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Research Paper

Medical Science

KEYWORDS : Pancreatitis, Alcoholism, Gall stone

Study of 40 Cases of Pancreatitis Etiology Management and Clinical Evaluation

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ABSTRACT

AIMS :-

TO STUDY 40 CASES OF PANCREATITIS ETIOLOGY MANAGEMENT AND CLINICAL EVALUATION

OBJECTIVES:-

To identify demographics in case of pancreatitis

To identify common etiology in case of pancreatitis in Indian setup

To identify incidence of severity & their etiology of pancreatitis

To identify common clinical features of pancreatitis

To observe the different modalities of treatment in case of pancreatitis with operative and conservative management.

INTRODUCTION

Alcoholism is the major factor in males which is responsible for higher incidence of pancreatitis in the group of age between 30 to 39 years of life.In the study of 40 cases of pancreatitis, there were 75% male patients and 25% female patients. In the study, 80% of the patients fell in the group of normal bmi i.e (18.5-24.9). 10% in the overweight category i.e(25-29.9), 10% in the undernourished category i.e(<18.5).Alcoholism is the leading factor causing pancreatitis with 52.5%. Second most common etiology was gall bladder calculi induced pancreatitis with 20%. And Idiopathic in 20% of the patients. MPD calculi was found in 2.5% of cases.70% of the patients were successfully managed conservatively, while 30% required some sort of surgical treatment to manage severe pancreatitis or its complications.hospital stay was more in patients who were operated and maximum was found in patient operated for major surgery like necrosectomy,hospital stay also more in severe pancreatitis.In this study 55% patient develop complication of pancreatitis occurred respiratory complication in 17.5% renal complication in 7.5% pancreatic ascitis occurred in 2.5% pancreatic pseudocyst in 12.5% pancreatic necrosis in 2.5% mortality 17.5% due to pancreatitis among them 7.5% due to sepsis which is highest.

MATERIAL AND METHODOLOGY

IR NO –

D.O.A –

NAME OF PT –

AGE –

SEX –

HEIGHT –
WEIGHT –

H/O EPIGASTRIC PAIN – Y/N

H/O NAUSEA – Y/N

H/O VOMITING – Y/N

SIMILAR H/O IN PAST – Y/N

H/O GB STONE – Y/N OR USG FINDING

CALCIUM –

USG – GB:

CBD:

PANCREAS:

CT SCAN – (CTSI SCORE)

H/O CBD STONE – Y/N OR USG/CT FINDING

H/O ALCOHOLISM – Y/N

H/O OF DRUGS – Y/N (azathioprine, cytosine, arabinoside, diuretics, valproic acid, estrogen, etc)

PANC DUCT OBS – Y/N – IMAGING

HEREDITARY/AUTOIMMUNE – Y/N

IDIOPATHIC – Y/N

OTHERS – Y/N

SURGICAL – Y/N (e.g post trauma, post op pts in surgery near pancreas)

MANAGEMENT –

CONSERVATIVE – Y/N

HB –

TC –

SGPT –

ALP -

AMYLASE –

LIPASE –

OBSERVATION AND RESULTS

INCLUSION CRITERIA – Patients who were having raised amylase, lipase or sonographic evidence of pancreatitis or both were included in the study.

EXCLUSION CRITERIA – Patients below the age of 11yrs were not included in the study.

