RESULTS

In this prospective, randomized, comparative study two groups of patients were included, each group consisted of 40 patients with a total number of 80 patients and all of them have 3 or more of the criteria of Glasgow (imrie) severity score of acute pancreatitis.

All patients were admitted to the hospital having severe attack of acute pancreatitis.

Analysis of the results:

Age groups:

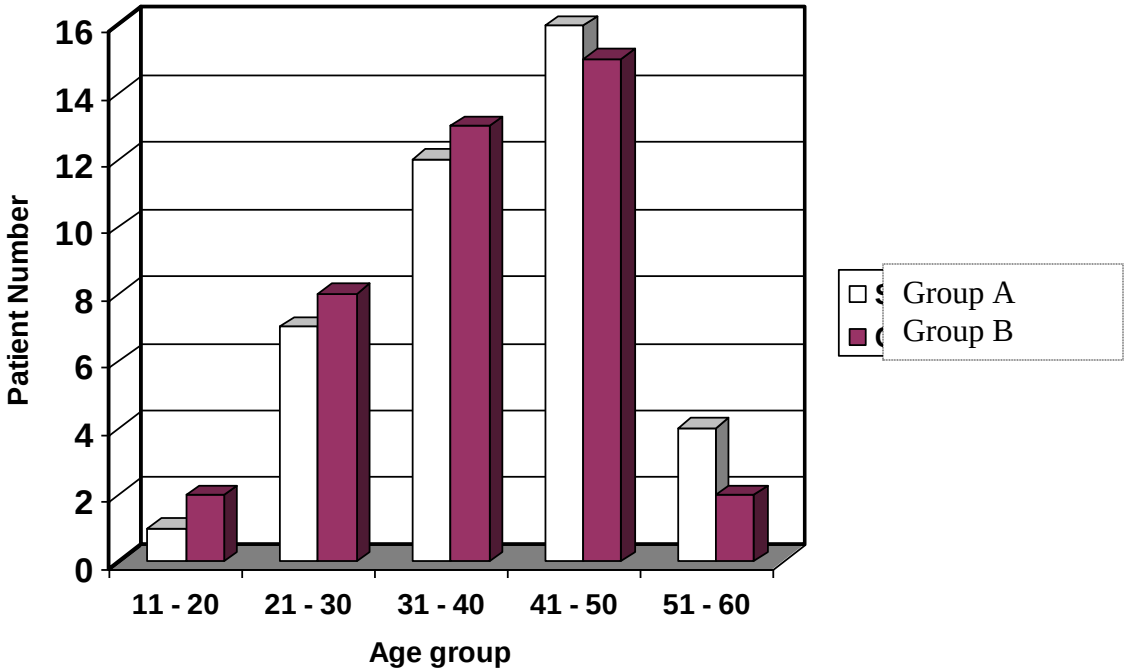
Group A consisted of 40 patients, their age ranged from 17-59 years with a mean (39+11.75).

Group B consisted of 40 patients, their age ranged from 19-57 years with a mean (38+9.63).

Table (1): Age group

Age groups	Group A	Group B
0 – 10	–	–
11 – 20	1	2
21 – 30	7	8
31 – 40	12	13
14 – 50	16	15
50 – 60	4	2

