Original Research Article

A cross sectional hospital based study of assessment of clinical and biochemical parameters of acute pancreatitis

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Abstract

Background: Pancreatitis defined as the inflammation of the pancreas and is always, associated with acinar cell injury. (Singer *et al*) Acute pancreatitis is clinically characterized by acute onset of abdominal pain and a rise in the activity of pancreatic enzymes in the blood and urine.1 Most attacks have a benign course but severe attacks may lead to shock, renal failure, respiratory failure and death. **Materials and Methods:** The present study was a cross sectional study hospital based carried out among 60 indoor cases of acute pancreatitis admitted under department of general medicine in a tertiary healthcare teaching institute in Telangana during February 2018 to April 2018. All the cases of suspected acute pancreatitis admitted under department of general medicine in a tertiary healthcare institute, and fulfils the set inclusion criteria, who consented to participate in the study were included in the present study. **Results:** In this study it was observed that 51.66% patients had a history of chronic alcoholism, 23.33% patients had history of smoking. It was found that 61.66% of study participants were having mixed pattern of diet, while 28.33% study participants were having strict vegetarian pattern of diet (Table 3). **Conclusion:** Early assessment of severity and intensive care management of acute pancreatitisis of paramount importance. Lab markers especially high values of lipase and other markers could be important prognostic markers for predicting morbidity and mortality in acute pancreatitis.
Key Words: Pancreatitis, acinar cell injury, morbidity, mortality

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INTRODUCTION

Pancreatitis defined as the inflammation of the pancreas and is always, associated with acinar cell injury. (Singer *et al*) Acute pancreatitis is clinically characterized by acute onset of abdominal pain and a rise in the activity of pancreatic enzymes in the blood and urine.[1] Most attacks have a benign course but severe attacks may lead to shock, renal failure, respiratory failure and death. Chronic pancreatitis is characterized clinically by recurrent or persistent episodes of abdominal pain.[2] Although, in some cases, chronic pancreatitis occurs without pain, evidences of functional insufficiency such as steatorrhoea or diabetes is often seen. Clinically, the first manifestation of alcoholic chronic pancreatitis can closely resemble acute pancreatitis. (Steer ML *et al*).[3] Various aetiological factors have been known to cause pancreatitis which include: gall stones, (Gorelick FS *et al*.), structural lesions like Stenosis or spasm of sphincter of oddi, pancreas divisum, traumatic, microlithiasis, toxins, alcohol, drugs, (frusemide tetracycline), infection (mumps, Coxsackie B-virus, viral hepatitis, HIV, salmonella, shigella, ascariasis lumbricoides), Metabolic (hyper-lipidemia, hypercalcemia), vascular (atherosclerosis, vasculitis, SLE, Wegener's disease. Behcet's disease) iatrogenic (ERCP, endoscopic sphincterotomy, coronary artery bypass) cystic fibrosis etc.[4,5,6]Various studies have been

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undertaken in India and abroad about pancreatitis, its presentation and role of various laboratory and imaging techniques for diagnosis and prognostication. We have undertaken this study to know various clinical, laboratory and imaging features of acute and chronic pancreatitis in our region.

MATERIALS AND METHODS

The present study was a cross sectional study hospital based carried out among 60 indoor cases of acute pancreatitis admitted under department of general medicine in a tertiary healthcare teaching institute in Telangana during February 2018 to April 2018.All the cases of suspected acute pancreatitis admitted under department of general medicine in a tertiary healthcare institute, and fulfils the set inclusion criteria, who consented to participate in the study were included in the present study.

Method of Data Collection: The data was collected from cases fulfilling inclusion criteria using pre-designed, semi-structured, pre-validated proforma, in which history, clinical findings, investigation reports, were incorporated. Cases of acute pancreatitis were evaluated with detailed history, clinical signs and symptoms, the duration and investigations. Blood and urine investigations, Ultrasonography (USG) Abdomen and/or Computerised Tomography.[7,8,9]

RESULTS

Table 1: Distribution of patients according to age group

Age Group (in Years)	Number of participants	Percentage
≤20	3	5
21-30	12	20
31-40	24	40
41-50	12	20
51-60	6	10
≥61	3	5
Total	60	100

Table 2: gender wise distribution of patients

Gender	Number of participants	Percentage
Male	43	71.66
Female	17	28.34

Out of 60 study participants, 71.66% were males and 28.34% were females (Table 2). Here we observed that male participants outnumbered the female participants.

