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CLINICAL STUDY OF CHRONIC PANCREATITIS ITS MANAGEMENT AND COMPLICATIONS

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ABSTRACT

Aim was to study the various management methods for chronic pancreatitis and complications associated. In Present study 28 cases chronic pancreatitis managed by different methods and complications of chronic pancretitis were encountered were noted in period of 18 months. Patients managed conservatively experienced complications like recurrent pain, ascites and infection. Longitudinal pancreaticojejunostomy was the commonest surgical procedure done in our hospital. The patients were observed for relief of pain and development of complications in the immediate postoperative period. Eight patients developed complications both immediate and delayed, recurrent pain was the commonest complication. Wound infection was the most common immediate complication. In patients managed conservatively development of pseudocyst and ascites was seen. Recurrent pain was seen in 3 patients managed conservatively. Based on these observations it is concluded that follow up of patients managed conservatively is vital and surgical procedures for chronic pancreatitis are effective and should be tailored to the individual patient.

Keywords: Chronic Pancreatitis, Complications, Longitudinal Pancreaticojejunostomy

INTRODUCTION

Chronic pancreatitis is continuing inflammatory disease of pancreas leading to functional and structural alteration in the gland and may involve surrounding structures leading to varied clinical manifestations. Eighty percent of cases are due to alcohol misuse. Alcohol is the commonest etiological factor. The severity depends upon the amount and duration of intake. The interval between the beginnings of regular alcohol consumption in substantial quantities. Induces spasm of sphincter of Oddi and decreases lithostatin secretions and promotes protein and calcium precipitation leading to calculi formation. Alcohol causes premature activation of pancreatic enzymes (Howard and Jorden, 1960).

Tropical pancreatitis is a form of idiopathic CP seen in tropical Asia and Africa, characterized by abdominal pain, intraductal calculi, and diabetes mellitus in young, non-alcoholic subjects. TCP occurs usually in children or young adults and is characterized by recurrent abdominal pain, large pancreatic intraductal calculi, development of diabetes and steatorrhea, malnutrition, and a high rate of development of pancreatic cancer (Chari *et al.*, 1992; Balakrishnan, 1987).

Chronic pancreatitis usually presents with abdominal pain, followed at a variable interval by the features of exocrine and endocrine dysfunction. Clinically significant nutritional deficiencies are not evident until 90% of exocrine function is lost. The majority of pancreatic function tests have a low sensitivity in early disease. In addition to pain, malabsorption and diabetes, chronic pancreatitis has a number of local complications including pseudocyst formation, biliary and duodenal obstruction, venous thrombosis and formation of pseudoaneurysm. Chronic pancreatitis has also been reported to be an independent risk factor for the development of pancreatic cancer, with a cumulative risk of 4% after 20 years of disease, regardless of cause (Mohan *et al.*, 1983; Mohan *et al.*, 1998; Hawrami *et al.*, 1997; Mohan *et al.*, 1996; Mohan *et al.*, 1992; Mohan *et al.*, 2005).

The logical treatment of chronic pancreatitis has always been elusive due to lack of knowledge about exact cause and pathogenesis of the disease. Patients with chronic pancreatitis present with either pain or

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complications of chronic pancreatitis. So the management depends upon the mode of presentation and the pathology, etiology. Hence, the study is undertaken to learn about the various approaches in the management of chronic pancreatitis and the complications of chronic pancreatitis.

MATERIALS AND METHODS

This is a study of 28 cases chronic pancreatitis managed by different methods and 7 cases of which complications of chronic pancretitis were encountered between Feb 2013 and July 2014

Inclusion criteria: Patients with pain abdomen (epigastric) radiating to back raised Serum Amylase, USG Abdomen or ERCP or CT scan Abdomen or MRCP showing features of chronic pancreatitis. Patients who are known cases of chronic pancreatitis presenting with a complication.

All the patient other that pancreatitis are excluded from the study.

Symptoms according to the cause were noted. Negative history to rule out other causes was noted. Clinical examination included nutritional status like built, anemia and jaundice. Abdomen was examined for ascetic, lumps and organomegaly.

Basic investigations are done like Serum Amylase was estimated the activity of inflammatory process, Serum proteins to know the nutritional status of the patient, Liver function tests, Hemoglobin percentage was done in all patients.

Radiological investigations like Plain X-ray of Abdomen in erect posture for the calcifications in the pancreas and associated biliary calculi, Chest PA view – to see for pleural effusion.