Figure (4): Distribution of age groups



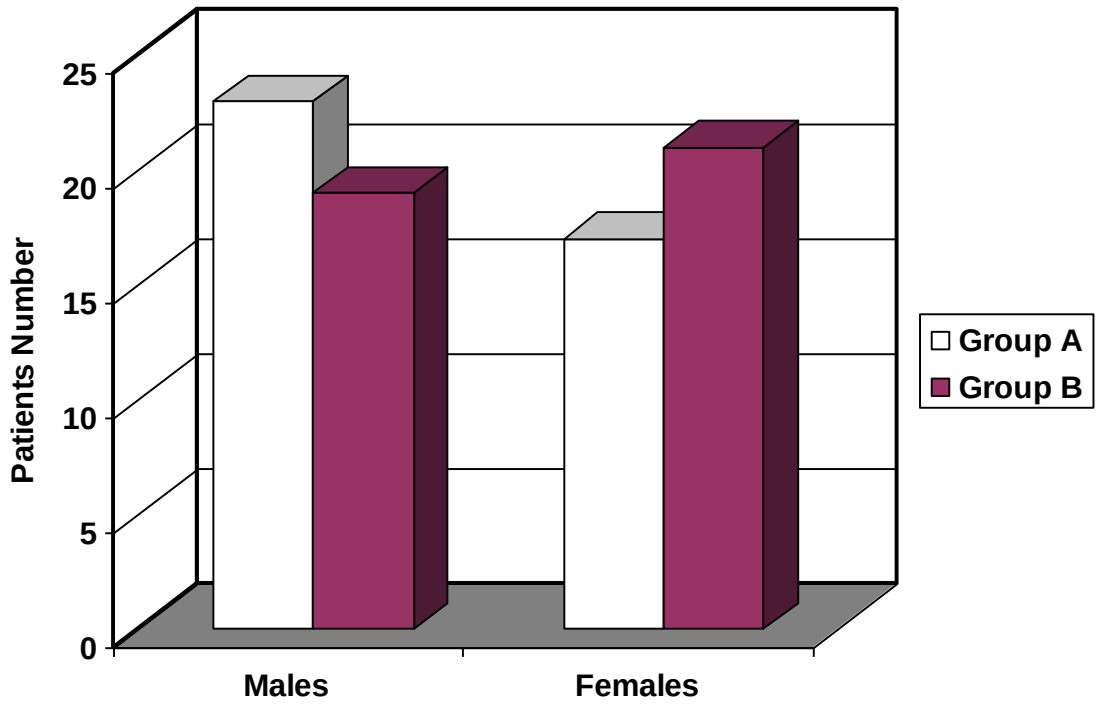
From the table it is clear the acute pancreatitis occurs more commonly in the middle age group as its incidence is higher in the age group from 20-50 years.

Gender of the patients :

Table (2): Distribution of gender of patients

Gender / Group	Males	Females
Group A	23	17
Group B	19	21

Figure (5): Gender of patients



from the table it appears that there is no sex predilection for occurrence of acute paneratitis in our study.

Development of infectious complication:

In Group A with antibiotic prophylaxis 5 patients out of 40 developed different forms of infections with 12.5% infection rate. Infection occurred in spite of administration of antibiotics on a prophylactic base from the start.

Group A:

Total number	40
Infection	5
percentage	12.5

while in Group B without antibiotic prophylaxis 15 patients out of 40 developed different forms of infections with 37.5% infection rate.

Group B:

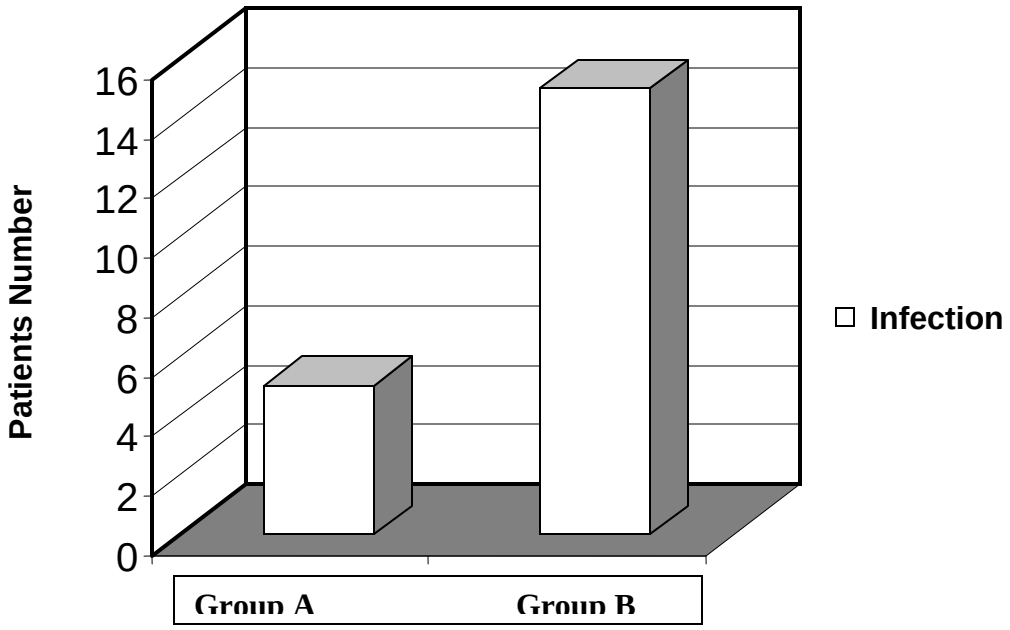
Total number	40
Infection	15
Percentage	37.5

Table (3): percentage of infection in studied groups.

