RESULTS

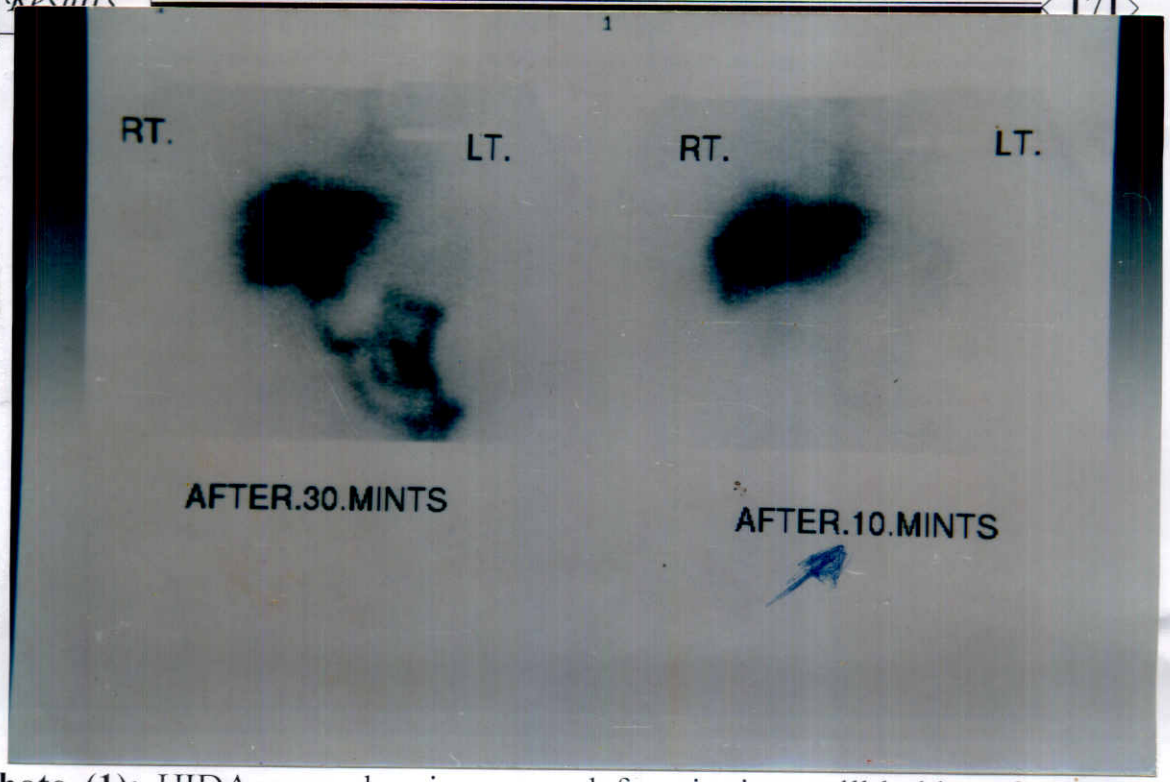


Photo (1): HIDA scan showing normal functioning gallbladder after 10 and 30 min.

