

Chapter 24

**Chronic calcific pancreatitis –
Results of surgical management at SGPGIMS,
Lucknow**

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Summary

We present our surgical experience in subjects with chronic calcific pancreatitis. The most common indication for surgery was intractable pain. On comparing chronic calcific pancreatitis (CCP) subjects with those having alcoholic pancreatitis, we found that the prevalence of diabetes was similar. However, while subjects with CCP had a higher prevalence of calcification, those with alcoholic pancreatitis had a higher prevalence of local complications like pseudocyst, pseudoaneurysm and portal hypertension. We also describe our experience with drainage as well as resectional procedures. At our center, there has been a distinct shift in policy in the past decade - from that of surgical intervention limited to patients with rigid indications only, to a more liberal indication of surgical drainage especially where the anatomy is favorable.

Introduction

Chronic calcific pancreatitis (CCP) is considered a disease of the tropics, but several reports are there from the subcontinent spreading over the sub-tropical region. It is unclear whether the CCP seen in the sub-tropical region is similar to that of the tropics or to that of the Western hemisphere. We present our experience of surgical management of patients with CCP requiring surgical intervention.

Experience at SGPGIMS

Between January 1989 to July 2004, 161 patients with a diagnosis of CCP were seen in the Department of Surgical Gastroenterology at SGPGIMS, Lucknow. 141 of these underwent surgical intervention. The details of demography, clinical presentation, surgical procedures and outcome are presented.

Patients seen at SGPGIMS were residents of Uttar Pradesh (UP) with a sprinkling of patients hailing from the adjoining states of Madhya Pradesh and Bihar. There were no high-density pockets in the state and patients were uniformly distributed across the southeastern districts of UP. (Figure)

The median age of our patients was 33 (10-62) years. There were 98 men and 43 women. The etiology of CCP was idiopathic tropical pancreatitis in 115 (82%) and alcoholic in 26 (18%). Pain (n=136; 96%) was the commonest presenting complaint. The other presenting symptoms included jaundice (n=29; 20%), cholangitis (n=14; 10%), GI bleed (n=6; 4%), pancreatic ascites (n=2) and gastric outlet obstruction in one patient. Thirty nine (27%) patients had diabetes and 13 (9%) had clinical steatorrhea. Compared to idiopathic calcific pancreatitis (table 1), patients with chronic calcific alcoholic pancreatitis were men of older age and had a higher incidence of disruptive complications like pseudocyst and pseudoaneurysm. The pancreatic duct was of smaller diameter (5.7 mm Vs 8.4 mm) in chronic calcific alcoholic pancreatitis.

The median duration of pain at presentation was 36 (1-192) months. Objective categorization of pain was done in 108 patients based on the scoring system reported by Nundy et al. Patients were categorized into severe (53; 50%), moderately severe (45; 40%) and mild pain (10;10%).

Patients were evaluated with USG, CECT and ERCP depending upon the presentation and associated complications. In the last two years, a significant number of our patients are undergoing evaluation with MRCP (n=55; 40%). On evaluation, biliary obstruction was diagnosed in 29 (21%), pseudocyst was present in 26 (19%) and portal hypertension in 20 (14%) patients. Pancreatic cancer in association with CP was diagnosed in 9 (6.3%) patients.

The indication for surgery in these 141 patients and the surgical procedures performed are shown in Tables 2 and 3. 15 (10%) patients had postoperative complications; major among these being wound dehiscence (n=2), pancreatic fistula (n=4), GI bleed (n=4) and intra-abdominal bleed (n=2). Three patients required re-exploration and there was one postoperative death.

On follow up, all patients with jaundice, cholangitis and bleeding had relief of their symptoms. Of the 104 patients with pain as the indication for surgery, follow up is available in 88 patients. The median duration of follow up is 12.6 (mean 16.7m, range 1-75) months. Seventy six percent are pain- free whereas 16%, 1% and 5% have mild, moderate

and severe pain respectively on follow up. Two patients died while on follow up.

Fourteen patients underwent a prospective study to assess the effect of ductal decompression on pancreatic exocrine and endocrine function. Pancreatic endocrine function was evaluated by an oral glucose tolerance test and measurement of C-peptide levels while the exocrine function was evaluated by measuring the fecal chymotrypsin and serum trypsinogen levels. Patients underwent the evaluation preoperatively and on follow up at least after six months of surgery. In this study, there was no significant improvement in beta cell function or exocrine function on follow up of 6-12 months. There was a significant fall in the elevated serum trypsin levels following surgery suggesting resolution of sub-clinical inflammation.

Nine (5.3%) patients of associated malignancy of the pancreas were also seen during this period. All patients had significant pain of a median duration of 6.5 mo. Four (44%) patients had jaundice on presentation of a median duration of 5.5 weeks. A palpable epigastric mass was present in 4 patients. Five (55%) patients had steatorrhea and 6 (66%) had associated diabetes mellitus. On imaging, calcifications (all patients), mass in the head (n=4) and body (n=1) of the pancreas, and vascular infiltration (n=1) and liver metastasis (n=1) were present. Eight patients underwent surgical exploration with resection (pancreaticoduodenectomy) being performed in only one patient. Other patients underwent biliary bypass (n=5), lateral pancreaticojejunostomy ((n=5) and gastrojejunostomy (n=3). Tumor was located in the head region in all except the one with body tumor.

Conclusions

The philosophy of surgical treatment of patients with CCP at SGPGIMS has evolved over the past decade. There has been a distinct shift in policy in the past decade; from that of surgical intervention confined to patients with strict indications, to more liberal indications of surgical drainage, especially where the anatomy is favorable. This shift is based on the premise that perhaps early surgical decompression may halt the progressive deterioration of pancreatic function, although this premise

needs to be documented in larger number of patients with longer follow up.