Groups / Variants	Group A	Group B
Total number	40	40
Infection	5	15
percentage	12.5	37.5

Within the control group without antibiotic prophylaxis 15 patients out of 40 developed different forms of infections with 37.5% infection rate:

Figure (6): distribution of non infective complications Group A and Group B



Statistically significant difference in infection was seen in Group A versus Group B. [P = 0.0188]

From the previous figures it is evident that the use of antibiotic prophylaxis in sever attack of acute pancreatitis lead to:

Reduction of the total number of patients with infective complication from 15 in control group to 5 in study group and the rate reduced from 37.5% in control group to 12.5% in the study group (P = 0.0188).

These figures supports the early use of prophylactic antibiotics in management of sever attacks of acute pancreatitis.

Study of infective complications:

Table (4): Infected cases.

Group / Variant	Both groups	Group A	Group B
Total number	20	5	15
Pancreatic and peripancreatic	8	2	6
extrapancreatic	3	1	2
Mixed	9	2	7

Table (5): Comparison between Abd. US and contrast enhanced CT (CECT) In diagnosis of pancreatic and peripancreatic infections:

Radiologic method / Variant	Abd US	CECT
Total number	17	17
Diagnostic rate	10 58.8%	16 94.1%
Suspicious rate	4 23.5%	
Negative rate	3 17.6%	1 15.8%

CT is much more accurate than abd US in detecting infective Complications of acute pancreatitis.

Table (6): Comparison of infective complications.

group / Variant	Group A	Group B
Total number	40	40
Infections	5	15
Rate	12.5%	37.5%
Pancreatic	2	6
extrapancreatic	1	2
Mixed	2	7
Types	1 Infected necrosis 2 pancreatic abcesses 1 infected pseudocyst	4 infected necrosis 6 pancreatic abcesses 3 infected pseudocyst
Fever	yes	yes
leucocytosis	yes	yes
High ESR	yes	yes
Deranged RFT	4	12
Deranged LFT	2	10
Hypoxia	3	9
Deaths	2	7

Non infective complications:

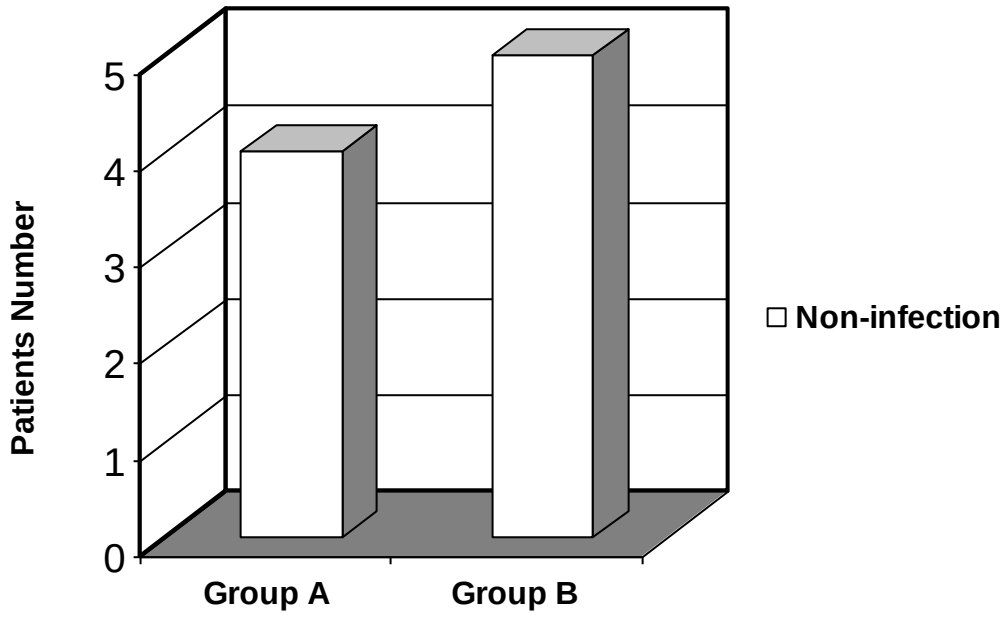
As pseudopancreatic cyst, aneurysms, fistula, etc…

Five patients in the control group and 4 patients in the study group developed such non-infective complications with a rate of 12.5% and 10% respectively.

Table (7): percentage of non infective complications in study and control groups

Variants \ Groups	Group A	Group B
Total Number	40	40
Non-infective complication	4	5
Rate	10%	12.5%

Figure (7): Distribution of non infective complications in group A and Group B



So, from the above results it is evident that the use of antibiotic prophylaxis in severe acute pancreatitis does not greatly affects the development of non infective complication (P= 1.0000).

