A RESEARCH ON ACUTE PANCREATITIS IN THANJAVUR MEDICAL COLLEGE

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ABSTRACT

BACKGROUND

Aims and Objectives- The research study was designed to recognise the clinical picture of acute pancreatitis in the Indian patients to evaluate common aetiologies, role of investigations and outcome of early conservative management.

MATERIALS AND METHODS

This study was conducted in 54 patients of acute pancreatitis who were admitted in Thanjavur Medical College during the period of September 15 to December 16. This study was defined to evaluate conservative management of mild-to-moderate pancreatitis; 54 cases of acute pancreatitis were admitted and investigated and treated. Observations were made with regards to common presentation, sex distribution, common aetiology and common blood parameters, especially sr. lipase and sr. amylase.

RESULTS

The highest incidence of acute pancreatitis was found in the age group of 25 to 35 years followed by the age group of 35 to 55 years. Acute pancreatitis was found more commonly in males compared to females. This may be due to effect of alcohol addiction in males. In acute pancreatitis, serum lipase level may be elevated more consistently and for longer half-life than serum amylase.

CONCLUSION

The clinical pattern of acute pancreatitis varies in different patients. Though gall stones induced acute pancreatitis is common in western countries, Alcohol is the main aetiological factor in our study. It is recommended that all patients with pancreatitis should undergo ultrasound within 24 hours of admission, as it confirms gallstones and severe pancreatitis. We have started oral feeding in all cases of mild-to-moderate pancreatitis.

KEYWORDS

Acute Pancreatitis (AP), Alcohol, Gallstones, Abdominal Pain, Serum Amylase and Octreotide.

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BACKGROUND

Acute pancreatitis is a common cause of acute abdominal pain requiring hospital admission. The attack is mild in about 80% of patients who will show marked improvement within 48 hours. In some 20% of patients, however, it is often severe with high morbidity and mortality.⁽¹⁾ The first 12 hours are extremely important to provide appropriate management, which will decrease morbidity and mortality. Nearly, 80% of cases of AP worldwide are caused by gallstone obstruction and high alcohol intake.^(2,3) It is necessary to identify the aetiology to institute definitive management and prevent further incidence. There appears to be an increase in the incidence of acute pancreatitis. This rise in incidence has been attributed to increased alcohol consumption, but may well reflect improved diagnostic capability during this period. No seasonal or weekly pattern of acute pancreatitis has been observed. Men are affected much more than women.

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MATERIALS AND METHODS

This study was conducted in 54 patients of acute pancreatitis admitted in Thanjavur Medical College; 54 cases of acute pancreatitis were admitted and investigated and treated. Observations were made with regards to common presentation, sex distribution, common aetiology and common blood parameters. All patients were assessed, managed either conservatively or surgically. The findings were recorded in a master chart. It was designed to record the history, chief complaints, past history, family history, personal history, diet history, alcohol consumption, obstetric and menstrual history (in case of female patient), physical examination, local examination, operative history, investigations and management. The clinical presentation associated medical conditions, laboratory and radiological investigations, severity, management and outcome were studied. The attack was categorised as severity based on clinically and radiologically and those with serious comorbidity were admitted to ICU and monitored. All patients had full blood count and blood chemistry including serum amylase and serum lipase; CRP estimation was done and biliary pancreatitis was diagnosed when biliary stones were demonstrated by ultrasonogram, which was performed within 24 hours of admission and OGD Scopy was also done in all patients. CECT scan was performed on all patients. All patients were treated conservatively initially with

intravenous fluids and nil orally up to 24 hours of admission. Patients who had bowel sounds without any distension started enteral feeding after 24 hours of admission. No patients were given octreotide injection.⁽⁴⁾

RESULTS

The highest incidence of acute pancreatitis was found in the age group of 25 to 35 years followed by the age group of 35 to 55 years. Acute pancreatitis was found more commonly in males compared to females. This may be due to effect of alcohol addiction in males. In acute pancreatitis, serum lipase level may be elevated more consistently and for longer half-life than serum amylase.

DISCUSSION

In the study of 54 cases of acute pancreatitis following observations are made.

Age Group

Most commonly affected age group in this study is 25 to 35 years and mean age is 29 years. As compared to females, male patients are more affected by acute pancreatitis in our study. Presenting Symptoms: From the table below it is evident that abdominal pain is the commonest presenting symptom, present in almost all the patients; of these 50% of patients presented with typical epigastric pain that radiate to the back.

Graph 1

Aetiology

Aetiology	No. of Patients	Percentage (%)
Alcohol	52	96.3%
Idiopathic	2	3.7%

Table 1

Blood Investigations

Serum Amylase

It is evident from this study that increased level of serum amylase is an essential feature of acute pancreatitis. But the pattern of the hyperamylasaemia is extremely variable and highly sensitive, but not specific. Pattern increase or decrease does not correspond with the severity, complications or treatment modality.

Serum Amylase	No. of Patients	Percentage (%)
< 80	3	5.6%
80 - 499	36	66.7%
500 - 999	7	13%
> 1000	8	14.8%

Table 2

Serum Lipase

Serum lipase is only secreted by the pancreas and thus more specific. In acute pancreatitis, serum lipase level may be elevated more consistently and for longer half-life than serum amylase.^(5,6,7) In our study, it is seen elevated in all patients.

