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Original Research Article

The Study and Evaluation of Various Causes of Acute Pancreatitis

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Abstract

Background: With the improvement of socio-economic status in general population risk factors associated with the onset of acute pancreatitis has also increased, making it a formidable cause of mortality and morbidity in recent times. Objective: This study was conducted with the objective to evaluate the causes and severity of acute pancreatitis and to categorize the treatment given.

Methods: 100 cases of acute pancreatitis were included in the study which was carried out for 1.5 years (January 2021 to August 2022) in JMCH, Jhalawar, Rajasthan. The common age group affected was 31-40 years with a male to female ratio of 9:1.

Results: The most common cause of acute pancreatitis amongst males was found to be alcohol (88.89%) and gallstones amongst females (70%). Majority of cases were of milder severity in both the genders (male =88.89%, female=60%). All the patients were successfully managed conservatively (100%) and zero surgeries were performed.

Conclusion: According to the CT severity index grading system, the most common grade of acute pancreatitis is found to be mild grade, making conservative management treatment of choice which causes an overall decrease in morbidity and mortality of the patients.

Keywords: Acute Pancreatitis, CT Severity Index Grading System.

Introduction

Acute pancreatitis is a common disease among the new world population. Improved socio-economic status in the general population has led to an increase in risk factors associated with the onset of acute pancreatitis. Hence it has become a formidable cause of mortality and morbidity in recent times. The increased incidence of acute pancreatitis can be attributed to many factors. The advancement of research and study of various treatment modalities effective in curing the symptoms and halting the progression of the destruction of pancreas parenchyma has made pancreatitis a treatable disease. Although the treatment modalities do not offer a permanent solution for the treatment of this condition but they prevent progression of the destruction of the pancreas. [1,2]

The only effective treatment modality which has been discovered till date is the

removal of the risk factors which initiated the event of acute inflammation in the pancreas. Most commonly the incidence of gall stones has increased which has led to an increased incidence of acute pancreatitis making gall stones the most common cause of acute pancreatitis. Endoscopic Retrograde Cholangio-Pancreaticography (ERCP) and retrieval of the CBD stones process has been simplified to a high level leading to the removal of obstruction of pancreatic duct, relieving the inflammation of the pancreas. Evaluation of risk factors of pancreatitis has become a pivotal point in the research of the field of pancreatic pathology and hence this study has been undergone to evaluate various risk factors of acute pancreatitis and their role in the progression of this disease. [3,4]

Method

This is a retrospective cohort study that was carried out in Jhalawar Medical College, Jhalawar from January 2021 to August 2022. From the hospital database 100 cases, admitted with clinical findings suggestive of abdominal pain characteristic of acute pancreatitis, elevated serum amylase, CT Scan with findings suggestive of acute pancreatitis were included in the study. Pediatric, pregnant, and postpartum patients were excluded from the study. The criteria that are studied include severity of acute pancreatitis, pancreatic necrosis, and mortality.

Result

A) Sex Distribution :

Table 1: Sex distribution

Male	Female
90	10

The above tabular column 1 gives the sex distribution of the disease in both the gender groups.

B) Age Distribution

Table 2: Age distribution

Age	Male	Female	Total
21-30	20	00	20
31-40	30	05	35
41-50	22	03	25
51-60	17	01	18
>60	01	01	02

The above tabular column 1 gives the age sex distribution of the disease in various age groups.

Etiology:

Table 3: Etiology – Male

Causes	No. of Cases	% Of Study Population (Male)
Alcohol	80	88.89%
Gall Stones	08	8.89%
Idiopathic	02	2.22%
Pancreatic duct calculi	00	0%
Pancreatic Abscess	00	0%

The above tabular column gives the various etiological factors implicated in the onset of acute pancreatitis in male patients in the study population.

Table 4: Etiology – Female

Causes	No. of Cases	% Of Study Population (Female)
Gallstones	07	70%
Alcohol	03	30%
Other causes	00	0%

The above tabular column gives the various etiological factors implicated in the onset of acute pancreatitis in female patients of the study population.

Table 5: Severity of Acute pancreatitis - Male

Severity	No. of Patients	% Of Study Population
Mild	80	88.89%
Moderate	10	11.11%
Severe	00	0%

From the above tabular column it is shown that 88.89% of the study population has severity graded as Mild according to CT severity Index. 11.11% of the study population has severity graded as Moderate.

Table 6: Severity of Acute Pancreatitis – Female

Severity	No. of Patients	% Of Study Population
Mild	6	60%
Moderate	4	40%
Severe	0	0%

Table 7: Management of Acute Pancreatitis

Management	No. of Patients	% Of Study Population
Conservative	100	100%
Surgery	00	0%

Discussion

In this study, Out of 100 patients of the study population 90 patients were found to be male patients and 10 patients were female patients. This shows the acute pancreatitis is common in Male patients in comparison to female patients. The age group in which the onset of acute pancreatitis is more common is between 31-40 which is 35% of the study population in both male and female patients of the study population. [5] The second most common age group affected by acute pancreatitis is 41-50 age group. The mean age of population affected by Acute pancreatitis is 40 for both males and female patients in the study population. [6]

The most common cause of acute pancreatitis in male patients of the study population in this study is found to be chronic intake of alcohol which is 83% of the study population. The most common cause of acute pancreatitis in male patients was found to excessive intake of alcohol from this study. Gall stones were found to be the cause of acute pancreatitis in 15% patients of the study population. From this study, it is found that the most common cause of acute pancreatitis in the female patients of the study population is gall stones. The severity graded by CT severity index of acute pancreatitis in male patients was mild, moderate and severe. 86 patients were graded as mild grade which was 86% of the study population. 14 patients were graded as moderate grade which was 14% of the study [7,8]

population. Nil patients were graded as severe by the CT severity index. This shows that in the study population, the most prevalent grade of acute pancreatitis was mild grade which has minimal complications and can be managed

conservatively. It has a good prognosis and better outcome with medical management alone and does not need any surgical intervention. [9]

The management of acute pancreatitis is divided into two categories: medical and surgical management. In this study, mild grade of acute pancreatitis was managed conservatively with medical management such as intravenous fluids, intravenous antibiotics, parenteral analgesics and intravenous octreotide. Moderate grade and severe of acute pancreatitis patients were also managed conservatively with the similar medical management and found to have symptomatic improvement with resolution of symptoms after the completion of the conservative management. Hence, this study shows that the management of both moderate and severe grades of acute pancreatitis can be done with medical management and does not require surgical management for resolution of acute pancreatitis.

Conclusion

By this study, we have concluded that acute pancreatitis is more prevalent in the male population. Acute pancreatitis most commonly involves the age group of 31-40 years of age. The most common cause leading to the onset of acute pancreatitis is chronic intake of alcohol in the male population and gall stones as a less common cause of acute pancreatitis. According to the CT severity index grading system, the most common grade of acute pancreatitis is found to be mild grade. Conservative management is the treatment of choice of patients presenting with acute pancreatitis in this study which causes an overall decrease in morbidity and mortality of the patients.

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