Analysis of non infective complication:

Table (8): Comparison of non infective complications.

group / Variant	Group A	Group B
Total number	40	40
Non infective complications	4	5
Rate	10%	12.5%
Types	1 fluid collection 2 pseudocyst 1 splenic vein thrombosis	1 fluid collection 3 Pseudocyst 1 Cutaneous fistula
Fever	No	No
leucocytosis	No	No
High ESR	yes	yes
Deranged LFT	1	2
Deranged RFT	2	3
hypoxia	No	No
deaths	No	No

Table (9): Comparison between Abd. US and contrast enhanced CT (CECT) In diagnosis of non infective complications.

Radiologic method / Variant	Abd US	CECT
Total number	8	8
Diagnostic	7	8
Rate	87.5%	100%
Suspicious	1	-
Rate	12.5	-
Negative	-	-
Rate	-	-

Cutaneous pancreatic fistula which complicate one case of sever acute pancreatitis is not included in that comparison. Also CT is more accurate than U.S. in detecting non infective complication of sever acute pancreatitis.

Progress according to emrie score:

Group A:

progress / variant	On admissin	Return to normal	Still deranged
Wbcs >15000	29	25	4
Serum glucose >10m mol	26	25	1
LDH > 600 iu	15	13	2
Urea >5 m mol	19	17	2
Serum ca < 2 m mol	17	15	2
Serum albumin < 35mg/dl	23	22	1
PaO2 < 60 mm hg	7	5	2

Group B:

progress / variant	On admissin	Return to normal	Still deranged
Wbcs >15000	25	20	4
Serum glucose >10m mol	22	16	6
LDH > 600 iu	23	20	3
Urea >5 m mol	19	14	5
Serum ca < 2 m mol	16	12	4
Serum albumin < 35mg/dl	24	19	5
PaO2 < 60 mm hg	11	6	5

The use of prophylactic antibiotics greatly improves the return of the deranged biochemichal profiles into normal values

Hospital stay time:

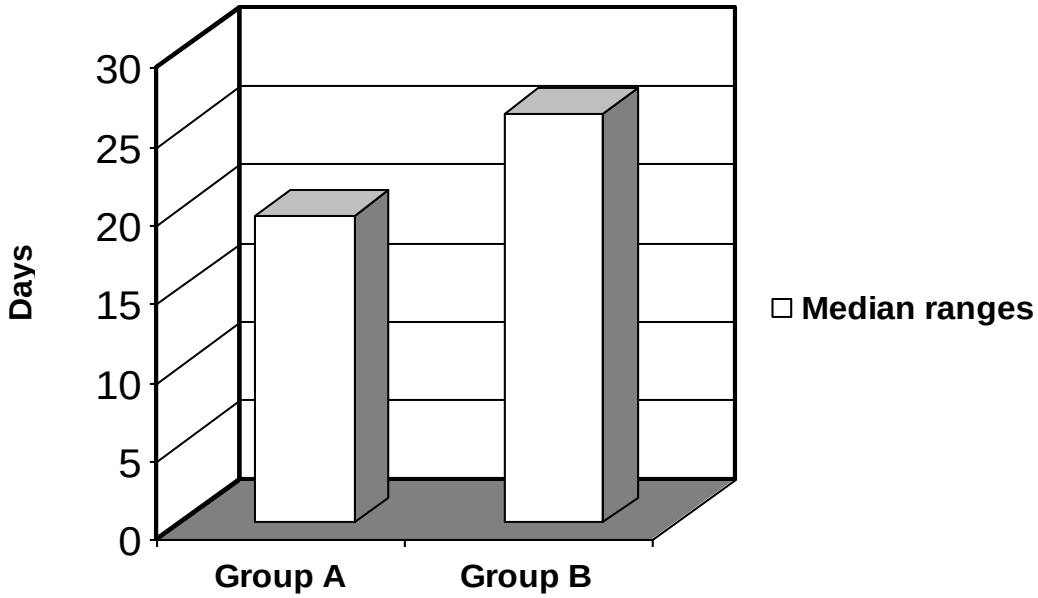
Patients from Group A who received antibiotics from the start spent from 7 – 32 days within the hospital with a median range of 19.5 +13 days.

But patients from Group B who did not receive antibiotics need to stay in the hospital from 10 – 42 days with a median range of 26.1 + 15 days.

Table (10): Hospital stay time (compared)

Groups / Variants	Group A	Group B
Inpatient days	7 – 32	10 – 42
Median range	19.5+13	26.1+15

Figure (8): Hospital stay time (compared)



So, hospital stay time reduced from average of 26 days in Group B to average of 19.5 days in Group A with antibiotic prophylaxis with reduction rate of 21.1%.