Ultrasound scan of abdomen to know Pancreas – size, texture and calcification, Pancreatic duct – size, abnormal dilations, cysts and calculi, Peri pancreatic collections, Pseudocyst location, size, Associated biliary tract findings, Ascitis

Endoscopic Retrograde Cholangio Pancreatogram (ERCP): Pancreatic duct size, strictures, dilations, abnormal communications and filling defects. Bile duct – size, strictures, dilations and filling defects.

After the above investigations patients were selected for various options in the management and patients presenting with complications were treated appropriately.

Management

Patients with acute or chronic pancreatitis were managed conservatively. In patients with chronic pancreatitis with mild pain also were managed conservatively.

Those with chronic pancreatitis associated with long standing pain or pseudocyst or complication after controlling the inflammatory process were subjected to surgical approach or ERCP as a therapeutic approach. The surgical approaches were tailored to the individual patient such as Longitudinal pancreaticojejunostomy, distal pancreatectomy, celiac ganglion block, cystogastrostomy, cystojejunostomy, external drainage.

In patients with chronic pancreatitis secondary to gall stones or pancreatic calculi limited to the head region, ERCP guided sphincterotomy and stunt placement was done.

RESULTS AND DISCUSSION

Results

It is a study of 28 patients conducted between Feb 2013 to June 2014 for a period of 18 months at our hospitals. Results analysed with Microsoft excel.

able 1. Age incluence of the patients in the study	
Age in years	No of patients (n=28)
< 20	2
20 - 40	5
41 - 60	14
> 60	7

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Table 2. Sex incluence of the patients in the study	
Sex	No of patients (n=28)
Male	20
Female	8

Table 2: Sex incidence of the patients in the study

Table 3: Symptoms of chronic pancreatitis in the study	
Symptom	No of patients (n=28)
Pain	28
Steatorrhea	9
Diabetes	7
Ascites	3
Weight. loss	21
Jaundice	4

Pain was commonest symptom in the study seen in all patients. The duration of pain ranged from 6 months to more than 10 years. Fourteen of twenty eight patients (50%) were found to be alcoholics in our study. Fourteen of twenty eight patients (50%) were non alcoholic. Four patients had biliary calculi.

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Serum Amylase in U/dL	No of patients (n=28)
80 - 180	14
181 – 280	3
281 - 380	7
381 - 480	2
481 - 580	1
581 - 680	1

Serum albumin levels in 10/28 patients are in between 3.1 to 3.5 grams/L.

Table 5. Set un Albumin levels in the patients	
Albumin level in grms /dL	No of patients (n=28)
2 - 2.5	6
2.6 – 3	3
3.1 – 3.5	10
3.6 – 4	4
4.1 – 4.5	5

Table 5: Serum Albumin levels in the patients

Hemoglobin percentage in our patients range from 9 to 14 grams.

Hemoglobin range in gr%	No of patients
8.1 – 10	5
10.1 – 12	18
12.1 – 14	5

Table 6: Hemoglobin range in the study

Plain X-ray abdomen showed calcification in the region of pancreas in 3 of alcoholic patients. ERCP was done in 22 / 28 patients of whom 5 were managed through sphinctorotomy and stunt placement.

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Ultrasonography	Number (n=28)
Pancreatic echogenesity	21
Dilated pancreatic duct	8
Pancreatic parenchymal	15
calcification	
Pancreatic ductal calculi	13
Gall stones	4
Pseudocysts	2

 Table 7: Ultrasonography findings in patients in our study

All the patients underwent ultrasonographic examination of the abdomen. Increased echogenesity of the pancreatic parenchyma was shown in 21 patients, with dilated duct in 15 patients and pancreatic calcification in 13 patients. There were demonstrable pancreatic calculi in 9 patients. 2 patients had evidence of pseudocyst and 2 patients had CBD stone and 4 patients had GB stones.

MRCP was done for 10 patients who showed presence of ductal dilatation and biliary tract pathology.

MRCP	No of patients – 10
Dilated duct (head & body)	6
Dilated duct with CBD stones and gall bladder	4
stones	
Dilated duct (Body and tail)	2
Pseudocysts	2

Table 9: Various methods approached in this study

S.NO	Procedure	No of cases
1	Conservative	10
2	ERCP guided sphincterotomy and stunting	5
3	LPJ	6
4	LPJ + biliary bypass	4
5	Distal pancreatectomy	2
6	Celiac ganglion block	1

Of the 28 patients, 10 patients with mild pain and ultrasound abdomen showing only pancreatic echogenicity, small pseudocysts were managed conservatively and are in follow up.

Patients with ERCP showing dilated duct more than 6mm were subjected to LPJ patients with dilated duct and gall stones were subjected LPJ and biliary bypass with cholecystectomy.

In one patient with duct dilation limited to the tail, distal pancreatectomy and spleenectomy was done. In one patient there were extensive adhesions and the pancreas was acutely inflamed. In this patient celiac ganglion block was given with bupivacaine.

