ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 09 | September - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EVALUATION OF ETIOLOGY, CLINICAL PROFILE AND OUTCOME OF ACUTE PANCREATITIS IN LOW SOCIOECONOMIC GROUP OF PATIENT IN MEDICAL COLLEGE HOSPITAL OF BIHAR-A FIVE YEAR RETROSPECTIVE STUDY .

Medicine

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ABSTRACT

Background: Acute pancreatitis is a complex condition with diverse local and systemic complications. There were no previous detailed studies regarding the etiology, clinical profile and outcome of acute pancreatitis in low socioeconomic population of Bihar.

Methods: This is a hospital based study by retrospective analysis of all acute pancreatitis cases from the past 5year in this Medical college, which have clinical/ laboratory/ radiological findings suggestive of acute pancreatitis.

Results: Among 218 cases studied 159 (72.9%) were males and 59 (27.1%) were females all are of Low socioeconomic population. Epigastric pain without radiation to the back (51.6%) was the most common clinical presentation. Alcohol was the most common etiological factor seen in 42.4% followed by idiopathic pancreatitis (IP) (36.9% cases) and then by gallstone/biliary pancreatitis (14.5%). Acute fluid collection was the most common local complication seen in 29.1% cases and respiratory system involvement was the most common organ involvement seen in 16.5% of cases.

Conclusions: Epigastric pain without radiation to the back was the most common clinical presentation. Incidence of alcoholic pancreatitis (42.4%) and idiopathic pancreatitis (36.9%) was slightly higher in our study, which should prompt us to look with further studies for identifiable new aetiologies in the idiopathic group. This work provides the first known regional description of the etiology, clinical profile and outcome of acute pancreatitis. Due to institutional and population similarities, this may represent the status of developing countries in general. This will help in formulating a hospital policy which would be beneficial.

KEYWORDS

Acute pancreatitis, Etiology, Clinical profile, Outcome

INTRODUCTION

Acute pancreatitis is one of the commonest presentations of acute abdomen to hospitals, which can have variable clinical presentations and outcomes from mild to severe life threatening multi-organ dysfunction. Dealing with the clinical course of acute pancreatitis and the management of severe acute pancreatitis is limited by the ambiguities regarding the pathogenesis and multi organ involvement of the disease, uncertainties to predict outcome and a few effective treatment modalities. According to revised Atlanta classification 2012, the diagnosis of acute pancreatitis requires two of the following three features. Abdominal pain consistent with acute pancreatitis (acute onset of a persistent, severe, epigastric pain often radiating to the back) Serum lipase activity (or amylase activity) at least three times greater than the upper limit of normal; and Characteristic findings of acute pancreatitis on contrast-enhanced computed tomography (CECT) and less commonly magnetic resonance imaging (MRI) or transabdominal ultrasonography. The etiological spectrum of acute pancreatitis includes the most common gallstones, alcohol, trauma, idiopathic, drug induced, metabolic disorders (hyperlipidemia, hypercalcemia), post-ERCP, congenital anomalies such as pancreas divisum to the rarest scorpion sting. The management strategies vary from medical supportive measures to surgical management in complicated cases when indicated. The etiological factors are greatly affected by geography, cultural and socioeconomic background. For example, alcoholic pancreatitis and tropical pancreatitis which are more endemic in certain areas.There are several predictors of severity of Acute Pancreatitis which include clinical predictors (age, sex, alcoholic pancreatitis, obesity and organ failure), laboratory predictors (hemoconcentration, CRP, serum creatinine, BUN etc.), Radiological predictors (CT scan, MRI, MRCP). In our study, we are using CT severity index (Balthazar scoring) to assess the severity and compare it with the outcome. Experimental and clinical observations reveal that development of pancreatic necrosis is accompanied by an increase of local and systemic organ complications, increasing the risk of morbidity and mortality. As there has been no detailed study about the demographic pattern of pancreatitis in low socioeconomic population of Bihar. So we propose this study from low socioeconomic status population.

METHODS

This is a hospital based study by retrospective analysis of all acute pancreatitis cases from the past 5 years in Patna Medical College and Hospital, which have clinical/ laboratory/ radiological findings suggestive of acute pancreatitis. Study design This was a cross-sectional study by retrospective analysis. Study area The study was done in the Department General Medicine and Gastroenterology in this hospital among Low socioeconomic population of Bihar. . As the investigator will not come in contact with the patient and the study involves only review of hospital records,. Study period between January 2015 to January 2020. Study instruments Case study forms were used to collect required data from the patient charts.

INCLUSION CRITERIA

Patients of any age group of Low socioeconomic group with clinical, laboratorial and radiological findings (CECT abdomen) suggestive of acute pancreatitis were included in the study.

EXCLUSION CRITERIA

Exclusion criteria were patients with chronic pancreatitis; patients with other pancreatic pathologies like pancreatic malignancies, cyst; any previous pancreatic surgery; patients contraindicated for contrast enhanced CT abdomen (renal failure, contrast allergy, pregnancy etc.).