Table 3: Distribution of patients according to their personal history

Personal History		Number of participants	Percentage
Alcoholism		31	51.66
Smoking		14	23.33
Diet	Mixed	37	61.66
	vegetarian	17	28.33

In this study it was observed that 51.66% patients had a history of chronic alcoholism, 23.33% patients had history of smoking. It was found that 61.66% of study participants were having mixed pattern of diet, while 28.33% study participants were having strict vegetarian pattern of diet (Table 3).

Table 4: Distribution of participants according to their clinical presentation

Clinical features	Number of participants	Percentage
Pain abdomen	49	81.66
Rigidity	45	75
Fever	30	50
Nausea/Vomiting	23	38.33
Weight loss	20	33.33

The clinical presentation of cases of acute pancreatitis observed as per the present study was as given in Table 5. Almost all patients (81.66%) with PP presented with abdominal pain and lump in abdomen (92%). 50% had complaints of fever, 38.33% presented with nausea and vomiting. 33.33% cases complained of weight loss. (Table 4).

Table 5: Patient distribution according to General examination positive findings

General Examination	Number of participants	Percentage
Febrile	29	48.33
Raised RR	22	36.66
Pallor	20	33.33
Icterus	13	21.66
Tenderness	39	65
Hypertension	16	26.66

Among the 60 Patients with acute pancreatitis, it was found that 48.33% were febrile, 36.66% patients were having raised respiratory rate, 33.33% were having pallor whereas 21.66% cases presented with icterus inlocal examination, 65% cases had tenderness. It was found that 26.66% cases presented with hypertension rest all had blood pressure within normal range. (Table 5).

Table 6: Blood investigations observations

Blood Investigations	Parameter	Number of participants	Percentage
Hemoglobin	<10	13	21.66
	>10	42	70
Total leucocytes count	<12000	11	18.33
	>12000	43	71.66
BSR	<200	33	55
	>200	19	31.66
Serum Bilirubin	<1.5 mg	10	16.66
	>1.5 mg	43	71.66
Serum Lipase	Low	12	20
	Raised	41	68.33

DISCUSSION

Age Incidence: Out of 60 study participants, 71.66% were males and 28.34% were females. Here we observed that male participants outnumbered the female participants Crisanto BA *et al*[11], in their study found mean age of participants as 38.8 years (47). Khaled YS *et al*[12] reports 55 years as a mean age of study subjects (50). Hauters P *et al*[13] observes that the median age of 46 years (range: 30-72) (46). Similarly study by Simo KA *et al*[14] reports the median age of the cohort was 49.5 ± 12 years (range = 18-71) (49).Personal History In this study it was observed that 54% patients had a history of chronic alcoholism, 24% patients had history of smoking. It was found that 70% of study participants were having mixed pattern of diet, while 10 30% study participants were having strict vegetarian pattern of diet. Crisanto BA *et al*,[15] in their study found that 29% cases gave history of alcoholism (47). Park *et al* found history of alcoholism in 18.5% cases, while Hamza *et al*,[16] Mori *et al*[17] and Hauters P *et al*[18] found that 30% cases had history of alcoholism (52)(46)(54).[19]Clinical Presentation of Pancreatic Pseudocyst The clinical presentation of cases of acute pancreatitis observed as per thepresent study was as given in Table 5. Almost all patients (96%) with PP presented with abdominal pain and lump in abdomen (92%). 62% had complaints of fever, 46% presented with nausea and vomiting. 40% cases complained of weight loss. BA Crisanto-Campos *et al*[4] in their study reported that out of 17 cases, 15 complained of epigastric pain, 6 cases reported with early satiety, 3 cases reported with weight loss and 2 cases reported with infected pancreatic pseudocyst (47).General Findings Among the 50 Patients with acute pancreatitis, it was found that 56% were febrile, 40% patients were having raised respiratory rate, 36% were having pallor whereas 24% cases presented with icterus In local examination, 76% cases had tenderness. It was found that 32% cases presented with hypertension rest all had blood pressure within normal range. Investigations Findings In present study, it was found that 12 cases presented with haemoglobin less than 10 mg/dl (Anaemia), In 40 cases raised TLC was observed (More than 12000), same cases presented with fever. [20]Rest of the cases were having TLC less than 12000. Random blood sugar estimation was done among the cases of acute pancreatitis, it was found that 18 cases were having BSR more than 200 mg/dl. Serum bilirubin estimation was also done, 42 cases were found with serum bilirubin more than 1.5 mg. Serum lipase values were found to be elevated in majority of cases (39), which is considered to be suggestive of pancreatitis.

CONCLUSION

Early assessment of severity and intensive care management of acute pancreatitisis of paramount importance. Lab markers especially high values of lipase and other markers could be important prognostic markers for predicting morbidity and mortality in acute pancreatitis.

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