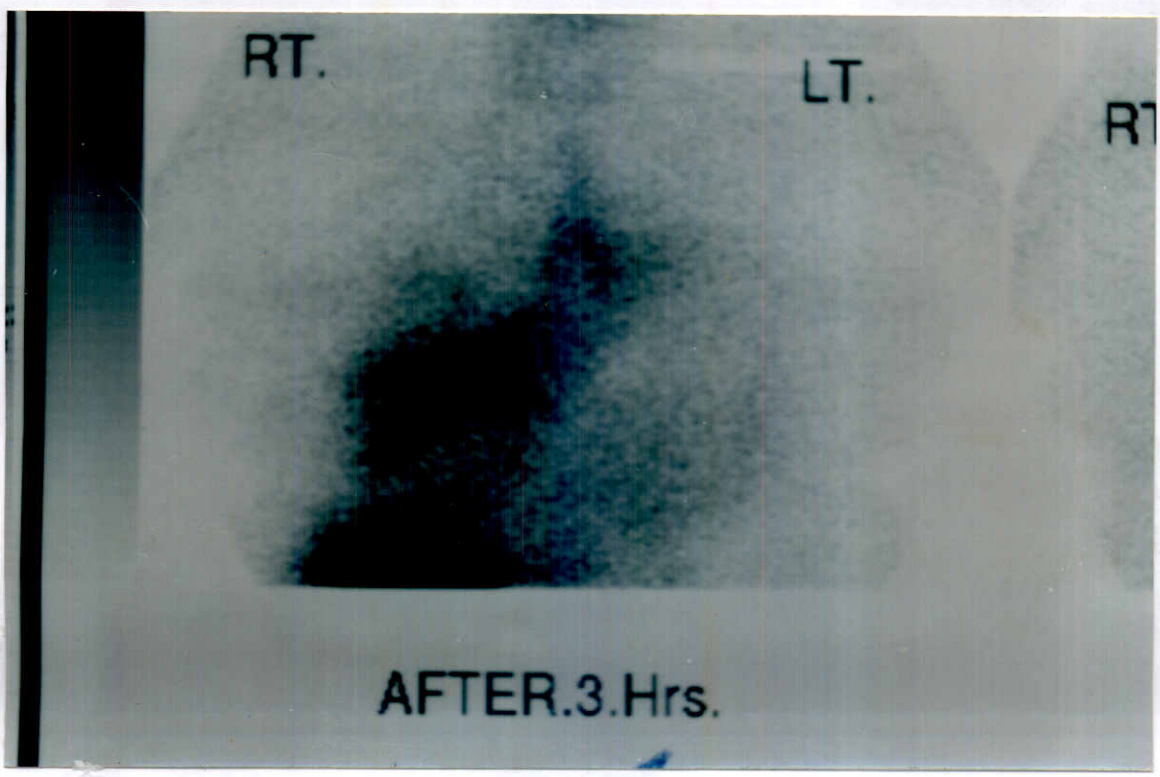
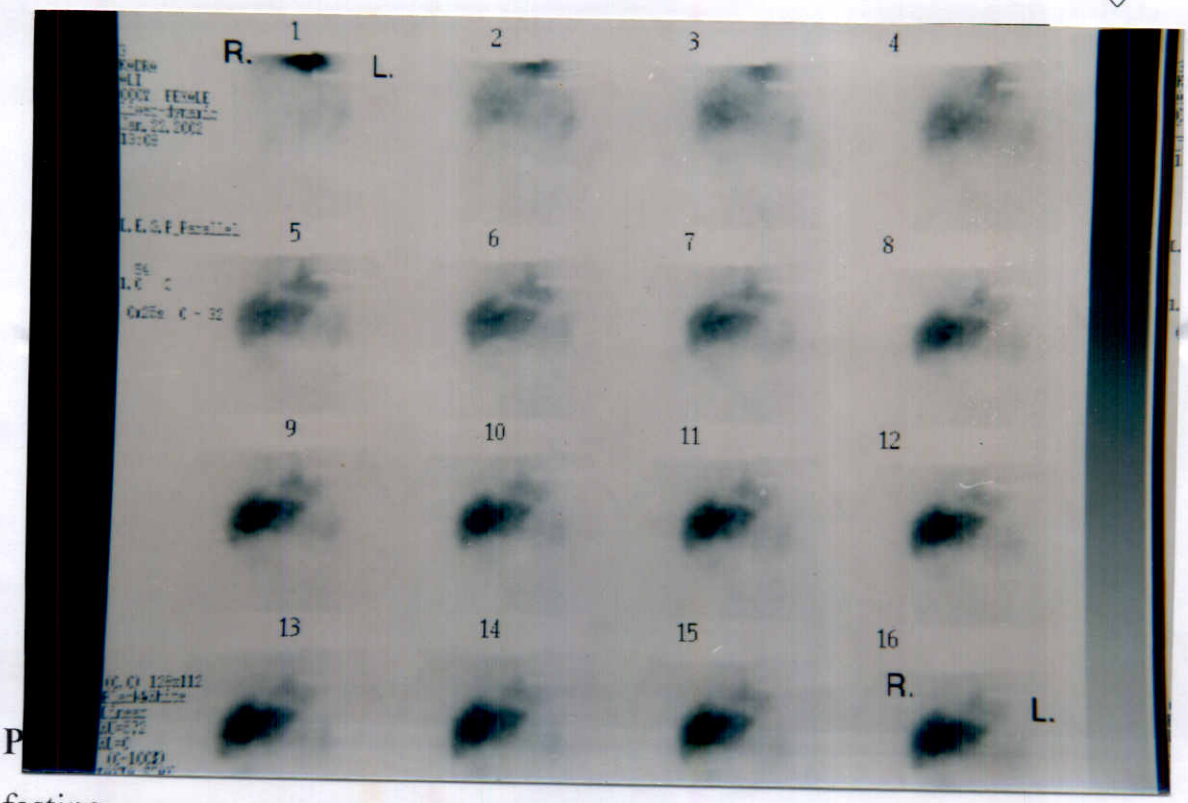


Photo (2): HIDA scan showing a normal functioning gallbladder after 3 hours.



P
fasting.

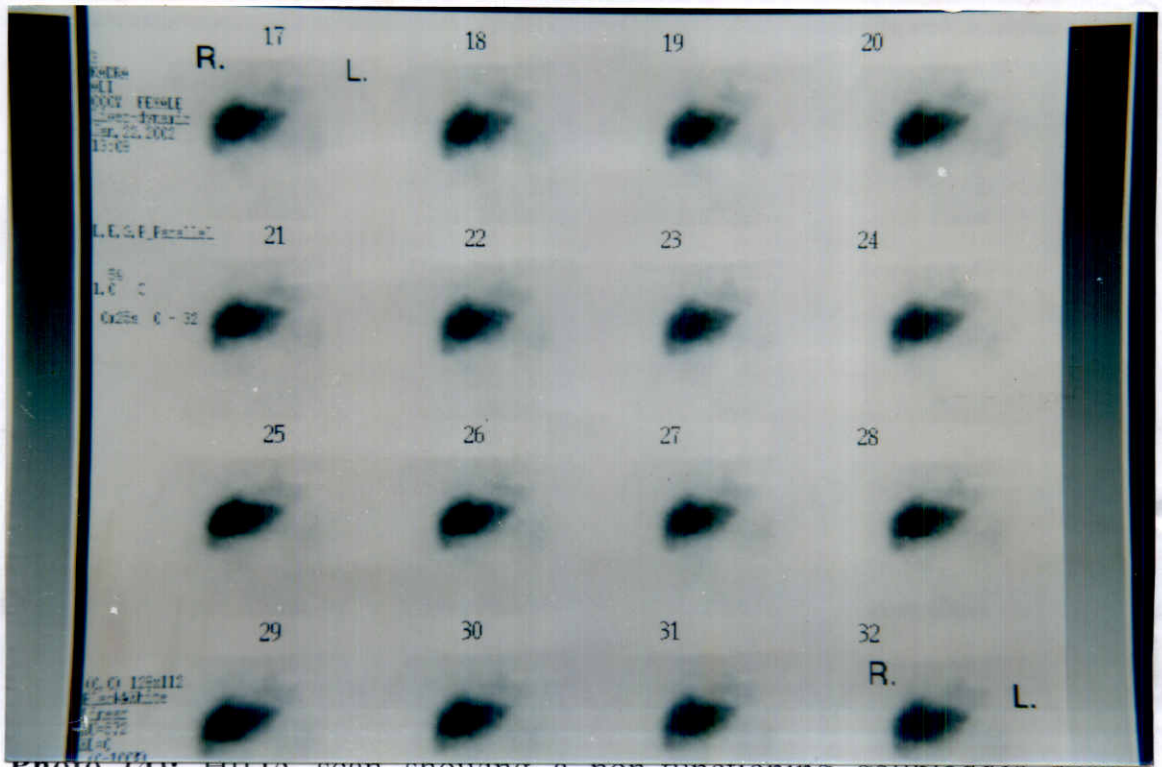


Photo (4): HIDA scan showing a non-functioning gallbladder during fasting.