1) AGE

Age in years	No of patients
11-19	03
20-29	06
30-39	16
40-49	10

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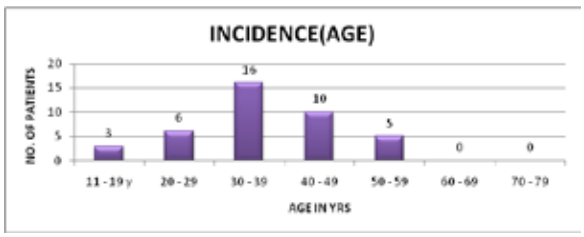
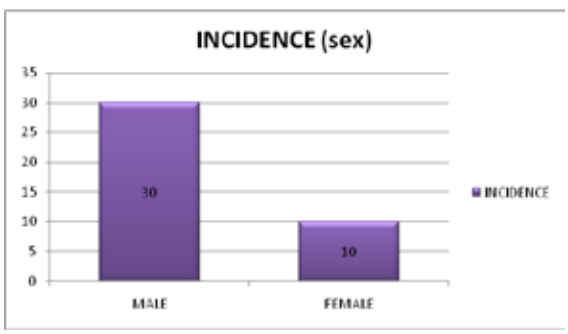
50-59	05
60-69	00
70-79	00
Total	40



Minimum age in my study is 12 years and maximum is 57 years. Maximum number of patients fell in the age group 30-39. Alcoholism is the factor in males which is responsible for higher incidence of pancreatitis in the group.

2) Sex

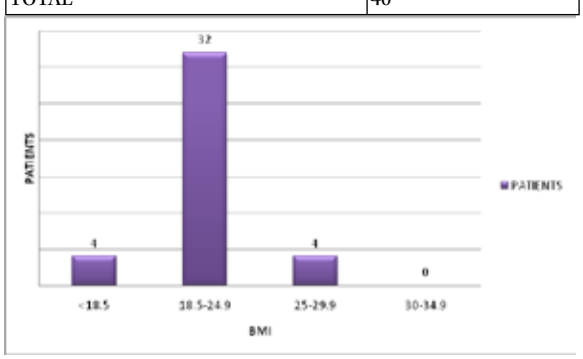
INCIDENCE	NO OF PATIENTS
MALE	30
FEMALE	10



In the study of 40 cases of pancreatitis, there were 30 (75%) male patients and 10 (25%) female patients.

(3) BMI

BMI	NO OF PATIENTS
<18.5(underweight)	04
18.5 – 24.9(normal)	32
25.0 – 29.9(overweight)	04
30.0 – 34.9(obese class 1)	0
TOTAL	40



In the study, 80% of the patients fell in the group of normal bmi i.e (18.5-24.9). 10% in the overweight category i.e(25-29.9), 10% in the undernourished category i.e(<18.5) .

Obesity tends to be associated with increased mortality and morbidity in acute pancreatitis. A Korean study has demonstrated that in Asian populations, morbidity and mortality also occur in patients with low body mass indexes (BMIs). Thus Asian studies have failed to demonstrate a meaningful relation between obesity and outcome.

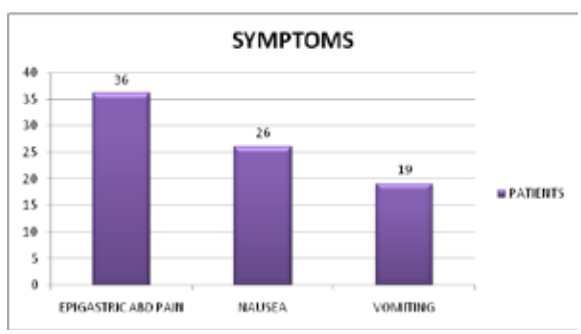
In the present study there were five patients whose ct severity index was 8 or more, most of them fell in the normal bmi range(18.5-24.9)

(4) SYMPTOMS

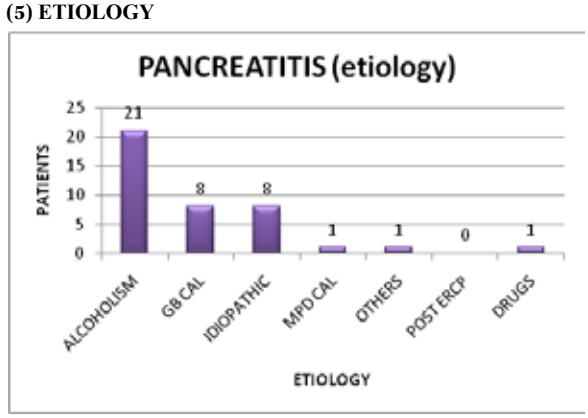
SYMPTOMS	NO OF PATIENTS
EPIGASTRIC PAIN	36
NAUSEA	26
VOMITING	19

Out of 40 about 90% had epigastric abdominal pain.

