

Biliary pancreatitis. Deadly threat to the elderly. Is it a real threat?

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Abstract:

Objective/Introduction: Gallstone pancreatitis is a deadly disease and especially so in the elderly. This study highlights the incidence, pattern and management of acute biliary pancreatitis in the elderly patients to find out the outcome of management.

Methods: All patients of acute abdomen regardless of the age and gender of the patients were admitted in our unit at Liaquat University of Medical and Health Sciences and different private hospitals in Hyderabad during 3 years commencing from June 2009 to June 2011. The data was collected on a proforma by the author as soon as the patients were received from the emergency. After admission the patients with the diagnosis of acute biliary pancreatitis on initial workup were inducted in this study. The variables studied included the incidence, severity and management outcome in patients 55 years and above compared to younger patients below 55 years.

Results: A total number of 650 patients regardless of gender with acute severe abdominal pain were brought to the emergency of which 131(20.15%) were diagnosed as acute biliary pancreatitis after initial work up. Out of the total patients diagnosed as acute pancreatitis, 63(48.09%) patients were <55 years of age and remaining 68(51.90%) patients were >55 years of age. The overall mortality in this study was 20.63 % (n=13) in elderly patients (> 55 years of age) in both the sexes despite all possible treatment measures.

Conclusion: Elderly people respond poorly to the acute insult to pancreatitis.

Key words: Acute pancreatitis, Elderly patients, Co-Morbidities, Mortality

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Introduction

Acute pancreatitis is an inflammatory disease of a very unpredictable course and outcome. ⁽¹⁻⁵⁾ It may involve local tissues or may spread to involve systemic organs and tissues. ⁽⁶⁻⁷⁾ Its wide diversity involving local tissues to spreading inflammation involving systemic involvement increases the mortality many fold. ⁽⁸⁻¹⁰⁾ It may run a totally benign course in more than 80% of cases but in 10-20% it has a wildfire like course which may proceed fast as to reach to a point of no return in a very short span having great emotional, physical and a drastic financial burden over the entire family. ⁽¹¹⁾ Many such elderly patients with pain in abdomen are treated as acute MI or duodenal ulcers and eventually this misdiagnosis loses the initial period where patients could be effectively treated and saved. ⁽¹²⁾ The disease is common among elderly who fall an easy prey to this disease due to co-morbidities and compromised body systems. There is increased diameter of CBD in elderly which makes them more susceptible to biliary pancreatitis and increased mortality with recurrent episodes. ⁽¹³⁾ This study highlights our experience of acute pancreatitis in the elderly people.

Methods

One hundred and thirty one (131) patients were inducted in this study out of 650 patients of acute abdominal pain. The patients were immediately worked up with pancreatic enzymes study and Ultrasonography. The CT scan was done in selected severe cases to evaluate the extent of pancreatic necrosis and to assess the need for surgical intervention. Patients with gallstones and CBD stones who were found enzyme elevated and high Ranson score were shifted to ICU for aggressive approach. While stable patients based on these severity tools were kept in ward under strict observations and trained nurses were allocated to each patient. The vitals and progress of each patient was recorded hourly for six hours and then 8 hourly. In the event of deteriorating condition of any patient in ward, he was immediately shifted to ICU realizing the gravity of the problem. Optimum sterilization and minimum attendance was ensured. Those who had mild type of pancreatitis were allowed light diet after sometime but with serious disease were kept on parenteral nutrition.

Majority (69%) of patients were settled by third day and were relieved home with necessary instructions for ERCP and/or laparoscopic cholecystectomy in the near future to avoid recurrent attack. There was trained staff round the clock and a doctor was on duty to look after the patients.

The outcome measures were included total hospital duration, development of severe acute biliary pancreatitis. The management options included I/V fluids, I/V antibiotics, ERCP, Cholecystectomy, TPN and in extreme cases necrosectomy.

Statistical Analysis

The results are statistically analyzed on SPSS version 20. The descriptive data is summarized as percentages, mean and standard deviation. Chi square test was used to compare the means where ever needed.

Results

One hundred and thirty one (20.15%) patients were sorted out of 650 patients of severe abdominal pain and were diagnosed as acute biliary pancreatitis from June 2009 to June 2011. The mean age of the study population was 56.29, SD 19.590, and range of 62(28-90). Of the total number there were 53 (40.45%) males and 78 (59.54%) females as shown in **Table-I**. Among both the sexes there were significant co-morbidities adding further to their illness especially in elderly people over 55 years as shown in **Table II**. Hemodynamic status of the patients was assessed on arrival and immediate resuscitative measures were started depending upon the condition of the patient including aggressive hydration, intravenous antibiotics and oxygen. On admission the investigation profile helped us to stratify the patients into mild, moderate and severe cases to prioritize them accordingly. Enzyme studies and ultrasonography were performed on all the patients while CT scan was performed on severe cases to evaluate the extent of pancreatic damage and infected necrosis of pancreatic tissue. Further treatment was instituted based upon the categorization into mild, moderate and severe pancreatitis. Of the total number, 68 patients were 55 years or above and of these 29 (42.64%) patients developed severe acute biliary pancreatitis compared to 10 (15.87%) patients in < 55