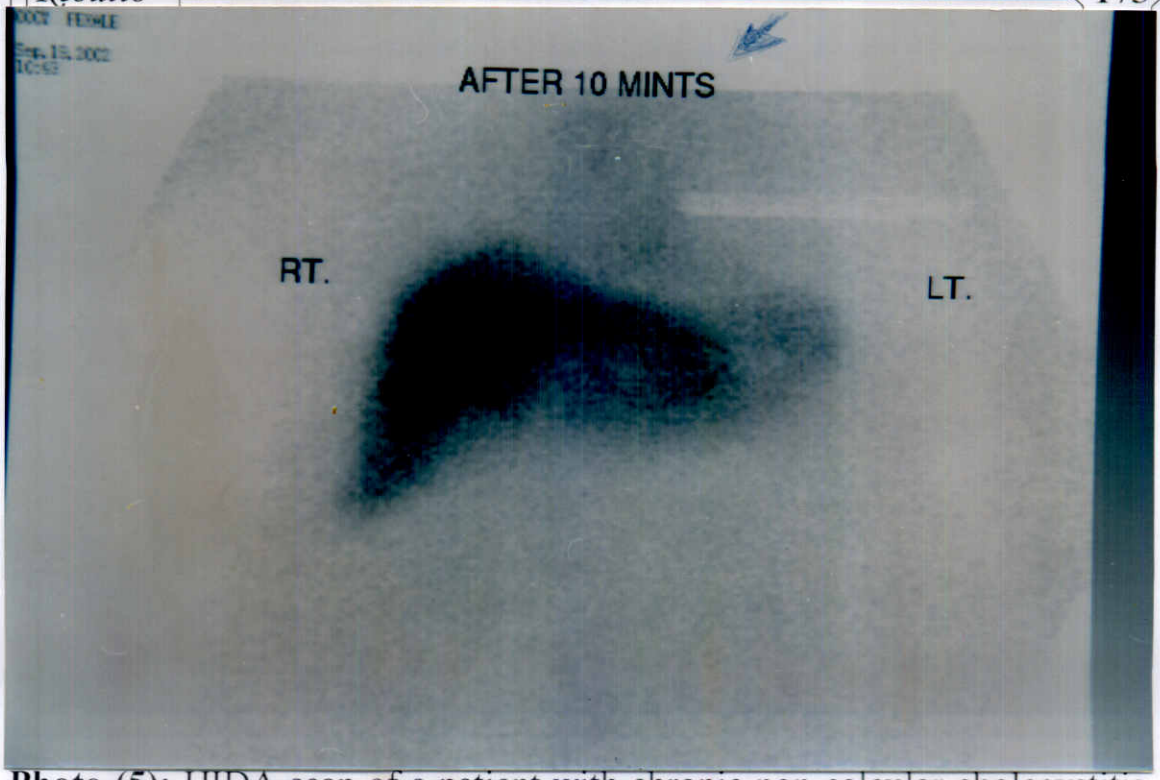


Photo (5): HIDA scan of a patient with chronic non-calcular cholecystitis showing normal functioning gallbladder 10 minutes after a fatty meal with normal ejection fraction.

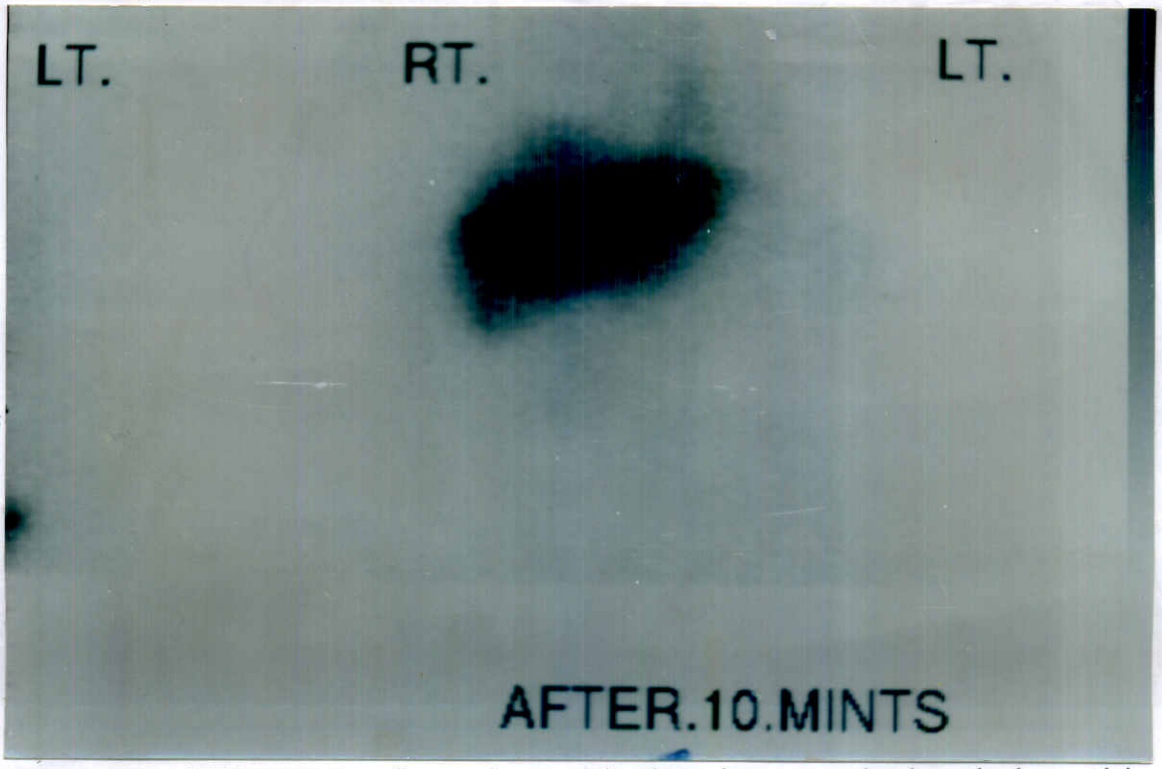


Photo (6): HIDA scan of a patient with chronic non-calcular cholecystitis showing non-functioning gallbladder 10 minutes after a fatty meal with decreased ejection fraction.

