International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Impact Factor (2012): 3.358

Research and Analytical Study of 50 Cases of Acute Pancreatitis

Dr. Prakash V. Chauhan[1], Dr. Rajnish R. Patel[2]

[1]M.S. General Surgery, Assistant Professor of Surgery, Government Medical College, Bhavnagar, Gujarat, India

[2]M.S., Fiages**,** Additional Professor of Surgery ,B. J. Medical college, Civil hospital, Ahmadabad, India

Abstract: ***Aims and Objectives:*** *To have some focus on commoner but less studied entity-acute pncreatitis. The research study was designed to recognize the clinical picture of acute pancreatitis in the Indian patients to evaluate common etiologies, role of investigations, outcome of early conservative and and surgical management.* ***Methods:*** *This study was conducted in 50 patients of acute pancreatitis admitted in government civil hospital. 50 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 s.lipase and s.amylase. Most important point was also taken into consideration of conservative management.* ***Results:*** *The highest incidence of acute pancreatitis was found in the age group of 41 to 60 years followed by the age group of 21 to 40 years. Acute pancreatitis was found more commonly in males compared to females. This may be due to effect of alcohol addiction in males. Surgery is not much useful except in cases of gallstone pancreatitis. In acute pancreatitis, serum lipase level may be elevated more consistently and for longer half-life than serum amylase. Octreotide used in all patients, found helpful in producing symptomatic relief and promoting recovery in mild to moderate cases.* ***Conclusion:*** *The clinical pattern of acute pancreatitis varies in different patients. Gallstones continue to be the leading cause of acute pancreatitis in most series. Early ERCP followed by cholecystectomy in the same admission gave excellent results. It is recommended that all patients with pancreatitis should undergo ultrasound within 24 hours of admission as it confirms gallstones and severe pancreatitis.*

Keywords: Acute Pancreatitis, Alcohol, Gallstones, Abdominal Pain, Serum Amylase

1. Introduction

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. 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. It is necessary to identify the aetiology to institute definitive management and prevent further attacks. There appears to be an increase in the incidence of acute pancreatitis. This rise in incidence has been attributed to increased alcohol consumption and high calorie food 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.

2. Materials and Methods

This study was conducted in 50 patients of acute pancreatitis admitted in government civil hospital. 50 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 Proforma.
- Proforma was designed to record the history, chief com-plain, 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 categorized as severe if three or more of the parameters were present during the first 48 hours of admission as described by Ranson et al.10. Patients with Ranson's score >3 and those with serious co-morbidity were admitted to ICU and monitored.All patients had full blood count and blood chemistry including serum amylase estimation done and biliary pancreatitis was diagnosed when biliary stones were demonstrated by ultrasonography which was performed within 24 hours of admission. CT scan was performed on patients. All patients were treated conservatively initially with intravenous fluids and nil orally.
- Most important point was also taken into consideration of conservative management.

3. Results and Discussion

In the study of 50 cases of acute pancreatitis following observations are made.

- AGE GROUP: Most commonly affected age group in this study is 50-59 years and mean age is 54years.
- As compared to females, male patients are more affected by acute pancreatitis in my study.
- Thirty-five patients (35%) had one or more co-morbidities like type 2 diabetes mellitus, hypertension, ischemic heart disease, chronic obstructive airway disease or chronic liver disease. The mean Ranson's

Licensed Under Creative Commons Attribution CC BY

critieria were 2 ± 1.08. Ranson's score of 3 or more was found in 15 (30%) patients and was 2 or less in 35 (70%) patients. Abdominal ultrasonography revealed calculi in the gall bladder of 20 (40%) patients; choledocholithiasis in 10 (20%) patients; pancreatic enlargement in 45 (90%); pancreatic pseudocyst in 3 (5%) patients; dilated common bile duct >7 mm in 12(24%) patients; and ascites in 7(14%).

- in order of occurrence, commonest causes in Males is alcoholism(66%), followed by billiary diseases(8%). while in Females billiary tracrt disease(80%) leads. As in our society alcoholism is not that common in females.
- **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.

	Present study	
Symptoms	No of patients	Percentage (%)
Abdominal pain	50	100
Abdominal distention	20	40
Fever	24	48
Jaundice	22	44
Vomiting	40	80
Dyspnea	14	28

- **Etiology:**

Etiological factors	No of patient	Percentage (%)
Alcohol	20	40
Billiary tract disease	20	40
Trauma	02	04
Idiopathic	06	12
Hypertriglyceridemia	02	04

- Commonest causes are alcoholism and billiary tract disease accounting 80%.
- Idiopathic cases are third most common cases.
- PHYSICAL FINDINGS: In my study fever (48%) and tachycardia (32%) are most common vital derangement seen in patients with acute pancreatitis.
- Epigastric tenderness is found in almost all patients.
- In 88% patients abdominal wall guarding and rigidity found.
- Surprisingly pallor found in 64% of patients along with icterus in 16% of patients.

4. Blood Investigations

1) Serum Amylase:

- It is evident from this study that, the patient with systemic complication pre-dominance, hyperamylasemia is not that evident. While in those patients with local pancreatitis, serum amylase was significantly high at the time of diagnosis and remains high for 7-10 days at least. Increased level of serum amylase is essential feature of acute pancreatitis.
- But the pattern of the hyperamylasemia is extremely variable. Pattern increase or decrease, does not correspond with the severity, complications or treatment modality.