years age group ($P < 0.001$) as shown in **Table III**. Three of the patients in the elderly group developed massive necrosis showed on CT scan and were offered laparotomy followed by necrosectomy with drains left inside abdominal cavity. All three of them died in the post-operative period due to multiple organ failure. The total duration of stay in hospital was 5-25 days in elderly patients while it was significantly lower in younger patients averaging 3-10 days. There was a statistically significant co-relation with diabetes and severe disease in the elderly patient ($P < 0.001$). The elderly group had an overall mortality of 19.11% ($n=13$) compared to a significantly low mortality 7.93($n=5$) in younger age group ($P < 0.001\%$). Patients who developed ARDS and were kept on ventilator gave poor

response and as soon as the ventilator was taken off, they passed away. Our overall experience with this disease is bad because it is usually the last in the differential diagnosis of acute abdominal pain, facilities at most of our peripheral hospitals are scarce, and there is a lot of delay in referring the patient to hospital with good facility. Age and smoking are the two factors we found very closely related to the mortality as these patients develop ARDS very suddenly regardless of gender. Our message to the general practioners is to keep a high suspicion about pancreatitis while receiving old patients with acute abdomen and send the serum amylase and lipase at the first instance. This might save some lives.

Table I. Demographics

Age (in years), Mean \pm Standard Deviation (Range) \pm 56.29, SD19.59(28-90)	
Age in group:n(%)	
28-54 years	63(48.09%)
55 or above	68(51.90%)
Gender:	
Male	53(40.45%)
Female	78(59.54%)
Severity of disease	
Mild	71(54.19%)
Moderate	21(16.03%)
Severe	21(16.03%)

Table II. Co-Morbidities in patients > 55 years of age

Co- Morbidity	Hypertension	Diabetes Mellitis	COPD	Cancer	Renal failure	Total
Males	3	9	7	3	2	24
Females	2	4	3	0	0	9
Total	5	13	10	3	2	33

Table III. Age group and severity of Acute Pancreatitis

		Severity of disease			Total
		Mild	Moderate	Severe	
Age Group	>55 years	35(51.47%)	4(6.34%)	29(46.03%)	68
	<55 years	34(53.96%)	17(25%)	10(14.70%)	63
Total		69(52.6%)	21(16.03%)	39(29.77%)	131

P>0.001

Discussion

Acute pancreatitis is an ancient problem affecting man attributing it to the death of Alexandria the Great as he was a heavy drinker. ⁽¹³⁾ It signifies an acute inflammation of the pancreatic acinar cells due to self-activation of the digestive enzymes contained in these cells. Many stories regarding this auto digestion were proposed but only in 19th century an authentic report on its pathophysiology gained a lot of attention. ⁽¹⁴⁾ There are many causes but the most important so far are considered to be gallstones and alcohol. ⁽¹⁵⁻¹⁸⁾ It has been claimed that gallstone of small size up to 5mm can enter the cystic duct and can produce this lethal syndrome. ⁽¹⁹⁾ There is a global consensus that females are the common victims as they harbor gallstones more frequently than males and males are more frequent victims because of alcohol. ⁽²⁰⁾ The other view is that males are more prone to develop pancreatitis due to anatomical reasons. ⁽²¹⁾ This study focuses on the vulnerability of elderly people to be more commonly and more severely affected by acute pancreatitis. Our study shows a clear cut increase in mortality related to severity of the disease which is consistent with many other studies. ⁽²²⁾ All parameters of severity of pancreatitis were found much higher in the elderly patients be it a male or a female. This is related to the co-morbidities, fragility, less cardiac and respiratory reserve which makes them easy prey for this disease. In our study gallstones were the principal cause of the pancreatitis as evidenced by other studies as well. ⁽²³⁾ Our study confirms an association with

diabetes mellitus and severity of pancreatitis in elderly males as suggested by other similar studies. ⁽²⁴⁾ Smoking and alcoholism are also found to be a risk factor by Yanng H et al ⁽²⁵⁾ claiming similar association as shown in our study. Yadav D, and Lowenfels AB ⁽²⁶⁾ have also confirmed an increasing incidence of acute pancreatitis and mortality in the elderly patients confirming our findings.

Conclusion

Acute pancreatitis is a killer disease especially in elderly people who have co-morbidities, low respiratory and cardiac reserves, mostly are smokers and so be diagnosed early to exclude this disease.

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