



A RETROSPECTIVE STUDY TO ASSES THE SEVERITY OF ACUTE PANCREATITIS BASED ON CT SEVIRITY INDEX

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ABSTRACT

Background : Pancreatitis is a serious medical condition characterized by inflammation of the pancreas, a vital organ , helping in digestion and regulating blood sugars. There are two main types of pancreatitis: acute and chronic. Acute pancreatitis develops suddenly and can range from mild discomfort to a severe, life-threatening illness. It is often caused by gallstones or excessive alcohol consumption, though other factors such as infections, certain medications, or high triglyceride levels can also contribute. Diagnosis typically involves a combination of medical history, physical examination, blood tests, and imaging studies such as ultrasound or CT scan. In this study we retrospectively evaluate the severity of acute pancreatitis based on CT severity index. **Materials And Methods :** The study was approved by institutional ethical committee. We retrospectively analysed the severity of 50 patients diagnosed as acute pancreatitis patient with CT from may 2023 to may 2024 in RL JALAPPA hospital. All cases of acute pancreatitis were included. Patients with chronic pancreatitis , pancreatic malignancies and patients with previous history of pancreatic surgeries were excluded. **Results :** There was an increased rate of mortality in moderate (14%) and severe (86%) groups when compared to mild pancreatitis – zero mortality. **Conclusion :** There is significant mortality rate in moderate and severe acute pancreatitis when compared to mild acute pancreatitis

KEYWORDS : Pancreatitis , CT severity index , mild pancreatitis , moderate pancreatitis , severe pancreatitis.

INTRODUCTION :

Pancreatitis is a serious medical condition characterized by inflammation of the pancreas, a vital organ , helping in digestion and regulating blood sugars. There are two main types of pancreatitis: acute and chronic.¹

Acute pancreatitis develops suddenly and can range from mild discomfort to a severe, life-threatening illness. It is often caused by gallstones or excessive alcohol consumption, though other factors such as infections, certain medications, or high triglyceride levels can also contribute.²

Diagnosis typically involves a combination of medical history, physical examination, blood tests, and imaging studies such as ultrasound or CT scan. Clinically diagnosed in a patient if he/she has 2 of the following 3 features :³

- Upper abdominal pain indicative of pancreatitis
- Serum Lipase or Serum Amylase levels more than 3 times
- Radiologic features suggestive of pancreatitis

The CT Severity Index (CTSI) is a scoring system used to assess the severity of acute pancreatitis based on findings from a contrast-enhanced computed tomography (CT) scan of the abdomen. It was developed to help stratify patients into different risk categories and guide management decisions.⁴

Objective Of The Study :

To determine the severity of pancreatitis in terms of mortality based on CT severity scoring in patients diagnosed with Acute pancreatitis.

CT severity index		Modified CT severity index	
Prognostic indicator	Points	Prognostic indicator	Points
Pancreatic inflammation		Pancreatic inflammation	
Normal pancreas	0	Normal pancreas	0
Enlargement of pancreas	1	Pancreatic abnormalities with or without peripancreatic inflammation	2
Pancreatic abnormalities with peripancreatic inflammation	2	Pancreatic or peripancreatic fluid collection or fat necrosis	4
Single fluid collection	3		
Two or more collections or gas	4		
Pancreatic necrosis		Pancreatic necrosis	
None	0	None	0
<30%	2	<30%	2
30-50%	4	>30%	4
>50%	6		
		Extrapancreatic complications (pleural effusion, ascites, parenchymal complications, GI tract involvement)	2

Methodology :

Study Design, Sample Size And Source Of Data:

The study was approved by institutional ethical committee. We retrospectively analysed the mortality rate in cases of acute pancreatitis , and corelated with CT severity index from may 2023 to may 2024 in RL JALAPPA hospital.

Inclusion Criteria :

All cases diagnosed as acute pancreatitis was included in the study.

Exclusion Criteria :

Patients with:

- chronic pancreatitis
- pancreatic malignancies
- patients with previous history of pancreatic surgeries were excluded.

Data Collection:

After obtaining the ethical clearance for the retrospective study , all patients diagnosed as acute pancreatitis in R.L. Jalappa Hospital, Tamaka were included .

Data was collected retrospectively from prospectively maintained hospital database . Information was taken from medical record department. All variables needed for the study were recorded.

Statistical Analysis:

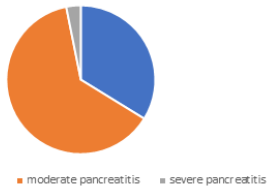
After collecting, the Data were compiled using Microsoft excel and analysis was done using SPSS software version 16. All continuous variables were represented as Mean and standard deviation and categorical variables were expressed percentages and proportions.

The test of significance was unpaired (independent) test. The test was considered significant if p value was <0.05 for 95 % confidence intervals.

RESULTS :

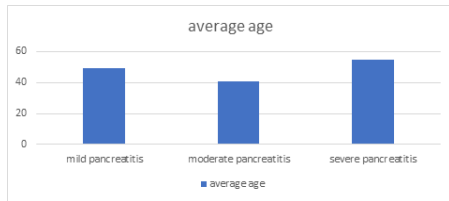
Patient distribution :

patient distribution

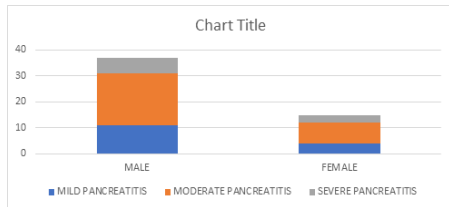


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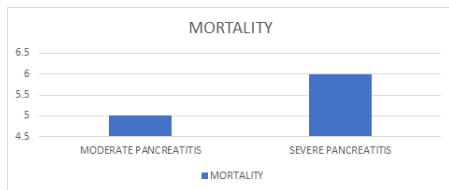
Mean Age Group :



Sex Distribution :



Mortality Rate In Moderate And Severe Pancreatitis :



P Value : 0.0012

DISCUSSION:

According to this study , there was increase in mortality rates in patients diagnosed as moderate pancreatitis – 14% and in patients diagnosed as severe pancreatitis – 86% , whereas there was no mortality reported in patients diagnosed as mild pancreatitis.

According to a retrospective study conducted by Omer jilil et al , on patients admitted to ICU as severe acute pancreatitis and studied the management and mortality among them , concluded that more research is needed for optimising patients in group III to improve survival.

CONCLUSION:

This study concludes that there is a high rate of mortality in severe acute pancreatitis and further importance and research should be aimed on management of severe acute pancreatitis.

Limitations:

- retrospective study
- single centered study
- small sample size
- different modalities of treatment

Declarations:

Funding: None

Conflict of interest: None

Ethical approval: Taken

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