S.Amylase	*No of patients*	*Percentage*
‹ 80	00	00
80-499	04	08
500-999	36	72
› 1000	10	20

Above table shows values of S.amylase level is elevated in all patients during the initial period of ACUTE PANCREATITIS in a series of 352 patients with acute pancreatitis admitted to clinic of digestive surgery, Geneva University hospital revealed that hyperamylasemia is seen in 81% of patients. Thus hyperamylasemia is a highly sensitive but not specific marker of disease.

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. In my study it is seen elevated in all patients.

S. Lipase	No of patients	Percentage
‹ 100	00	00
100-499	08	16
500-999	24	48
› 1000	18	36

- Biochemical tests done in this study. Elevated TC was suggestive of the infection in the pancreas but it was non-specific. Altered renal function test in about 7 patients was due to systemic complications of Acute pancreatitis which lead to shock and renal failure. S.billirubin, SAP, SGPT were elevated in 12 cases of Acute pancreatitis due to billiary tract disease or due to pathology of the pancreas involving the head and periampullary 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 16% of patients paralytic ileus was present on X-ray abdomen.

3) Ultra-Sonography

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 patient*	*Percentage*
Bulky pancreas with fluid collection	38	76
Altered echotexture (query necrosis)	10	20
Fatty liver	20	40
GB Stone	10	20
Ascitis	07	14

5. CECT Abdomen

Though contrast enhanced computerized tomography (CECT) abdomen is most valuable tool for diagnosis of acute pancreatitis and its local complication. Out of 50 patients, only 06 had undergone these investigations. Since

Licensed Under Creative Commons Attribution CC BY

it is costly rest of the patients could not afford it. The Balthazar scoring of these patients ranges from 1 to 10.

6. Management

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

Management	In my study No of patients	%
Conservative	38	76
Surgical	12	24
Total	50	100

Octreotide, somatostatiin analog was used in all patients. In this study Octreotide was found helpful in producing symptomatic relief and promoting recovery in mild to moderate A.P. But not much helpful in severe cases of A.P. Ryle's tube was 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.

Sr. no	Indication of surgery	Type of surgery	Patients
1	Acute Cholecystitis	Open cholecystectomy	08
2	Blunt abdominal trauma	Laparotomy + External drainage	02
3	Acute necrotizing pancreatitis	Laparotomy + Necrosectomy	02

7. Complications

- During this study, total 36% of patients developed complication
- Acute fluid collection- 6 patients, Pseudocyst - 4 patients, Recurrent attacks-8 patients.

8. Conclusion

- The highest incidence of acute pancreatitis was found in the age group of 41 to 60 years followed by the age group of 21 to 40 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.
- Alcoholism and billiary tract diseases are the commonest factors in etiology of acute pancreatitis. Amongst which males were affected most by alcoholism and females' billiary tract disease is common.
- Acute pancreatitis usually presents with abdominal pain,nausea, vomiting, fever, jaundice and abdominal distention and physical examination reveals epigastric tenderness, guarding, rigidity, pyrexia, shock mostly.
- Most attacks 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. Computed tomography is not used routinely due to its high cost. The prognostic factors for this disease are hyperamylasemia, hyperglycemia, reflecting a poorer outlook. Prognosis can also be assessed by ultrasonography and computed tomography delineating local complications.
- USG abdomen is a good,readily available, noninvasive mean to detect local pathology, which may be readily repeated.
- CECT abdomen is costly, invasive procedure, with ionizing radiation hazards but it is very sensitive and specific for detection of local pathology. In the study, only 3 patients had the CT scan finding because the cost of investigation is very high
- Peripancreatic fluid collection and pancreatic necrosis are predictors of severity of pancreatitis on USG & CT scan findings. So serum amylase level more than threefold of normal level and pancreatic fluid collection is main predictor of severity of pancreatitis in my study.
- About 76% of patients were treated conservatively. Octriotide was used in all patients and was found effective in reducing severity of disease, providing symptomatic relief and promoting recovery in patients with milder form of disease.
- The initial management of AP attack should be conservative; with surgery reserved for case having uncertainty of diagnosis, trauma, very severe attack not responding to medical therapy and complications of disease. Surgical management was done in 24% of patients.

9. Future Scope

Cases of acute pancreatitis are being very common in Indian population now a day's though ultrasonography being common investigation CT scan is becoming popular for definitive diagnosis of pancreatic pathology. There is a great need of CT defined criteria and evaluation to guide management of pancreatitis. Role of pancreatitis is definitely helpful. In recent era of endoscopy and ERCP revolutionary changes are yet to happen in case management of pancreatitis.

References

[1] Sabiston Textbook of Surgery, 18th edition,
[2] Schwart'z surgery 8th edition Maingot's Textbook. Abdominal operation, 10th edition.
[3] Bailey and Love 26th edition.
[4] "Acute pancreatitis in multi ethnic population", Singapore Med Journal, 2002 Vol 43(6): 284-288.

Author Profile



Dr. Prakash V. Chauhan has done M.S. General Surgery, B. J. Medical College, Ahmadabad, Gujarat, India. He is M.B.B.S. from B. J. Medical College, Ahmadabad, Gujarat, India. He was Senior Resident in Urology & Robotics surgery department at Medanta-the medi city, Gurgaon-Delhi.(2013). Presently he is working as

Licensed Under Creative Commons Attribution CC BY

Assistant professor of General Surgery, General Surgery Department, Government Medical College, Bhavnagar, Gujarat, India. He is skilled in Urology & Gastrointestinal surgery. His Career interest includes Urology and Research.



Dr. Rajnish R. Patel (M.S., FIAGES) is working as Additional Professor of Surgery, B.J.Medical College, General Surgery Department, Civil hospital, Ahmadabad, Gujarat, India

Licensed Under Creative Commons Attribution CC BY