Serum Lipase	No. of Patients	Percentage (%)
< 100	12	22%
100 - 499	23	42.6%
500 - 999	15	27.8%
> 1000	4	7.4%

Table 3

Biochemical tests were done in this study. Elevated TC was suggestive of the infection in the pancreas, but it was nonspecific. Altered renal function test in about 2 patients was due to systemic complications of Acute pancreatitis, which lead to shock and renal failure. S. bilirubin, SAP and SGPT were elevated in 8 cases of Acute pancreatitis due to biliary tract disease or due to pathology of the pancreas involving the head and peripancreatic region. In majority of patients, x-rays chest did not reveal any information about diagnosis. Raised hemidiaphragm may be seen due to either pancreatic or retropancreatic oedema or due to pseudocyst. Pleural effusion was present as the systemic complications of acute pancreatitis. In 26% of patients, paralytic ileus was present on x-ray abdomen.

Ultrasonography

USG was performed as and when required in all the patients of this study. Thus, it is evident that almost all types of acute pancreatitis can be diagnosed by ultrasonography, as USG has high sensitivity.

USG Findings	No. of Patients	Percentage (%)
Oedematous pancreas	36	66.7%
Peripancreatic fluid collection	2	3.7%
Pancreatic calcification	2	3.7%
Pseudocyst	5	9.3%
Ascites	2	3.7%
Pleural effusion	3	5.6%
Normal	4	7.4%

Table 4

CECT Abdomen

Though contrast enhanced computerised tomography (CECT) abdomen is most valuable tool for diagnosis of acute pancreatitis and grading of severity and its local complication.^(8,9) Out of 54 patients, all underwent CT abdomen and pelvis. The Balthazar scoring of these patients ranges from 1 to 10.

Balthazar scoring

Balthazar Grade	Appearance on CT	CT Grade Points
• Grade A	Normal CT	0 points
• Grade B	Focal or diffuse enlargement of the pancreas	1 point
• Grade C	Pancreatic gland abnormalities and peripancreatic inflammation	2 points
• Grade D	Fluid collection in a single location	3 points
• Grade E	Two or more fluid collections and / or gas bubbles in or adjacent to pancreas	4 points

Necrosis Score	Points
Necrosis Percentage	
• No necrosis	0 points
• 0 to 30% necrosis	2 points
• 30 to 50% necrosis	4 points
• Over 50% necrosis	6 points

The numerical CTSI (Computed Tomography Severity Index) has a maximum of **ten** points, it is the sum of the Balthazar grade points and pancreatic necrosis grade points

Figure 1. Grade 1- Mild Acute Pancreatitis

Figure 3. Grade 3- Severe Acute Pancreatitis

Figure 2. Grade 2- Moderate Acute Pancreatitis

Figure 4. Grade 4- Necrotising Acute Pancreatitis

CT Grading	No. of Patients	Percentage (%)
GRADE 1	30	55.6%
GRADE 2	14	25.9%
GRADE 3	8	14.8%
GRADE 4	1	1.9%
Table 5		

Management

The principles of conservative management followed in each case were adequate analgesia, correction of fluid and electrolytes imbalance, complete GI tract rest and Antibiotics.^(10,11)

Management	No. of Patients	Percentage
Conservative	53	98.1%
Surgical	1	1.9%
Total	54	
Table 6		

Ryle's tube inserted in all patients was found to decrease vomiting, protect patients from aspiration and decompress the gut in ileus. Continuous radiological, biochemical and clinical monitoring was done in every case to prevent complications and for better prognosis of the patients. Most of the patients who had bowel sounds without any abdominal distension started enteral feeding 24 hours after admission without octreotide injection.^(12,13,14)

Complications

During this study, total 18% of patients developed complication. Acute fluid collection- 4 patients, Pseudocyst- 5, patients with Pancreatic Calcifications- 8, Pleural Effusion- 2 and Necrotising Pancreatitis- 1.

CONCLUSION

The highest incidence of acute pancreatitis was found in the age group of 25 to 35 years followed by the age group of 35 to 45 years. It was relatively less common in the extremes of age groups. Acute pancreatitis was found more commonly in males compared to females. This may be due to effect of alcohol addiction in males due to alcoholism. Acute pancreatitis usually presents with abdominal pain, nausea, vomiting, fever, jaundice and abdominal distention and physical examination reveals epigastric tenderness, guarding, rigidity, pyrexia and shock mostly. Most of acute pancreatitis were of the mild type. The most common systemic complications were pulmonary, followed by renal complications like ARF. DIC was found in one patient. The most common local complications were acute fluid collection and pseudopancreatic cyst. Pancreatic necrosis, pancreatic abscess were found only in patients having severe pancreatitis. Serum amylase and serum lipase are the best biochemical indicators of the disease, supplemented by serial ultrasound examinations of the abdomen. The prognostic

factors for this disease are hyperamylasaemia, hyperglycaemia reflecting a poorer outlook. Prognosis can also be assessed by ultrasonography and computed tomography delineating local complications. USG abdomen is a good, readily available, non-invasive mean to detect local pathology, which may be readily repeated. CECT abdomen is sensitive and specific detecting the severity and grading of acute pancreatitis based on Balthazar CT Scoring System. Peripancreatic fluid collection and pancreatic necrosis are predictors of severity of pancreatitis on USG and CT scan findings. So, serum amylase level more than three-fold of normal level and pancreatic fluid collection is main predictor of severity of pancreatitis in our study. About 99% of patients were treated conservatively. Octreotide was not used in our study. The initial management of AP should be conservative with surgery reserved for case having uncertainty of diagnosis, very severe type not responding to medical therapy and complications of disease. Surgical management was done in 1% of patients.

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