ETIOLOGY	NO OF PATIENTS
ALCOHOLISM	21
GB CALCULI	08
IDIOPATHIC	08
MPD CALCULI	01 1
OTHERS	01
POST ERCP	00
DRUG INDUCED	01
TOTAL	40



(5) ETIOLOGY

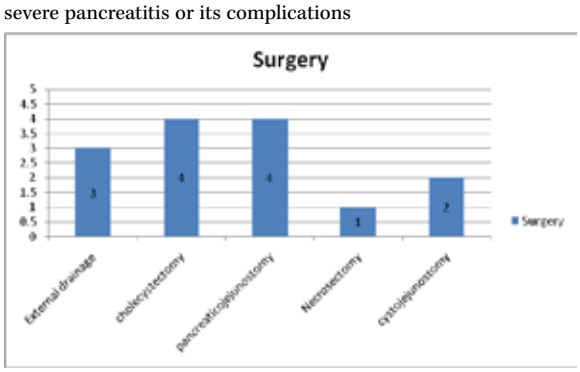


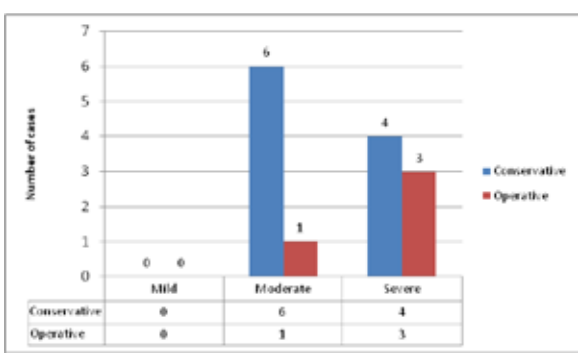
In our study, alcoholism was the leading factor causing pancreatitis, with 52.5%. Second most common etiology was gall bladder calculi disease with 20%. No cause could be ascertained in 20% of the patients. Mpd caluli was found in 2.5% of cases, drug was the cause in one patient.

(6) Management

MANAGEMENT	NO OF PATIENTS
CONSERVATIVE	28
SURGICAL	12

70% of the patients were successfully managed conservatively, while 30% required some sort of surgical treatment to manage severe pancreatitis or its complications





CT SI – 0-3 Mild Pancreatitis

CTSI – 4-6 Moderate Pancreatitis

CTSI – 7-10 Severe Pancreatitis

DISCUSSION

Incidence of acute pancreatitis

Author (year)	Country/ region	Subjects	Incidence (per 100 000/year)
Japan National Survey (1998)	Japan	First attack/ recurrence (Total)	15.4
		First attack/ recurrence (men)	20.5
		First attack/ recurrence (women)	10.6
Banks2 (2002)	England, the Netherlands	First attack/ recurrence	5–10
	Scotland, Denmark	First attack/ recurrence	25–35
	USA, Finland	First attack/ recurrence	70–80
Tinto et al.3 (2002)	UK	First attack/ recurrence	14.5–20.7
Andersson et al.4 (2004)	Sweden	First attack/ recurrence	30
Lankisch et al.5 (2002)	Germany	First attack/ recurrence	19.7
Gislason et al.6 (2004)	Norway	First attack/ recurrence	30.6
		First attack	20
Birgisson et al.7 (2002)	Iceland	First attack	32
Floyd et al.8 (2002)	Denmark	Men	27.1
		Women	37.8
Japan National Survey (1987)	Japan	First attack/ recurrence	12.1

The incidence of AP has been reported to be markedly increasing[8-12,13]. The explanation of this increased incidence could be explained by the routine testing of pancreatic enzymes in patients presenting with abdominal pain at emergency departments, and in over-diagnosis in cases of non-specific increases in enzymes due to other causes. Another explanation is an increase in the incidence of gallstone disease and obesity in the population.

