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Original Research Article

Chronic Pancreatitis: Clinical Profile and Management

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Aim: The aim of the present study was to evaluate clinical profile and management of chronic pancreatitis with respect to demography, clinical findings, lab parameters, imaging investigations and management modalities in tertiary care hospital in Bihar region.

Methods: The present study was conducted in the Department of General Surgery, Jawahar Lal Nehru medical College and Hospital, Bhagalpur, Bihar, India to study clinical profile and management of chronic pancreatitis and the study was conducted for the period of six months. 100 patients were included in the study.

Results: It was observed that majority of patients were in age group 51-60 years (45%) followed by 41-50 years (25%) The mean age of the patients was 56.54±12.68 years. There were 75 males as compared to 25 females in the present study. The study revealed that majority of patients had etiology of alcoholism (45%) followed by idiopathic (30%), gall stones (20%) and post-operative (5%). It was observed that majority of patients presented with pain in abdomen (40%) followed by nausea/vomiting (25%), Steatorrhea (15%), weight loss (10%), constipation (6%) and diarrhea (4%).

Conclusion: Primarily, chronic pancreatitis is not a surgical disease, Surgery is indicated only when medical treatment fails and/or complication arises. There is no single ideal operation for chronic pancreatitis. Selection of an appropriate method of management for a particular patient is more important.

Keywords: Chronic Pancreatitis, Alcohol, Pseudocyst.

Introduction

The name "pancreas" is derived from Greek word "pan" (all) and "Kreas" (flesh). It was originally thought to act as cushion for stomach. [1] Chronic pancreatitis (CP) has traditionally been considered to be a disease of males who are heavy drinkers. As such, the characteristic of CP in women remain obscure, especially women who do not drink to excess, as they did not fit the profile of a classic CP patient. More recent studies suggest that the prevalence of women among patients with CP may be more common than previously believed. [2-5] The recognition of genetic predisposing factors, smoking as an independent risk factor and etiologies

other than alcohol indicates that clinical recurrent acute (RAP) and CP reflect complex gene-environment interactions in a diverse population rather than the direct effects of excess alcohol in men. [4,6,7]

Chronic pancreatitis is a multifactorial disease, with a wide range of symptoms and geographic variation. The incidence of chronic pancreatitis in the western population ranges from 8 to 10 cases yearly per 100,000 population, and the overall prevalence is 27.4 per 100,000 per year. [8] According to a recent survey conducted in various countries in the Asia-Pacific region, chronic pancreatitis is prevalent in Southern India, with 114-200 cases per 100,000 people. In the Indian subcontinent, there has been no systematic nationwide study on the management of clinical profiles. [9]

Some of the possible causes of chronic pancreatitis include alcohol abuse (malignancy or stones), ductal obstruction (cystic fibrosis or hereditary pancreatitis), chemotherapy and autoimmune diseases such as SLE or pancreatitis. According to recent research, the disease may be caused by a lack of certain vitamins and antioxidants. Drinking alcohol is the most common cause. Protein secretion from acinar cells increases, resulting in ductal obstruction, acinar fibrosis, and atrophy as a result of the alcohol. [10,11] Chronic pancreatitis appears to be caused by a combination of genetic and environmental factors.

Chronic pancreatitis is thought to be caused by one of two different pathogens. Impaired bicarbonate secretion, which is unable to respond to increased pancreatic protein secretion, are one of the possibilities. Plugs are formed within the lobules and ducts as a result of this abundance of proteins. Calcification and stone formation are the results of this process. The other theory proposes that digestive enzymes in the pancreas are activated intraparenchymally (possibly due to genetics or external influences such as alcohol). Reduced pain and improved absorption are the main objectives of treatment. Inflammation, neuropathic mechanisms, and blocked ducts are all factors that contribute to the sensation of pain that we feel. The replacement of fat-soluble vitamins and pancreatic enzymes is generally recommended along with frequent, small, low-fat meals. [12]

The aim of the present study was to evaluate clinical profile and management of chronic pancreatitis with respect to demography, clinical findings, lab parameters, imaging investigations and management modalities in tertiary care hospital in Bihar region.

Materials and Methods

The present study was conducted in the Department of General Surgery, Jawahar Lal Nehru medical College and Hospital, Bhagalpur, Bihar, India to study clinical profile and management of chronic pancreatitis and the study was conducted for the period of six months. 100 patients were included in the study.

Inclusion criteria

Patients of age 18 years and above who are diagnosed as cases of chronic pancreatitis on contrast enhanced computed tomography (CECT) abdomen findings were included in the study.

Exclusion criteria

Patient not consenting to join the study or get investigated or treated were excluded from the study.

Permissions

Approval received from the institutional review board and ethical committee. As the investigator will not come in contact with the patient and the study involves only review of hospital records, exemption from review from the Institutional Ethics Committee was obtained.

