E-ISSN: 2616-3470
P-ISSN: 2616-3462

www.surgeryscience.com
2020; 4(4): 295-298
Received: 20-05-2020
Accepted: 24-06-2020

Dr. Akash Dua
Assistant Professor, Department of Surgery, SGT Medical College Hospital and Research Institute, Budhera, Gurugram, Haryana, India

Dr. Manoj Aggarwal
Assistant Professor, Department of Medicine, SGT Medical College Hospital and Research Institute, Budhera, Gurugram, Haryana, India

Dr. PN Aggarwal
Professor and HOD, Department of Surgery, SGT Medical College Hospital and Research Institute, Budhera, Gurugram, Haryana, India

Corresponding Author:
Dr. PN Aggarwal
Professor and HOD, Department of Surgery, SGT Medical College Hospital and Research Institute, Budhera, Gurugram, Haryana, India

A clinical study of patients with acute pancreatitis in North Indian teaching hospital

Dr. Akash Dua, Dr. Manoj Aggarwal and Dr. PN Aggarwal

DOI: https://doi.org/10.33545/surgery.2020.v4.i4e.576

Abstract
Background: Despite the availability of clinical practice guidelines for the management of acute pancreatitis, recent studies auditing the clinical management of the condition have shown important areas of noncompliance with evidence-based recommendations. This underscores the importance of creating understandable and implementable recommendations for the diagnosis and management of acute pancreatitis. Acute pancreatitis is a significant health problem which leads to a quarter of million hospital admissions in USA per year.
Aims and Objectives: To Study of Patients with Acute Pancreatitis in North Indian Teaching Hospital.
Subjects and Methods: Acute pancreatitis can range from a mild, self-limiting disease that requires no more than supportive measures to severe disease with life-threatening complications. After approval from ethical institutional committee a cross-sectional study was carried out at the Department of Surgery in the patients diagnosed as Pancreatitis during one year period i.e. June 2016 to May 2017. During one year period there were 78 patients enrolled into the study. Al details of the patients like age, sex, clinical features, etiological features, Outcome like Improved, DAMA (Discharge against Medical Advise) and Death and associated factors were studied in details. The data was presented in percentages and presented in the tabular form.
Result: Therefore present study is stating that the majority of the patients were in the age group of 40- 50 were 40.0%, followed by 30-40 were 31.25%, 50-60 were 11.25%, >60 were 10.0%, 20-30 were 7.5%.
The majority of the patients were Female i.e. 62.50%, and Male were 37.50%. The most common clinical presentation was Pain in abdomen i.e. 90%, followed by Fever 83%, Vomitting-78%, Jaundice 62%, Septicemia Shock in 32%. The most common etiology fond was Biliary in 52.78%, Alcoholism in 19.44%, Hyperlipidemia in 16.67%, idiopathic in 6.94%, traumatic in 4.17%. 85% Patients Improved, 5% patients discharged by Discharge against medical advice (DAMA) and Death occurred in 10% of the individuals; these patients were associated with old age, co- morbid conditions like Diabetes, Heart disease, Obesity etc.
Conclusion: It can be concluded from our study that the most common clinical presentation was Pain in abdomen, followed by Fever, Vomiting, Jaundice, Septicemic Shock. The most common etiology fond was Biliary followed by Alcoholism, Hyperlipidemia, Idiopathic Traumatic, etc. In outcome majority of the Patients Improved Death occurred in 10% of the individuals; these patients were associated with old age comorbid conditions like Diabetes, Heart disease, Obesity etc.

Keywords: Abdominal pain, acute pancreatitis, etiology of pancreatitis, outcome of pancreatitis

Introduction
Acute pancreatitis is a significant health problem which leads to a quarter of million hospital admissions in USA per year [1-3]. Pancreatitis is a contributing factor in an additional 4000 deaths annually and inflicts a heavy economic burden, accounting for more than $2 billion in health costs annually in the United States [4]. Unpredictable natural history and diagnostic delay often leads to belated and ineffective interventions in these cases. Acute pancreatitis is an acute inflammation of the pancreas is an increasingly common abdominal disorder presenting as major surgical challenge to general surgeons worldwide. When evaluating prognosis in acute pancreatitis, it is also important to consider the outcome that one is trying to predict and when such a prediction should be made. Most studies that evaluate prediction methods in acute pancreatitis have focused on death as the outcome of interest because it is a well-defined, clinically significant outcome. However, recent data from the US National Center for Health Statistics suggest that overall mortality has declined over the past several decades, with estimates ranging from 1%–5% [5]. But in many other studies mortality rates are different, with estimates ranging from 5%-20%. This has led to increased debate over whether death remains

the most appropriate outcome to use when predicting the outcome of acute pancreatitis.