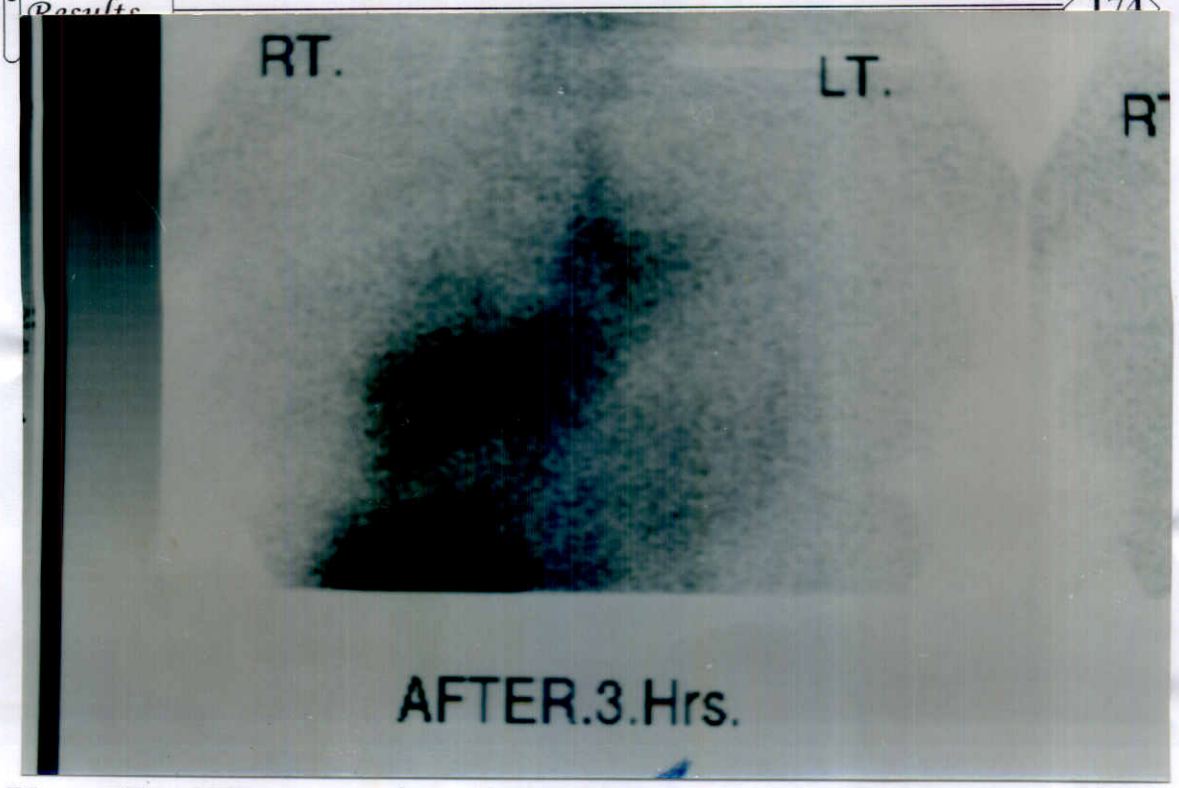


Photo (7): HIDA scan of a patient with chronic non-calcular cholecystitis showing normal functioning gallbladder 3 hours after a fatty meal with normal ejection fraction.

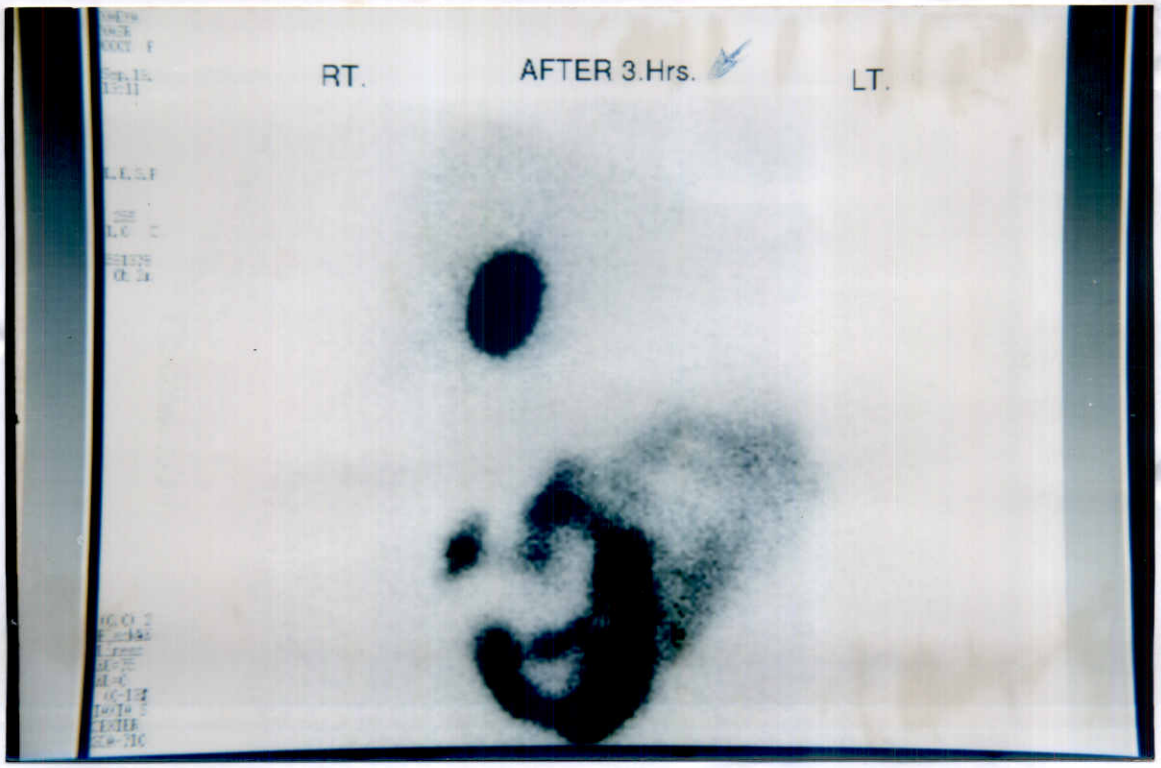


Photo (8): HIDA scan of a patient with chronic non-calcular cholecystitis showing non-functioning gallbladder 3 hours after a fatty meal with decreased ejection fraction.