Methodology

On admission detail history were taken. Age, sex, address, symptom and sign were noted carefully. Relevant past history, family history and personal history especially alcohol consumption was recorded. A detailed history was obtained and thorough physical examination was carried out for every subject included in the study, as per the pre-designed proformas. Age, sex, address, symptoms and signs were noted. Relevant past history, family history and personal history, especially history of alcohol consumption were recorded. Associated medical disease, like hypertension, diabetes mellitus, chronic renal failure, bronchial asthma, chronic obstructive pulmonary disease (COPD) and ischemic heart disease were noted.

Results of haematological, biochemical and imaging tests were noted. The most likely etiological factor was identified by analyzing history, physical examination and relevant investigations. Investigations like routine blood test, DC, WBC count, blood sugar estimation, routine urine examination were done. Specific investigation like serum lipase estimation was also done. Ultrasonography of whole abdomen and pelvis were done in all patients to evaluate for the presence of gall stones and common bile duct pathology. CT scan was done after 72 hours of admission. MRCP was done in selected and confusing cases.

Statistical analysis

The data collected was tabulated in SPSS software version 24 for analysis.

Results

Table 1: Age and Gender distribution

Age in years	**N%**
<20	00
21-30	5 (5)
31-40	10 (10)
41-50	25 (25)
51-60	45 (45)
>60	15 (15)
Gender	
Male	75 (75)
Female	25 (25)

It was observed that majority of patients were in age group 51-60 years (45%) followed by 41-50 years (25%) The mean age of the patients was 56.54±12.68 years. There were 75 males as compared to 25 females in the present study.

Table 2: Distribution of patients according to etiology and clinical presentation

Etiology	**N%**
Alcoholism	45 (45)
Gall/Biliary stones	20 (20)
Post- operative	5 (5)
Idiopathic	30 (30)
Clinical presentation	
Pain abdomen	40 (40)
Nausea/vomiting	25 (25)
Steatorrhea	15 (15)
Weight loss	10 (10)
Constipation	6 (6)
Diarrhea	4 (4)

It was observed that majority of patients had etiology of alcoholism (45%) followed by idiopathic (30%), gall stones (20%) and post-operative (5%). It was observed that majority of patients presented with pain in abdomen (40%) followed by nausea/vomiting (25%), Steatorrhea (15%), weight loss (10%), constipation (6%) and diarrhea (4%).

Table 3: Distribution of patients according to USG findings, CT findings and complications

USG findings	**N%**
Pancreatic calcification	50 (50)
Pancreatic pseudocyst	30 (30)
Gall stones	15 (15)
Pancreatic head mass	5 (5)
CT findings	
Pancreatic calcification	35 (35)
Enlargement of pancreas	20 (20)
Pancreatic pseudocyst	15 (15)
Dilatation of MPD	10 (10)
Pancreatic Calculi	8 (8)
Pancreatic duct stricture	7 (7)
Pancreatic head mass	5 (5)
Complications	
Pseudocyst	30 (30)
Splenic vein thrombosis	3 (3)
Pancreatic neoplasm	2 (2)

It was observed that majority of patients shows pancreatic calcification (50%) followed by Pancreatic pseudocyst (30%) gall stones (15%) and pancreatic head mass (5%). It was observed that majority of patients shows pancreatic calcification (35%) followed by enlarged pancreas (20%), pancreatic pseudocyst (15%), dilatation of MPD (10%), pancreatic calculi (8%), pancreatic duct stricture (7%) and pancreatic head mass (5%). It was observed that majority of patients shows pseudocyst (30%) followed by splenic vein thrombosis (3%) and pancreatic neoplasm (2%). No complications were seen in 65 (65%) patients.

Table 4: Distribution of patients according to management

Management	**N%**
Conservative	40 (40)
Cystogastrostomy	20 (20)
Cystojejunostomy	10 (10)
LPJ	8 (8)
ERCP stenting	18 (18)
Pancreaticoduodenectomy (classical Whipples)	4 (4)

It was observed that majority of patients managed conservatively (40%) followed by cystogastrostomy (20%) and cystojejunostomy (10%). ERCP was done among 18 (18%) patients and pancreaticoduo-denectomy (classical Whipples) in 4 (4%) patients.

Table 5: Distribution of patients according to pain relief (follow up after 2 years)

Management	**N%**
Surgery (n=45)	27 (60)
ERCP stenting (n=20)	5 (20)
Conservative/analgesics (n=35)	3 (8.57)

It was observed that majority of get relief of pain by surgery (60%) followed by ERCP (25%) and least by conservative/analgesics (8.57%).

Discussion

Constant inflammation and irreversible pancreatic tissue destruction are hallmarks of the disease of chronic pancreatitis, which results in the gradual loss of both exocrine and endocrine function. [13] Machicado et al did a study with an aim of assessing the natural course of chronic pancreatitis in a population-based cohort and observed the median age of chronic pancreatitis was 56 years. [14]

In our study Idiopathic was 2nd major cause for chronic pancreatitis as no investigation showed the cause for chronic pancreatitis so was labelled as idiopathic. Upto 30% of chronic pancreatitis patients were idiopathic. Hari et al [15] in a study on chronic pancreatitis and its management observed alcoholic chronic pancreatitis was seen in 16 patients. Tropical pancreatitis was seen in 4 patients of the cases. The most common cause of clinical admission is Pain. It is the hallmark symptom of CP, usually epigastric radiation to the back or to the left upper abdomen. It is the most vexing clinical problem and the most common indication for surgical intervention. In our study, pain was treated with NSAIDS, antispasmodics, pancreatic enzyme suppressants and pain modifying agents (pregabalin). The complications of chronic pancreatitis like an acute attack of pancreatitis, from a pancreatic pseudocyst, portal or splenic vein thrombosis can cause pain.