Data analysis

The data collected from the admission registerof patient admitted in Department of Medicine and Gastroenterology ,Patna Medical college and Hospital includes age, sex, clinical presentation, etiology, CT severity in CTSI, outcomes (length of hospital stay, need for surgical intervention for local complications, organ failure, and death). Result of the 218 cases studied incidence of acute pancreatitis was found to be higher among males (72.935%) than females (27.064%). The mean patient age was 43.45 years (median 41 years) and range 3-94 years. Epigastric pain without radiation to the back (51.605%) was the most common clinical presentation in our study population while epigastric pain radiating to the back was present in 29.128% cases. Nausea and vomiting was noted in majority of the cases (70.183%), Local complications, defined as the presence of acute peripancreatic fluid collection, pancreatic pseudocyst, pancreatic necrosis were observed in 40.8% of cases. Incidence of each complication are as Followes , Metabolic complications such as acidosis, hypoalbuminemia, hypocalcemia was present in 28.89% of cases . Organ involvement was present in 37.614% of cases and the most common among them was respiratory local complications, No. of patients, Percentage (%) Acute fluid collection 63, 29.1% None 129, 59.2% Pancreatic necrosis

13, 6% Pseudocyst 12, 5.7% Total 218 100% .Metabolic complications, Frequency Percentage (%) Acidosis 3, 1.1% Hypercalcemia 2 0.9% Hypoalbuniemia 1 0.5% Hypocalcemia 57 26.4% None 155 71.1% Total 218, 100% .Organ involvement. No. of patients Percentage (%) Cardiac 4 1.60% Hematological (Hemorrhage, deranged INR) 2 0.917% MODS 25 11.697% Renal 15 6.88% Respiratory 36 16.513% Length of hospital stay exceeded 7 days in 47.2% of cases : Length of hospital stay. Less than 7 days 115 52.8% More than 7 days 103 47.2% Out of the 7 patients expired, 3 (42.8% of dead patients; 1.376% of total study population) died due to alcoholic pancreatitis . There was a mortality of 6.7% (2out of 30 patients) in patients with gallstones/biliary etilogy whereas patients with alcohol as etiology had a mortality of only 3.3%, which denotes almost double mortality with biliary/gallstones than alcohol . Of the expired patients, 4 patients (57.14%) had multi organ dysfunction syndrome. CT severity index. Severity Mild 179 82.1% Moderate 30 13.5% Severe 9 4.4% .

DISCUSSION

Acute pancreatitis is the most common gastrointestinal condition requiring acute hospital admission. In this study the male preponderance of 2.7:1 is in concordance with study done at Jamaica where a male preponderance of 4:1 was noted. Even though the etiology of acute pancreatitis varies alcohol consumption and gall stones predominate in most of the countries. Out of the Total 218 cases, alcohol induced pancreatitis was higher (42.431%) followed by idiopathic pancreatitis (36.926%). These results are consistent with the findings of Vengadakrishnan et al, from the study done at SRM Medical College, Chennai were alcohol induced pancreatitis was higher (51%). All cases with history of alcoholism were male. The high idiopathic pancreatitis rate in our study population should be studied in detail. Abdominal pain is the cardinal symptom of acute pancreatitis. In the study done by Sameer et al in People's college of medical sciences and research centre, Bhopal the triad of epigastric pain, nausea and vomiting was seen in 75% patients. In our study triad of epigastric pain, nausea and vomiting was present in 128(58.715%) of cases. Abdominal pain was present in all cases which were in concordance with the study done by Reid et al where abdominal pain was present in 96.7% cases.3 Nausea and vomiting was present in 70.183% cases.

CONCLUSION

This is the first known study on Socieconomic pattern of acute pancreatitis in Bihar. While current published literature strongly suggests epigastric pain with radiation to the back as the most common presentation, epigastric pain without radiation to the back was the most common presentation in our study population. Out of 218 cases studied incidence of alcoholic pancreatitis was higher. This can be explained by the greater incidence of alcohol abuse in India. Lifestyle modification and public education are recommended for prevention. While some other studies show 10-30% of idiopathic pancreatitis, our study had a slightly higher proportion (36.926% cases). A possible explanation for this could be because EUS and/or ERCP with manometry were not used in the evaluation of our patients labelled as IP. Among the study population respiratory system involvement was the most common morbidity. Among the dead patients the most common etiological factor was alcohol and majority of them died due to MODS. This requires further studies to establish proper hospital policies for the management of alcoholic pancreatitis and for the treatment of MODS. Although there was a small number of patients analyzed in this single center study, to our knowledge this work provides the first known regional description of the etiology, clinical profile and outcome of acute pancreatitis. Due to institutional and population similarities, this may represent the status of developing countries in general. This will help in formulating a hospital policy which would be beneficial to our patients.

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