3.93 min
AVERAGE HOSPITAL STAY	5.94 \pm 1.11	10.53 \pm 1.46
COMPLICATIONS (Other than paralytic ileus)	4(22.22 %)	10 (58.82 %)

Table 3 - Complications

COMPLICATIONS	GROUP A n=18	GROUP B n= 17
PANCREATIC FISTULA	1 (5.56 %)	3 (17. 64 %)
PROLONGED ILEUS	1 (5.56 %)	5 (29.41 %)
WOUND INFECTION	2 (11.11 %)	5 (29.41 %)
G I BLEEDING	1 (5.56 %)	1 (5.88 %)
INTESTINAL FISTULA	0	1 (5.88 %)

Table 4 - Pain Relief Pattern

	GROUP A n = 18	GROUP B n = 17
COMPLETE	7 (38.89 %)	4 (23.53 %)
SATISFACTORY	8 (44.44 %)	6 (35.29 %)
UNSATISFACTORY	3 (16.67 %)	7 (41.18 %)
TOTAL	18 (100 %)	17 (100 %)

IV. Discussion

The ideal operation for chronic pancreatitis should relieve pain and preserve exocrine and endocrine functions (2, 3, 4). Recently studies have shown that LPG is better as a drainage procedure. (1, 2, 5).

LPG has several advantages over LPJ. The stomach lies in close proximity to the pancreas, is thick walled and more vascular and hence ensures better anastomosis (2). In LPG the presence of a long jejunal blind tube is eliminated (1). LPJ involves the creation of two anastomoses hence takes more time, has a higher probability of leakage and results in longer duration of hospital stay postoperatively. If stone remains in the main pancreatic duct after operation, it gets dissolved with the direct contact of gastric juice and orally administered citrate solution (2). In LPG, bleeding if present can be controlled endoscopically (1). From the physiological point of view, the lack of enterokinase in the gastric mucosa prevent protease activation (1, 6). Protease activation leads to acute pancreatitis and later duct stenosis. The alkalinization in turn avoids marginal ulceration.

In our study majority of the patients had gall stone etiology in sharp contrast to other studies (3, 7) which showed that chronic alcohol consumption as the main cause. One of the reasons for this difference of etiology may be due to the fact that there were more female patients than male patients in our study in comparison to other studies where majority of the patients were male. As with other studies (7), pain was the most common presentation in our series. Data comparing LPG to LPJ for chronic pancreatitis are very few (1, 2) as the reported comparative studies are seldom related to chronic pancreatitis alone. They report mixed data, mostly periampullary carcinoma(7, 8). In this study we found that LPG was easier to perform, took less time and the duration of hospital stay was less. Post operative complications were less in the LPG group. Pain relief

was much better in the LPG group with more patients showing complete or satisfactory results than in the LPJ group. There was no mortality in our series.

To conclude, LPG is an easier and safer surgery which achieves good pain relief. More comparative studies should be done to establish which is a better procedure.

References

- [1]. Patel S, Swaminathan R. A comparative study between longitudinal pancreaticojejunostomy versus lateral pancreaticogastrostomy : A drainage procedure. *MedPulse – International Medical journal* 2015; 2(10): 646-648
- [2]. Halder SK, Bhattacharjee PK, Bhar P, Das C, Pandey P, Rakshit KP, Pachaury A. a Comparitive study between Longitudinal Pancreaticojejunostomy v/s Lateral Pancreaticogastrostomy as a drainage procedure for pain relief I chronic pancreatitis done in a tertiary referral centre of eastern India. *Indian j Surg* 2015; 77(2) : 120-124
- [3]. Cooperman AM. Surgery and chronic pancreatitis. *Surg Clin North Am* 2001; 81: 431-55
- [4]. Sakorafas GH, Farnell MB, Nagorney DM, Sarr MG. Surgical management of chronic pancreatitis at the Mayo Clinic. *Surg Clin North Am* 2001; 81 : 457-465
- [5]. Pain JA, Knight MJ. Pancreaticogastrostomy : the preferred operation for pain relief in chronic pancreatitis. *Br J Surg* 1988; 75 : 220-222
- [6]. Pikarsky A., Muggia-Sullam M., Eid A., Lyass S., Bloom A., Durst A., Shiloni E.: Pancreaticogastrostomy after pancreaticoduodenectomy. A retrospective study of 28 patients. *Arch Surg*, 1997, 32(3):296-9.
- [7]. Bhattacharjee PK. Longitudinal pancreatico-gastrostomy: An effective means of pain control in chronic pancreatitis. *Saudi j Gastroenterol* 2007; 13: 70-75
- [8]. Bassi C, Falconi M, Tihany T, Salvia R, Valerio A, Caldiron E, et al . Resection in chronic pancreatitis: Anastomosis with the jejunum or with the stomach? *Ann Ital Chir*2000;71:51-5.

Madhumita Mukhopdhyay “A Comparitive Study Between Lateral Pancreatico-Gastrostomy And Longitudinal Pancreatico-Jejunostomy For Pain Relief In Chronic Pancreatitis” An Observational Study” *"IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 17, no. 5, 2018, pp 24-26