In the present study, it was observed that majority of patients presented with pain in abdomen (40%) followed by nausea/vomiting (25%), steatorrhea (15%), weight loss (10%), constipation (6%) and diarrhea (4%). Steatorrhea and weight loss are important features of chronic pancreatitis. Steatorrhea does not occur until pancreatic lipase secretion is reduced to less than 10% of normal. Maldigestion of lipids occurs earlier, since lipase secretion decreases more rapidly than amylase secretion. Exocrine insufficiency occurs in 80% to 90% of patients with long standing chronic pancreatitis. In our study Weight loss seen in 23 (32.39%) patients, were due to steatorrhea. Machicado et al in a study observed that pain in abdomen was present in 68 (76%) patients and diabetes was noted in 36 (40%) patients. This finding was similar to present study. [14] Panda et al did a comparative study for clinical profile of recently admitted cases of CP during last 1 year (group A) and cases during previous 5 years (group B) observed pain was the most common presentation in both groups. [16]

Transabdominal ultrasonography is an inexpensive technique usually performed in patients with suspected CP. Calcification, and cysts and was detected with by this modality. Other complications of pancreatitis such as duodenal or gastric distention and bile duct dilatation can be visualized. In patients with excessive abdominal gas or acute pancreatitis associated with ileus, the view is often limited, making the procedure highly related to the investigator's skills. Nevertheless, sonography is a simple technique and, in the hands of experienced investigators, remains a useful method for rapid and reliable diagnosis. In our study, it was useful to note pseudocyst in 30 patients (30%) of cases, gall stones and pancreatic calcification. Machicado et al in a study observed that of 69% patients had pancreatic calcifications and 29% had pseudocyst or fluid collections. [14]

The distribution of patients according to CT findings showed that majority of patients shows pancreatic calcification (35%) followed by enlarged pancreas (20%), pancreatic pseudocyst (15%), dilatation of mpd (10%), pancreatic calculi (8%) and pancreatic duct stricture (7%).

Machicado et al in a study observed pancreatic duct dilation was noted in 57% patients and common bile duct dilation in 26% patients. [14]

The distribution of patients according to complications showed that majority of patients shows pseudocyst (30%) followed by splenic vein thrombosis (3%), and pancreatic neoplasm (2%). No complications were seen in 65 (65%) patients. Pancreatic pseudocyst is the most common complication of chronic pancreatitis, occurring in the course of the disease in as many as 20%-38% of patients. Most pseudocysts resolve spontaneously with supportive care. In our study, all patients with pseudocyst presented to us as pin in abdomen 30 patients (30%), in patients resolved spontaneously hence managed conservatively. Patients with pseudocyst, with cyst wall 6mm, with surgically feasible pathology, depending on position of cyst patients underwent cystogastrostomy and cystojejunostomy. No percutaneous drainage not done. Panda et al did study on clinical profile of cases of CP and observed the complications like pseudocyst (8.81%) followed by pleural effusion (3.81%) Bhasin et al observed pseudocyst was the most common local complication in a study on clinical profile of idiopathic chronic pancreatitis in North India. [16,17]

Surgery is indicated when the pain is severe, not managed by analgesics, requiring repeated hospital admission, and is interfering with day-to-day activities and pathology was corrected by surgical procedure. The aim of the surgery should be to: preservation of maximum functional pancreatic tissue, removal of the inflammatory pathology, ductal system drainage. Not obstructing the side ducts. In the present study, It was observed that majority of patients managed conservatively (40%) followed by cystogastrostomy (20%) and cystojejunostomy (10%). ERCP was done among 18 (18%) patients and pancreaticoduo-denectomy (classical Whipples) in 4 (4%) patients. Machicado et al did a comparative study observed endoscopic or surgical interventions for CP were performed in 27 (30%) patients during the disease course. [14] The distribution of patients according to pain relief by various management showed that majority of get relief of pain by Surgery (60%) followed by ERCP (25%) and least by conservative/analgesics (8.57%). Sharma et al observed that more than half of the study patients did not improve with the standard pain management by analgesics and had persistent symptom. [18]

Primarily, Chronic pancreatitis is not a surgical disease. Surgery is indicated only when medical treatment fails and/or complication arises. There is no single ideal operation for chronic pancreatitis. Selection of an appropriate method of management for a particular patient is more important. [19]

Conclusion

Primarily, chronic pancreatitis is not a surgical disease, Surgery is indicated only when medical treatment fails and/or complication arises. There is no single ideal operation for chronic pancreatitis. Selection of an appropriate method of management for a particular patient is more important.

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