Although fatalities associated with AP have decreased over time from 15%-20% to below 5%, the population mortality rate has remained unchanged with increasing age associated with higher mortality[14–16]. A correlation with duration of disease was also shown with 65% of the deaths occurring in the first 14 d and 80% within 30 d

INCIDENCE OF AGE DISTRIBUTION

In the study conducted by Sekimoto et al at Japan, in Feb 2006, published in Journal of HBP Surgery, the peak incidence was found peak in the 7th decade in men and 8th decade in women, while in another study conducted by Alfredo Tonsi et al, conducted in Europe, in 2009 published in World Journal of GastroEnterology, the peak incidence of acute attack was in 6th decade. However, in the present study the maximum number of cases were found in the age group of 30-39. This is probably because of the high incidence alcohol consumption in this age group which is the commonest cause causing pancreatitis.

INCIDENCE OF SEX DISTRIBUTION

Study	Men	Women
Japan stu dy	1.9	1
Present study	3	1

The above table indicates more incidence in the attacks of pancreatitis among men as indicated in the study conducted at Japan. Another study conducted at Europe has more incidence of pancreatitis caused by gall stones among female while those due too alcohol was found more among men, the idiopathic cases were found equally in both sexes. In the present study, the incidence was much more in men (3:1) compared to that found in Japan (1.9:1). This can be explained because of more consumption of alcohol amongst Indian men which is the leading cause of pancreatitis in them. The females found to have pancreatitis in present study were 50% due to to gall stones while the rest of them was because of idiopathic causes.

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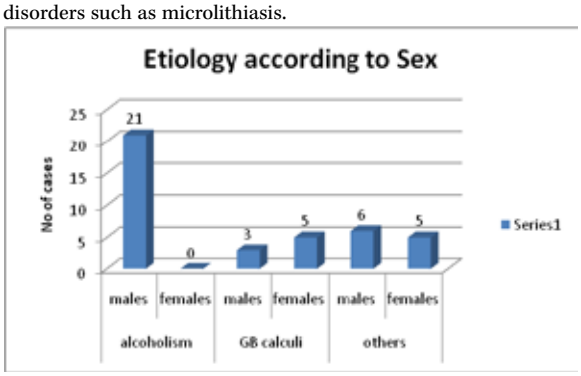
ETIOLOGY OF PANCREATITIS

		Alcohol	Cholelithiasis	Others
Author (year)	Country	(%)	(%)	(%)
Gullo et al.14 (2002)	Hungary	60.7	24	15.3
	France	38.5	24.6	36.9
	Germany	37.9	34.9	27.2
	Greece	6	71.4	22.6
	Italy	13.2	60.3	26.5
Cavallini et al.15 (2004)	Italy	8.5	60	31.5
Andersson et al.4 (2004)	Sweden	30	35	35
Gislason6 (2004)	Norway	17	47	36
Kim16 (2003)	Korea	32.5	26.6	40.9
Suazo-Barahona et al.17 (1998)	Mexico	34	43	23
National survey (1998)	Japan	30	24	46
Present Study	India	52.5	20	27.5

In the Western world, biliary tract disease (38%) and alcoholism (36%) are accountable for the majority of cases of AP. However, in up to 10% of cases, the cause of AP remains unknown (idiopathic AP).

The two major etiological factors responsible for acute pancreatitis are alcohol and cholelithiasis (gallstones). The proportion of patients with pancreatitis caused by alcohol or gallstones varies markedly in different countries and regions. The incidence of acute alcoholic pancreatitis is considered to be associated with high alcohol consumption. Although the incidence of alcoholic pancreatitis is much higher in men than in women, there is no difference in sexes in the risk involved after adjusting for alcohol intake. Other risk factors include endoscopic retrograde cholangiopancreatography, surgery, therapeutic drugs, HIV infection, hyperlipidemia, and biliary tract anomalies. Idiopathic acute pancreatitis is defined as acute pancreatitis in which the etiological factor cannot be specified. However, several studies have suggested that this entity includes cases caused by other specific disorders such as microlithiasis.