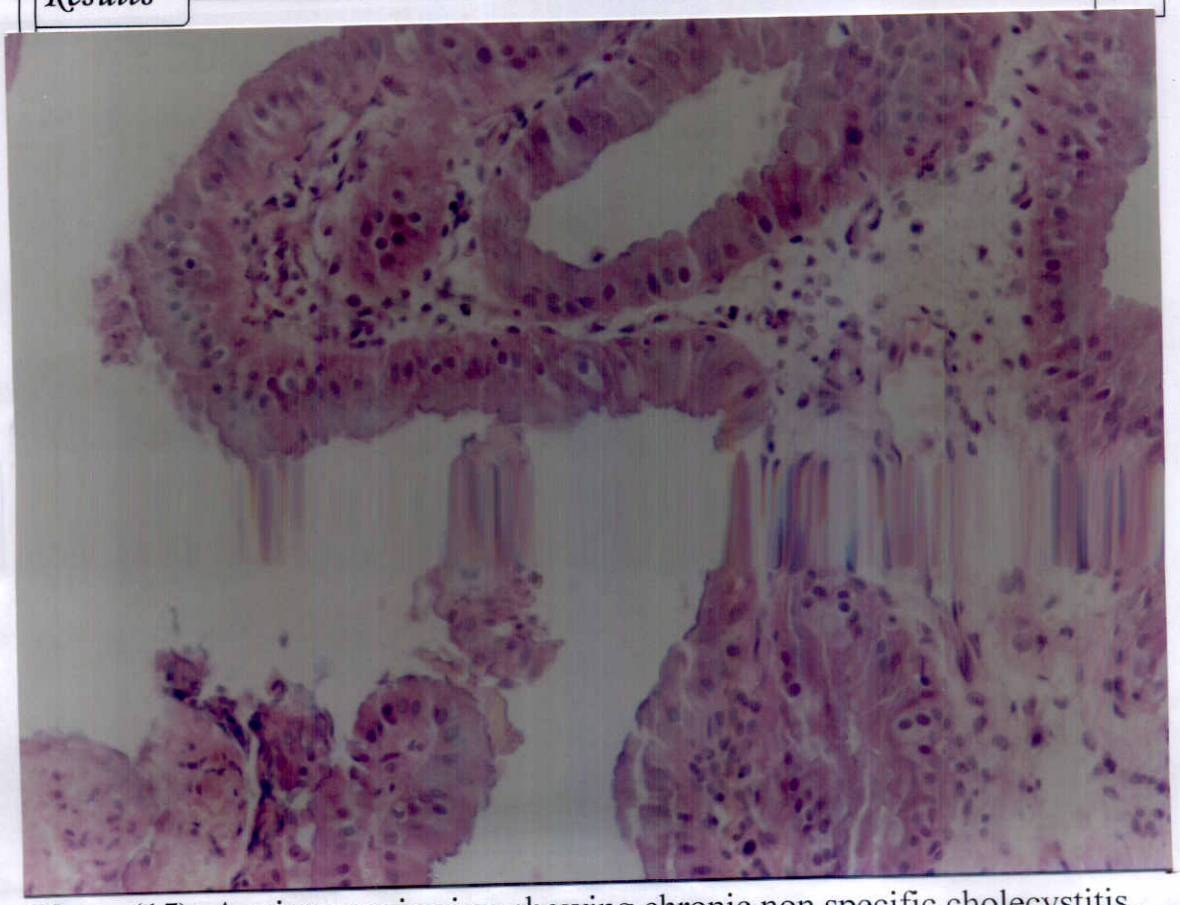


Photo (15): A microscopic view showing chronic non specific cholecystitis.