Materials and Methods

After approval from ethical institutional committee a cross-sectional study was carried out in the Department of Surgery, SGT Medical College Hospital & Research Institute, Budhera, Gurugram, Haryana, India. Where the patients diagnosed as Pancreatitis during one year period i.e. June 2016 to May 2017. During one year period there were 80 patients enrolled into the study.

Diagnosis of acute pancreatitis

1. A serum lipase test should be performed in all patients with a suspected diagnosis of acute pancreatitis. A 3-fold elevation of serum lipase from the upper limit of normal is required to make the diagnosis of acute pancreatitis.
2. Ultrasonography should be performed in all patients at baseline to evaluate the biliary tract and in particular to determine if the patient has gallstones and/or a stone in the common bile duct (CBD).
3. Magnetic resonance cholangiopancreatography (MRCP) is recommended only in patients in whom there is elevation of liver enzymes and in whom the CBD is either not visualized adequately or is found to be normal on ultrasound.
4. Computed tomography (CT) should be performed selectively when 1) a patient presents with substantial abdominal pain and a broad differential diagnosis that includes acute pancreatitis, or 2) in patients with suspected local complications of acute pancreatitis (e.g., peritonitis, signs of shock, suggestive ultrasound findings). Computed tomography for the assessment of local complications is most useful 48–72 hours after the onset of symptoms rather than at the time of admission. Unless contraindicated (e.g., renal dysfunction), intravenous contrast should be given in order to assess for pancreatic necrosis once patients are adequately fluid resuscitated and normovolemia is restored.

Estimation of severity

1. A serum C-reactive protein (CRP) level of 14 286 nmol/L (150 mg/dL) or greater at baseline or in the first 72 hours is suggestive of severe acute pancreatitis and is predictive of a worse clinical course. Thus, CRP should be assessed at admission and daily for the first 72 hours after admission.
2. Acute Physiologic Assessment and Chronic Health Evaluation (APACHE) II Scores should be calculated on admission and daily for the first 72 hours after admission. An APACHE II Score of 8 or higher at baseline or in the first 72 hours is suggestive of severe acute pancreatitis and is predictive of a worse clinical course.
3. Severe acute pancreatitis should be diagnosed if a patient exhibits signs of persistent organ failure for more than 48 hours despite adequate intravenous fluid resuscitation.
4. All details of the patients like age, sex, clinical features, etiological features, Outcome like Improved, DAMA (Discharge against Medical Advise) and Death and associated factors were studied in details. The data was presented in percentages and presented in the tabular form.

Results

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
20-30	6	7.5
30-40	25	31.25
40-50	32	40.0
50-60	9	11.25
>60	8	10.0
Total	80	100.00

The majority of the patients were in the age group of 40- 50 were 40.0%, followed by 30-40 were 31.25%, 50-60 were 11.25%, >60 were 10.0%, 20-30 were 7.5%.

Table 2: Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Female	50	62.50
Male	30	37.50
Total	80	100.00

The majority of the patients were Female i.e. 62.50%, and Male were 37.50%

Table 3: Distribution of the patients as per the clinical profile

Clinical profile	No.	Percentage (%)
Pain abdomen	72	90%
Fever	66	83%
Vomiting	62	78%
Jaundice	49	62%
Septicemic	25	32%

The most common clinical presentation was Pain in abdomen i.e. 90%, followed by Fever 83%, Vomitting78%, Jaundice 62%, Septicemic Shock in 32%.

Table 4: Distribution of the patents as per the etiology

Etiology	No.	Percentage (%)
Biliary	38	52.78
Alcoholism	14	19.44
Hyperlipidemia	12	16.67
Idiopathic	5	94
Traumatic	3	4.17
Total	72	100.00

The most common etiology found was Biliary in 52.78%, Alcoholism in 19.44%, Hyperlipidemia in 16.67%, Idiopathic in 6.94%, Traumatic in 4.17%.

Table 5: Distribution of the patients as per the outcome

Outcome	No.	Percentage (%)
Improved	68	85%
DAMA	4	5%
Death	8	10%

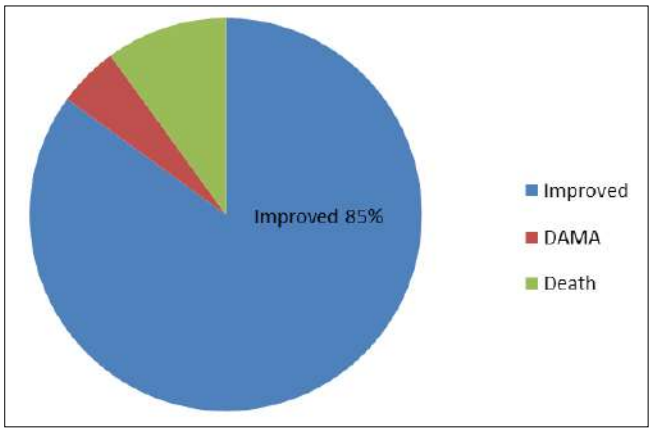

Fig 1: As in figure 1 this is appropriately indicated that 85% Patients Improved, 5% patients discharged by Discharge against Medical Advise (DAMA) and Death occurred in 10% of the individuals; these patients were associated with old age, co-morbid conditions like Diabetes, Heart disease, Obesity etc.