In our study, alcoholism was the leading factor causing pancreatitis, with 52.5%. Second most common etiology was gall bladder calculi disease with 20%. No cause could be ascertained in 20% of the patients. Mpd caluli was found in 2.5% of cases, drug was the cause in one patient.

PRESENTATION

symptoms	Abdominal pain	nausea & Vomitting
Present study	90	65
Europe study	100	90

Abdominal pain together with elevation of plasma levels of pancreatic enzymes is the cornerstone of diagnosis. The pain normally is generalized in the upper abdomen and occurs suddenly without a prodrome. The pain, which tends to last a few days, is often radiated in a bandlike manner to the lower thoracic region of the back. Nausea and vomiting normally appear in about 90% of patients and can be severe. Physical signs of severe disease such as ecchymoses in the flank (Gray-Turner's sign) or in the periumbilical region (Cullen sign) occurs in less than 3% of patients, and have been associated with a mortality of 37%. Pancreatic enzymes are released into the circulation during an acute attack. Levels peak early, and decline over 3-4 d. As a consequence, the diagnosis should not rely on arbitrary levels 3 or 4 times greater than normal, but levels should be interpreted in light of the time since the onset of abdominal pain. Similar results were found in the present study also.

SEVERITY OF THE DISEASE

SEVERITY	No of cases (%)
Mild	0
Moderate	50
Severe	50

Acute pancreatitis is a potentially fatal disease with an overall mortality of 2.1%–7.8%. The outcome of acute pancreatitis is determined by two factors that reflect the severity of the illness: organ failure and pancreatic necrosis. About half of the deaths in patients with acute pancreatitis occur within the first 1–2 weeks and are mainly attributable to multiple organ dysfunction syndrome (MODS). Depending on patient selection, necrotizing pancreatitis develops in approximately 10%–20% of patients and the mortality is high, ranging from 14% to 25% of these patients. Infected pancreatic necrosis develops in 30%–40% of patients with necrotizing pancreatitis and the incidence of MODS in such patients is high. The recurrence rate of acute pancreatitis is relatively high: almost half the patients with acute alcoholic pancreatitis experience a recurrence. When the gallstones are not treated, the risk of recurrence in gallstone pancreatitis ranges from 32% to 61%. After recovering from acute pancreatitis, about one-third to one-half of acute pancreatitis patients develop functional disorders, such as diabetes mellitus and fatty stool; the incidence of chronic pancreatitis after acute pancreatitis ranges from 3% to 13%. Nevertheless, many reports have shown that most patients who recover from acute pancreatitis regain good general health and return to their usual daily routine.

early CT may therefore underestimate the final severity of the disease. Finally, unless some management decision is required based on the extent of necrosis (for example use of prophylactic antibiotics), CT for staging is unlikely to materially affect the management of patients with AP during the first week of the illness. If CT staging of AP is required, the CT severity index (CTSI) as proposed by Balthazar should be used . Recent studies demonstrated that AP patients with a CTSI higher than 5 had 8 times higher mortality. Moreover, they were 17 times more likely to have a prolonged hospital course and were 10 times more likely to require necrosectomy than their counterparts with CT scores < 5. There is also evidence that the site of pancreatic necrosis is an important prognostic factor with a worse outcome observed in patients with necrosis affecting the head of the pancreas. The finding of free intraperitoneal fluid and extensive peri-pancreatic fat stranding have also been demonstrated to be associated with worse outcomes.

In the present study.....We have divided pancreatitis mild , moderate and severe on the basis of CTSI 0-3 – mild , 4-6 – moderate and 7-10 – severe.

CT SCAN was not done in all patients due to affordability problem.