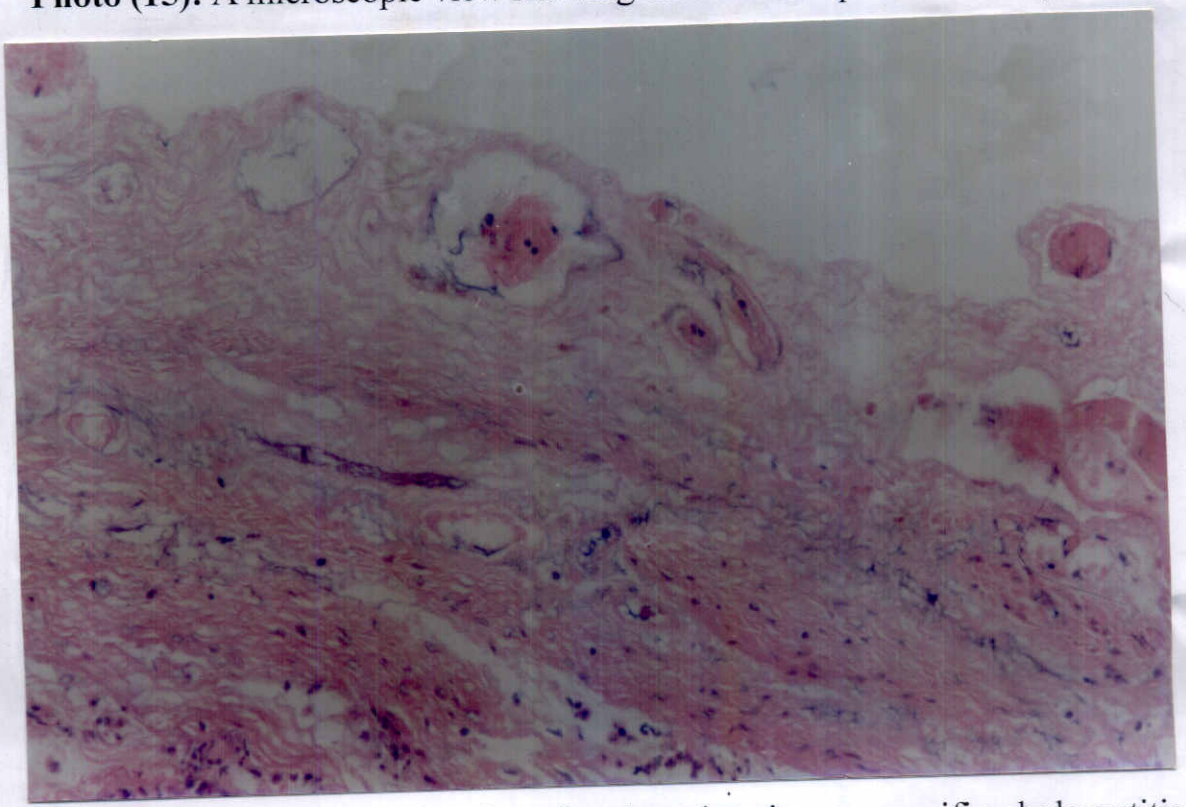


Photo (16): A microscopic view showing chronic non specific cholecystitis with microscopic calcifications.

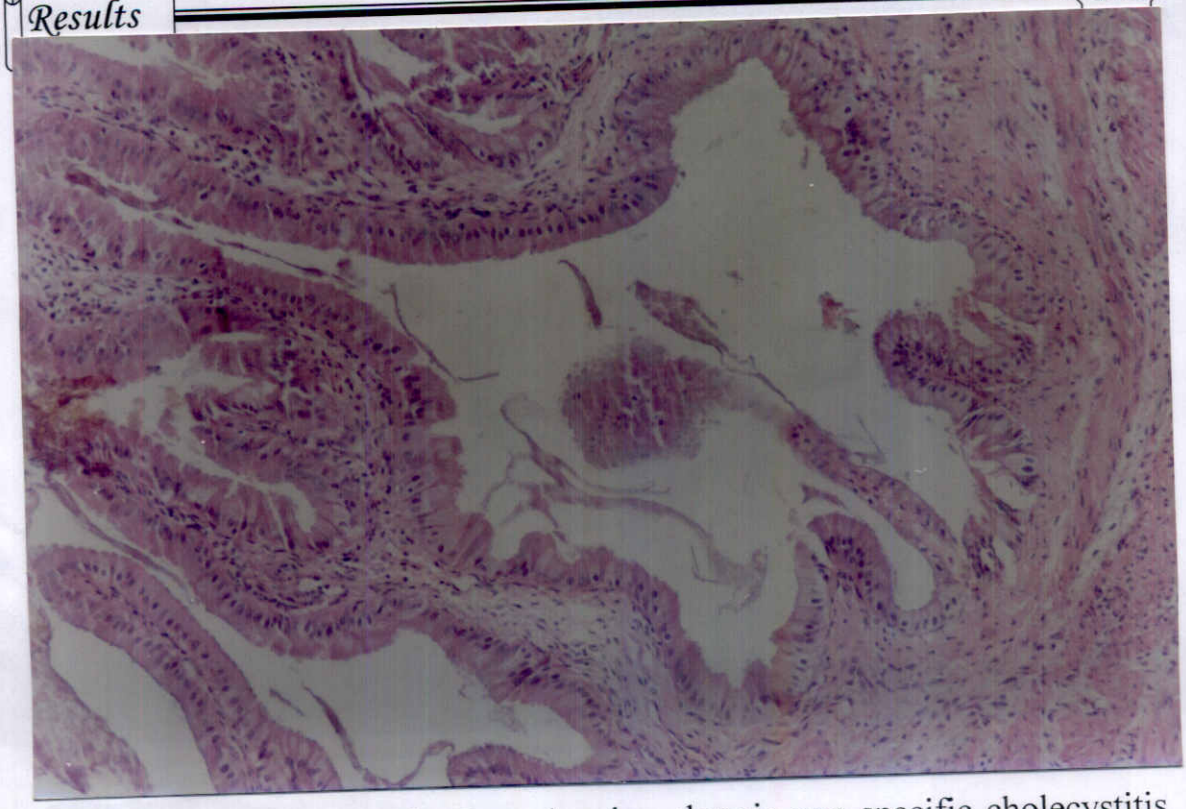


Photo (17): A microscopic view showing chronic non specific cholecystitis with cholecystitis glandularis.