Table 10: Post Operative Morbidity		
Complication	No of patients	
Pancreatic leak	2	
Intraabdominal sepsis	0	
Wound infection	5	

There was no post operative mortality

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Follow up period ranged from 3 to 24 months. Of the 28 patients 24 patients are in follow up and 4 patients are lost to follow up. Of the 24 patients 3 patients managed conservatively came with recurrent pain and investigations showed acute and chronic pancreatitis and are managed conservatively.

Table 11: Long term complications	
Complications	No of patients
Ascites	2
Infected pseudocyst	1
Pseudocyst	3
Diabetes	1

Of the 10 patients managed conservatively, 2 developed ascitis, 1 developed infected pseudocyst. 3 had pseudocyst not responding to conservative treatment. 1 patient had developed diabetes in the follow up period

Discussion

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Twenty – eight patients presenting with symptoms of chronic pancreatitis were subjected to different management options after evaluation.

ale to female ratio in this study is correlating with some of the western studies. Other Indian studies also show similar incidence of chronic pancreatitis with predilection for males.

Table 12: Sex Incidence in our study

Series	M / F ratio
Procter and Mendes (1979)	3:1
Ramesh <i>et al.</i> , (2005)	2:1
Chaudary and Khanna (1981)	1.5 : 1
Frey et al., (1976)	2.5 : 1
Present series	2.5:1

In this study alcohol consumption seemed to be the single largest etiological factor for chronic pancreatitisi while in the rest of the patients exact cause couldn't be determined. The various etiological factors attributed to this group of patients may be nutritional, idiopathic, hereditary or pancreatitis associated with ductal obstruction etc.

Most common symptoms in this study is intractable pain abdomen as seen in other Indian series like Rangabhashyam *et al.*, (1990) and Balaji *et al.*, (1994).

Author	No of	Alcohol	Biliary tract	Undetermined
	patients		disease	cause
Khanna <i>et al.</i> , (1981)	30	6 (20%)	16 (53%)	8 (27%)
Traverso (1999)	74	48 (65%)	6 (8%)	-
Geevarghese et al.,	100	(2%)	-	(98%)
(1962)				
Sharad (1986)	26	-	-	100%
Present study	28	14 (50%)	4 (14%)	10 (36%)

Table 13: Comparision of etiology and Chronic Pancreatitis in various series

Intractable pain abdomen not amenable to medical management and incapacitating normal life are the main indications for surgery, which is evident from above studies. Association with alcohol intake is seen 50% of cases in this series and in other Indian series as well, but western series show a far higher incidence, like 96% in David B, Adams *et al.*, (2001). This shows an entity of non –alcoholic etiology in pathogenesis of chronic pancreatitis as shown by Ramesh *et al.*, (2005), particularly in our country.

Rangabhasyam et Chaudary and **Present study** Symptom Balaji al., et al., (1990) (1994)Khanna (1981) (n=28)91/91 (100%) 30/30 (100%) 30/30 (100%) 28 (100%) Pain 20/91 (22%) 30/30 (100%) 28/30 (93%) Loss of 21 (82%) weight Jaundice 6/30(20%) 4 (14.2%)

Table 14: Symptom	analysis of	natients with	chronic	nancreatitis
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Commonest management methods in this series are longitudinal pancreaticojejunostomy and conservative method, which is correlating with some of western studies as in David B. Adams (2001) series.

Table 13. Comparison of management methods			
Procedure	Present series (n=28)	David B Adam (2001) (n=85)	
Conservative	10	20	
LPJ	6	32	
LPJ + biliary bypass	4	19	
Distal pancreatectomy	2	4	
ERCP guided	5	-	
procedures			

Table 15: Comparison of management methods

One patient was detected as diabetic in follow up period and managed by insulin therapy. This fact suggests that duct decompression for pain relief neither stops nor delays the ongoing process of inflammatory pancreatic destruction and associated complications. Though follow up period was less and number of patients followed was less the surgical therapy appears to be effective.

Conclusion

Patients managed conservatively experienced complications like recurrent pain, as cites, infection. LPJ was the commonest surgical procedure done in our hospital. The patients were observed for relief of pain and development of complications in the immediate postoperative period. Eight patients developed complications both immediate and delayed, recurrent pain was the commonest complication. Wound infection was the most common immediate complication. In patients managed conservatively development of pseudocyst and as cites was seen. Recurrent pain was seen in 3 patients managed conservatively. Based on these observations it is concluded that follow up of patients managed conservatively is vital and surgical procedures for chronic pancreatitis are effective and should be tailored to the individual patient.

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