Discussion

Acute pancreatitis is a common disease and constitutes a great medical problem in western society with morbidity of 20-30% and mortality of 8-20% [6, 7, 8]. It is a complex process which varies from mild self-limiting inflammation to rapidly deteriorating condition which poses a serious threat to life [9, 10]. Acute pancreatitis has incidence of around 2.29% [11]. Based on severity, acute pancreatitis can be acute edematous; acute persistent; or acute hemorrhagic necrotizing. Early identification of patients at risk of developing a severe attack has great importance for instituting therapeutic interventions and improved outcome [12].

In present study we have seen that The majority of the patients were in the age group of 40- 50 were 40.0%, followed by 30-40 were 31.25%, 50-60 were 11.25%, >60 were 10.0%, 20-30 were 7.5%.

The majority of the patients were Female i.e. 62.50%, and Male were 37.50%. The most common clinical presentation was Pain in abdomen i.e. 90%, followed by Fever 83%, Vomitting-78%, Jaundice 62%, Septicemic Shock in 32%. The most common etiology fond was biliary in52.78%, Alcoholism in 19.44%, Hyperlipidemia in 16.67%, Idiopathic in 6.94%, and Traumatic in 4.17%. 85% Patients Improved, 5% patients discharged by Discharge against medical advice (DAMA) and Death occurred in 10% of the individuals; these patients were associated with old age, co-morbid conditions like Diabetes, Heart disease, Obesity etc. These findings are similar to Gail P. Reid [13] they found There were 70 females and 21 males with a median age of 44 years (range 2e86). The median age of males was significantly higher than that of females (p ¼ 0.041). The incidence of AP was 74 per 100,000 admissions per year. Vomiting and abdominal tenderness were noted in the majority of patients. The most common aetiology was biliary disease (71.4%), idiopathic (12%), post-ERCP (6.6%) and alcohol (5.5%). Alcoholic pancreatitis was only seen in males whereas idiopathic and post-ERCP pancreatitis only occurred in females. The mean duration of hospitalization was 9.51 ± 8.28 days. Disease severity was mild in 61.1%, moderately severe in 26.7%, and severe in 12.2% of patients. Factors associated with more severe disease included overweight/obesity, idiopathic etiology and post-ERCP status. The case fatality rate was 2%. The case fatality rate was higher in our study the differences could be due to difference in the study population, or differences in underlying etiology. Pawan Kumar Jha [14] found among 104 patients with acute pancreatitis 68 (65%) were females and 36 (35%) were males. Mean age of our study group was 40.9 years and maximum incidence was seen in 36-45 years. Most common cause was biliary pancreatitis (63%) followed by alcohol (27%), idiopathic (6%), trauma (3%), infections (1%). In females, most common etiology was gall stone (88%), in males most commonly by alcohol (78%). As per Atlanta classification 81 patients (77.8%) had acute mild pancreatitis and 23 patients (22.2%) had acute severe pancreatitis. Majority females (66.7%) were admitted in mild acute pancreatitis. The mean age of patients in mild acute pancreatitis was 39.6 years and in severe group was 45.4 years. Gall stone were the leading cause in both mild and severe acute pancreatitis.

Another research in which we can see Similar results in a 2008 meta-analysis of 7 RCTs involving 467 patients with CT-proven necrotizing acute pancreatitis comparing prophylactic antibiotics with placebo or no treatment. The rate of infected pancreatic necrosis was not significantly different (17.8% in the antibiotic group v. 22.9% in controls, RR 0.81, 95% CI 0.54–1.22). There was a non-significant decrease in mortality in the antibiotic group compared with the control group (9.3% v. 15.2%, RR 0.70, 95% CI 0.42–1.17). Subsequent subgroup analysis confirmed that antibiotics were not significantly superior to placebo or no treatment in reducing the rate of infected necrosis or mortality [15].

Wu Bu *et al*. explains Recent data suggest that serial measurement of blood urea nitrogen levels is the most useful routine laboratory test for determining risk of death. In a large retrospective cohort study conducted at 69 US hospitals, the levels of blood urea nitrogen at admission and during the first 24 hours of a patient's stay in hospital were found to be more accurate predictors of death than other routine laboratory tests (leukocyte count and glucose, hemoglobin and creatinine levels), [16] with an area under the ROC curve similar to that of the APACHE II. Similarly Wu B, Bakker *et al* states the prognostic accuracy of serial measurement of blood urea nitrogen levels has since been validated using data from three independent prospective cohort studies [17].