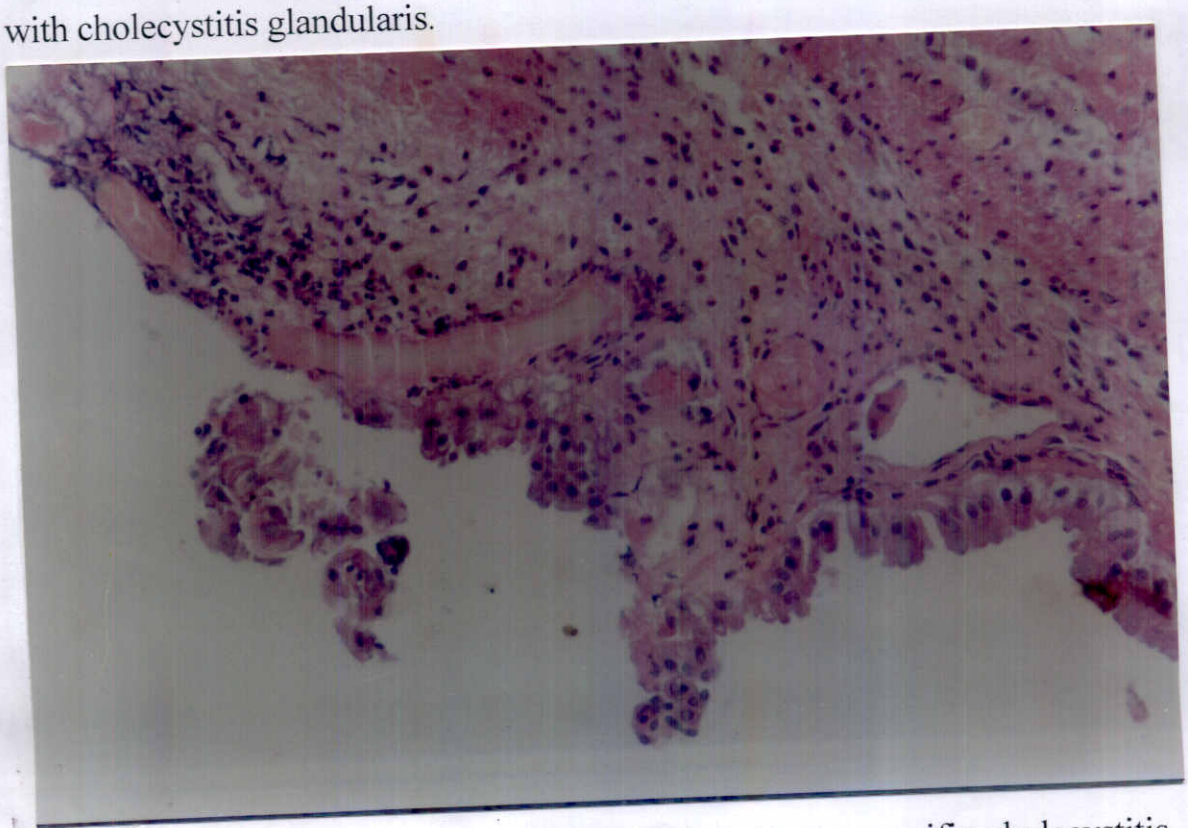


Photo (18): A microscopic view showing chronic non specific cholecystitis with marked adhesions.

RESULTS

This is a prospective study conducted at Banha university Hospital in the period between September 2001 to August 2003.

Thirty patients were diagnosed to have achronic non calcular cholecystitis were subjected to cholecystectomy and postoperative follow up was done to assess symptomatic improvement as well as pathological examination of the excised gall bladder .

By analysis of pre-operative symptomatology, laboratory findings, endoscopic, sonographic, cholescintigraphy results and operative modalities used the following results were reached duration of post operative follow-up ranged from (1 to 12m) with mean of 18m.

- In our study the patients were classified into two groups:-

group A :- i.e. paints of symptomatic relieve samples was 25 patient.

group B :- patients of no symptomatic relived post operative sample size was 5patients.

"Methods of study"

1- Frequency and percent table of nominal data and we used chi-square test.

2- Cross table to obtain comparison between our groups and we used contingency coefficient to obtain the correlation coefficient.

3- Test was done for comparison between group "A" and group "B"

Table (1): Frequency Table for Sex in Group A and Group B. And Chi-square for Group A.

Sex		Frequency	Percent
Group A	Male	2	8.0
	Female	23	92.0
	Total	25	100.0
	Chi-square	17.64	
	p-value	0.00*	
Group B	Male	4	80.0
	Female	1	20.0
	Total	5	100

* Significant at 0.05

In our study of Sex, 92% of the patients with chronic non-calcular cholecystitis were females and 8% were males in group A and it is significant difference at 0.05. In group B we find 80% male and 20% female.

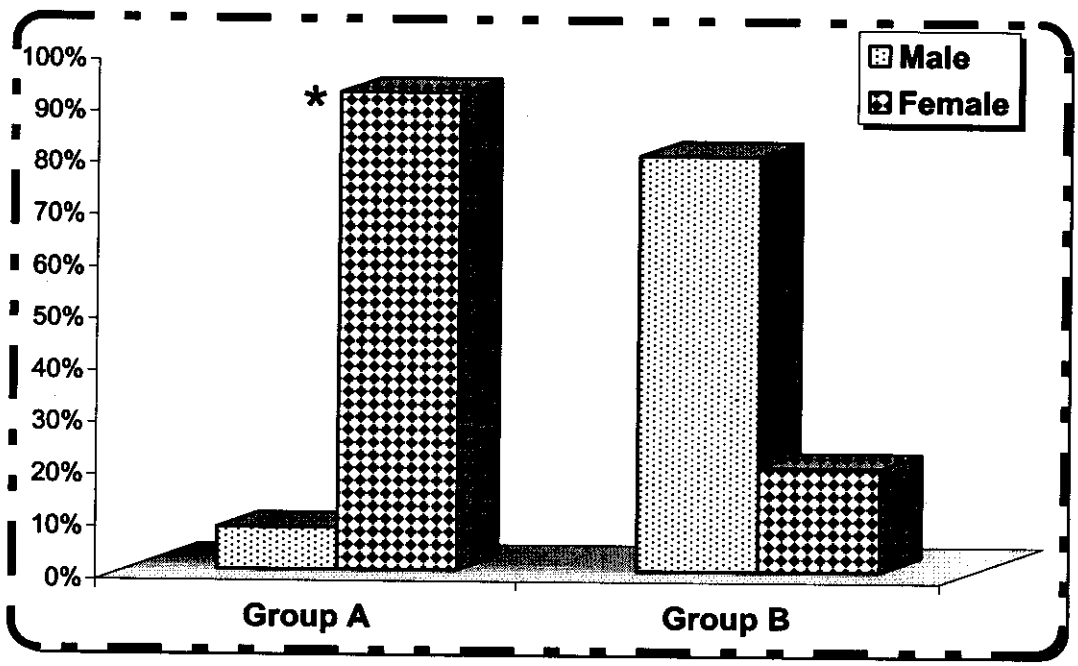


Fig. (1)

Table (2): Frequency Table for Contraceptive pills in Group A and Group B. And Chi-square for Group A.