The reduced hospital stay time will be reflected on the cost benefit relationship and it is in favour of using antibiotic prophylaxis.

Mortality rate:

Two patients out of 40 with early use of antibiotics died with a rate of 5% (Group A), while 7 patients out of 40 in Group B died with a rate of 17.5%.

Table (11): Distribution of mortality

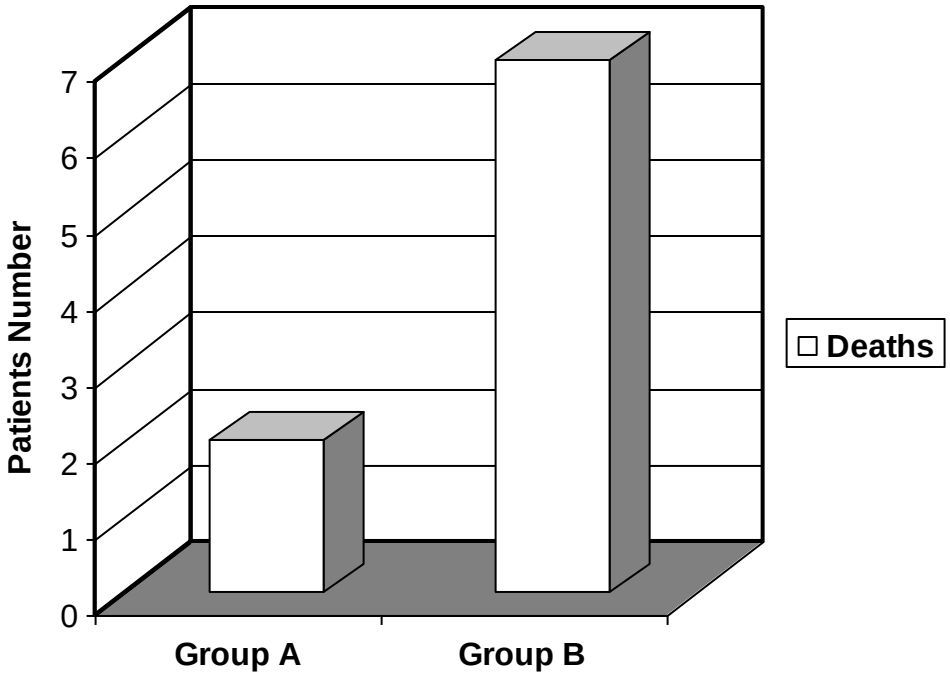
Groups / Variants	Group A	Group B
Total number	40	40
Death	2	7
Percentage	5	17.5

Underlying causes of Death:

In Group A, 2 patients died both due to massive infected pancreatic necrosis with extra pancreatic infection, while in Group B (7) patients died 4 of them died due to massive pancreatic necrosis and 3 due to heavily infected huge pancreatic pseudo cyst.

All of the 9 patient who died had extra pancreatic infection mostly involving the chest.

Figure (9): Distribution of mortality



From the above figures it is evident that early use of antibiotics reduces the total number of deaths from 7 in Group B to 2 in Group A and reduces the rate from 17.5% to 5% and this greatly supports the use of prophylactic antibiotic in management of sever acute pancreatitis.

Deaths in relation to infection:

Two patients out of 5 in Group A were expired and 7 patients out of 15 in Group B were expired with a rate of 40% in study group and 46% in the control group.

Table (12): Deaths in relation to infection

Groups / Variants	Group A	Group B
Total number	40	40
No of infection	5	15
Deaths	2	7
Percentage of infection	12.5%	37.5
Percentage of deaths	5%	17.5%
Percentage of deaths to infection	40%	46%

From the table it appears that early use of prophylactic antibiotics reduces both the infective complications and the mortality from severe acute pancreatitis, but whenever infection is already established the use of antibiotic will not greatly affects the mortality rate as there was no big difference between the 2 groups.

Figure: 10

CT showing acute pancreatitis

Heavy calcifications throughout the pancreas. Fluid collection and disruption of the normal fat planes around the pancreas. There is pancreatic edema and enlargement.

CT showing acute pancreatitis

Figure 11: Axial CT of the abdomen with contrast showing several large pancreatic ductal and parynchymal calcification with associated main duct dilatation.

Figure :12

U/S showing multiple gall stones with thickening of gall bladder wall

Figure: 13

Abdominal ultrasound showing choledochal cyst