And Papachristou GI *et al* have given several markers of systemic inflammation have also been studied as potential biomarkers to help predict the outcome of acute pancreatitis. The most widely available and well-studied is the acute-phase reactant, C-reactive protein. Several observational studies have shown that C-reactive protein levels peak on day three after the start of symptoms and have their greatest prognostic value 48 hours after the start of symptoms [18]. Unfortunately, this timeline limits the usefulness of measuring C-reactive protein levels during the initial treatment phase of acute pancreatitis.

Neoptolemos JP *et al*. Markers of protease activation have also been extensively studied as early predictors of outcome in acute pancreatitis. The most well established is urine trypsinogen-activation peptide, which has been shown to be both an accurate and reliable early prognostic indicator [19]. Unfortunately, this test is not commercially available.

Conclusion

However it can be concluded from our study that he most common clinical presentation was Pain in abdomen, followed by Fever, Vomiting, Jaundice, Septicemic Shock. The most common etiology fond was Biliary followed by Alcoholismc, Hyperlipidemia, Idiopathic Traumatic, etc. In outcome majority of the Patients Improved Death occurred in 10% of the individuals; these patients were associated with old age, co-morbid conditions like Diabetes, Heart disease, Obesity etc.

Source of support: None
Conflict of interest: None declared.

References

1. Fagenholz PJ, Castillo CF, Harris NS. Increasing United States hospital admissions for acute pancreatitis 1988-2003. Ann Epidermiol 2007;17:491-7.
2. Tenner S. Practice guidelines in acute pancreatitis. The American Journal of Gastroenterology 2013;8:1400-15.
3. Baron TH, Morgan DE. Current concepts: Acute Necrrotizing Pancreatitis. N Engl J Med 1999;18:1412-7.
4. Steinberg W, Tenner S. Acute pancreatitis. N Engl J Med 1994;330(17):1198-210
5. Harada Kunichika MH. Clinical course and prognosis of chronic pancreatitis. Pancreas 1987;2:378-85.
6. Munsell MA, Buscaglia JM. Acute pancreatitis. J Hosp Med 2010;5:241-50.
7. Bhattacharya S. The pancreas. In: Russel RC, Williams NS, Bulstrode CJ, editors. Bailey and Love's short practice of surgery. 25th ed. London: Edward Arnold 2008, P1130-53.
8. Mofidi R, Patil PV, Suttie SA, Parks RW. Risk assessment in acute pancreatitis. Br J Surg 2009;96:137- 50.
9. Yeung Y, Yeung KLB, Wai CYA. APACHE system is better than ranson system in the prediction of severity of acute pancreatitis. Hepatobiliary Pancreat Dis Int 2006;5:294-9.
10. Barreto SG, Rodrigues J. Acute pancreatitis in Goa: a hospital based study. J Indian Med Assoc 2008;106:575-6.
11. Eshy AS, Abolfotouh MA, Nawar E, Sabib AA. Ranson's criteria for acute pancreatitis in high altitude: do they need to be modified? Saudi J Gastroenterol 2008;14:20-3.
12. Bollen TL. Imaging of acute pancreatitis: update of the revised Atlanta classification, Radiol. Clin. North Am 2012;50:429-445.
13. Gail Reid PA, Eric Williams WA, Damian Francis KB. Acute pancreatitis: A 7 year retrospective cohort study of the epidemiology, aetiology and outcome from a tertiary hospital in Jamaica. Annals of Medicine and Surgery 2017;20:103-108.
14. Pawan Kumar Jha, Rajnish Chandran. A clinical study of risk factors of acute pancreatitis in a tertiary care centre in North India. International Surgery Journal Jha PK *et al*. IntSurg J 2017;4(6):1878-1883.
15. Bai Y, Gao J, Zou DW *et al*. Prophylactic antibiotics cannot reduce infected pancreatic Necrosis and mortality in acute necrotizing pancreatitis: evidence from a meta-analysis of randomized controlled trials Am J Gastroenterol 2008;103:104-10.
16. Wu BU, Johannes RS, Sun X *et al*. Early changes in blood urea nitrogen predict mortality in acute pancreatitis. Gastroenterology 2009;137:129-35.
17. Wu B, Bakker OJ, Papchristou GI *et al*. Prognostic value of blood urea nitrogen (BUN) in the early assessment of acute pancreatitis: an international study [abstract 475p]. Gastroenterology 2010;138(S1):S-66.
18. Papachristou GI, Whitcomb DC. Inflammatory markers of disease severity in acute pancreatitis. Clin Lab Med 2005;25:17-37.
19. Neoptolemos JP, Kemppainen EA, Mayer JM *et al*. Early prediction of severity in acute pancreatitis by urinary trypsinogen activation peptide: a multicentre study. Lancet 2000;355:1955-60.