Fig: State and district-wise distribution of patients seen at SGPGIMS, Lucknow

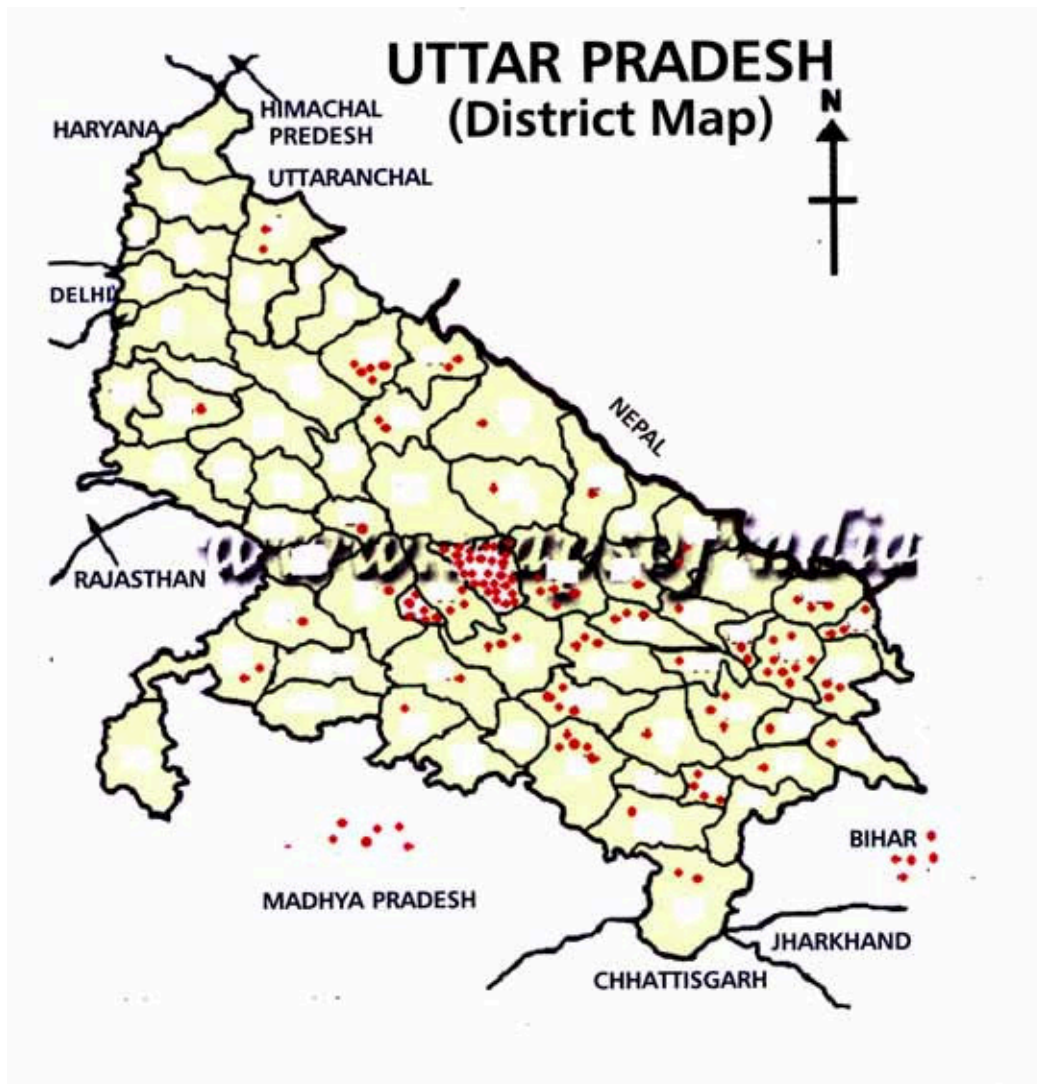


Table 1: Comparison of tropical and alcoholic chronic pancreatitis

	Tropical pancreatitis (n=115)	Alcoholic pancreatitis (n=26)
Median age (yrs)	30 (10-62)	45 (30-58)*
Male: female	74:41	26:0
Pain (%)	96	96
Jaundice (%)	18	28
GI bleed (%)	4	8
Steatorrhea (%)	9	8
Diabetes (%)	27	28
Median pain duration (months)	36	36
Portal hypertension (%)	13	20
Pseudocyst (%)	10	60*
Pseudoaneurysm (%)	-	16*
Mass on CT scan (%)	10	8
Calcification (%)	90	55
Associated malignancy (%)	6	4
Serum amylase (SI)	30	74*
Serum ALP (IU/L)	143	241*
Diameter of PD (mm)	8.4	5.7*
Resectional procedures (%)	13.5	24
Morbidity (%)	22	28

*p < 0.05

Table 2: Indications of surgery in 141 patients

Intractable pain	105 (73.5%)
Pain with	
Jaundice	13 (9%)
Bleeding	5 (3.5%)
Cholangitis	4 (3%)
Painless jaundice	7 (5%)
GI bleed	2 (1.5%)
Pancreatic mass on imaging	4 (3%)
Duodenal obstruction	1

Table 3: Surgical procedures performed in 141 patients

Pancreatic Procedures (N=128)	
Drainage procedures	
Duval's procedure	1
Lateral PJ	88
Frey's procedure	15
Resectional procedures	
Pancreaticoduodenectomy	6
Distal pancreatectomy	8
Cyst drainage procedures	
Internal	5
External	5
Associated procedures	
Biliary procedures	26
Gastro-jejunostomy	3
Excision of pseudoaneurysm	4
Splenectomy	17
Non-pancreatic procedures only (N=13)	
Biliary procedures	8
Triple bypass	3
Splenectomy	2