MANAGEMENT OF PANCREATITIS

In most cases AP is mild and its initial management is directed towards maintenance of adequate organ perfusion in order to reduce the systemic complications caused by the pancreatic injury. This consists of fluid resuscitation, analgesia, oxygen administration, antiemetics and repeated evaluation of the patient's vital signs with the intention of identifying early manifestations of organ dysfunction.

Although the role of probiotics in AP has been investigated in different clinical trials and meta-analyses, in a recent randomized controlled trial Besselink et al showed that, in patients with predicted SAP, probiotic prophylaxis did not reduce the risk of infectious complications and was even associated with an increased risk of death.

Although the main management in the early phase of SAP is advocated to be mainly conservative and supportive in order to avoid organ dysfunction, there are conditions such as gallstone pancreatitis for which early endoscopic or surgical intervention has to be sought.

In mild ABP, LC with operative cholangiography has been considered the definitive treatment.

Early laparoscopic cholecystectomy (ELC) can be performed as soon as the serum amylase decreases and symptoms improve.

The IAP (International Association of Pancreatology) Guidelines recommend that a patient with infected necrotic pancreatitis has to undergo surgery in the 3rd or 4th wk after the onset of symptoms. However, postponing surgical intervention in necrotic pancreatitis can lead to prolonged use of antibiotics and an increased antibiotic resistance and higher incidence of *Candida* infection.

In a recent retrospective study, Besselink strongly advised avoidance of surgical intervention in the first 14 d even in the presence of multiple organ failure, and withholding of necrosectomy until day 30.

The aim of surgical management is to remove all the pancreatic tissue with necrosis in order to reduce the release of inflammatory mediators. Necrosectomy and drainage of infected acute necrotizing pancreatitis can be performed with different approaches such as radiological, endoscopical and surgical intervention.

Over the last 2 decades, the role of minimal invasive surgical approaches to necrotic pancreatitis has increased. Minimal invasive techniques can be classified under 2 groups: (1) video-assisted retroperitoneal debridement (VARD) and (2) laparoscopic transperitoneal debridement (LTPD).

IN THE PRESENT STUDY..... 70% of the patients were successfully managed conservatively, while 30% required some sort of surgical treatment to manage severe pancreatitis or its complications.

External drainage was done in 3 cases out of 12 surgeries done (25%).
Pancreaticojejunostomy was done in 4 cases (33%).
Necrosectomy was done in 1 case (8.33%).
Cholecystectomy was done in 4 cases (10%).
Cystojejunostomy was done in 2 cases (16.67%) .

About half of the deaths in patients with acute pancreatitis occur within the first 1–2 weeks and are mainly attributable to multiple organ dysfunction syndrome (MODS). Depending on patient selection, necrotizing pancreatitis develops in approximately 10%–20% of patients and the mortality is high, ranging from 14% to 25% of these patients. Infected pancreatic necrosis develops in 30%–40% of patients with necrotizing pancreatitis and the incidence of MODS in such patients is high.

CONCLUSION

Acute pancreatitis is a common disease amongst males in India, among their 4th decade of life. Alcoholism and gall stones are among the leading causes of pancreatitis, alcoholism being the leading amongst males while gall stones being common among females. Epigastric pain is invariably present among all patients presenting with acute attack alongwith nausea and vomiting in most of them. CT scan should be performed in patients presenting with acute attack which predicts the severity of the disease. In the present study, due to unaffordability, CT scan wasn't performed in all of the cases. Among those who had scan perfumed, 17.5% cases had moderate attack and 17.5% had severe attack. 70% patients were treated conservatively and 30% underwent surgeries. Pancreaticojejunostomy is the commonest surgery performed alongwith cholecystectomy in 25% of cases. More surgeries were performed among those with severe attack (33%). Hospital stay was more in patient who were operated and maximum was found in patient operated for major surgery like necrosectomy,hospital stay was also more in severe pancreatitis. In this study 55% patient develop complication of pancreatitis, highest respiratory complication in 17.5%. Mortality 17.5% due to pancreatitis among them 7.5% due to sepsis which is highest.

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