Contraceptive pills		Frequency	Percent
Group A	-ve	13	52.0
	+ve	12	48.0
	Total	25	100.0
	Chi-square	0.048	
	p-value	0.841	
Group B	-ve	4	80.0
	+ve	1	20.0
	Total	5	100.0

In our study of Contraceptive pills, 52% (-ve) and 48% (+ve) in group A and it is not significant difference at 0.05. In group B we find 80% (-ve) and 20% (+ve).

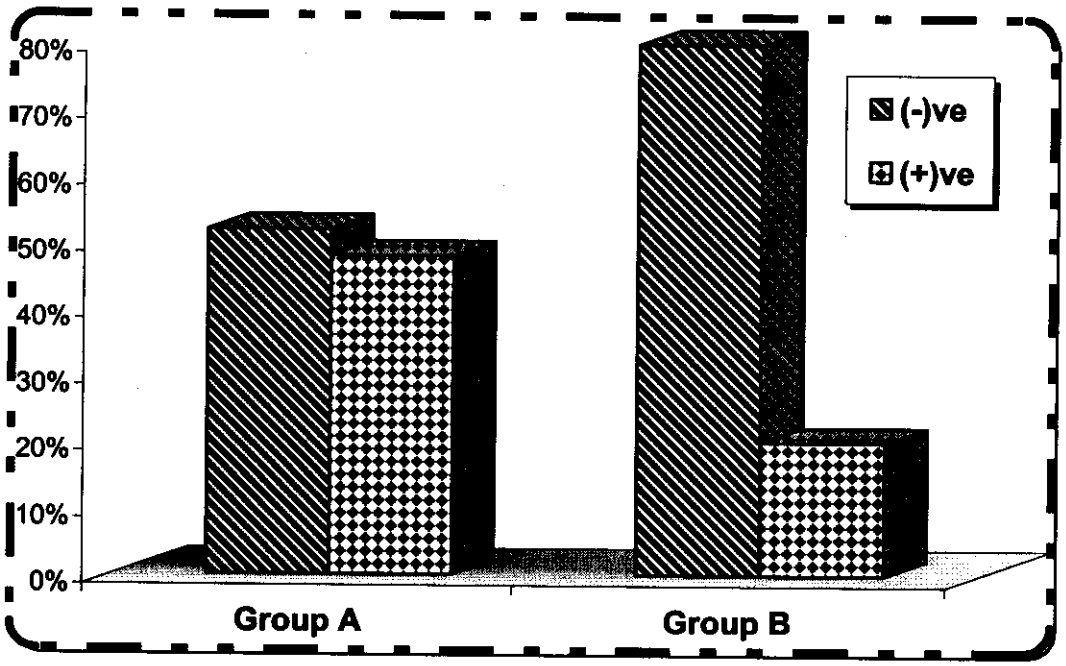


Fig. (2)

Table (3): Frequency Table for Biliary pain in Group A and Group B. And Chi-square for Group A.

Biliary pain		Frequency	Percent
Group A	+	3	12.0
	++	12	48.0
	+++	10	40.0
	Total	25	100.0
	Chi-square	5.36	
	p-value	0.068	
Group B	++	1	20.0
	+++	4	80.0
	Total	5	100.0

In our study of **Biliary pain**, 12% mild (+), 48% moderate (++) and 40% sever (+++) in group A and it is not significant difference at 0.05. In group B we find 20% moderate (++) and 80% sever (+++).

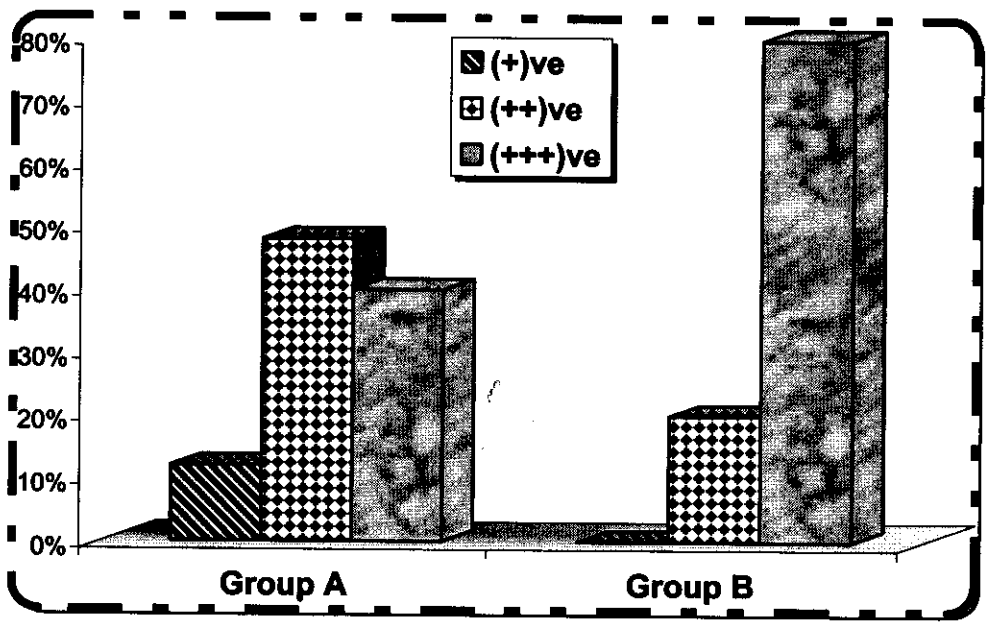


Fig. (3)

Table (4): Frequency Table for Fatty dyspepsia in Group A and Group B. And Chi-square for Group A.

Fatty dyspepsia		Frequency	Percent
Group A	+	3	12.0
	++	12	48.0
	+++	10	40.0
	Total	25	100.0
	Chi-square	5.36	
	p-value	0.068	
Group B	++	1	20.0
	+++	4	80.0
	Total	5	100.0

In our study of **Fatty dyspepsia**, 12% mild (+), 48% moderate (++) and 40% sever (+++) in group A and it is not significant difference at 0.05. In group B we find 20% moderate (++) and 80% sever (+++).

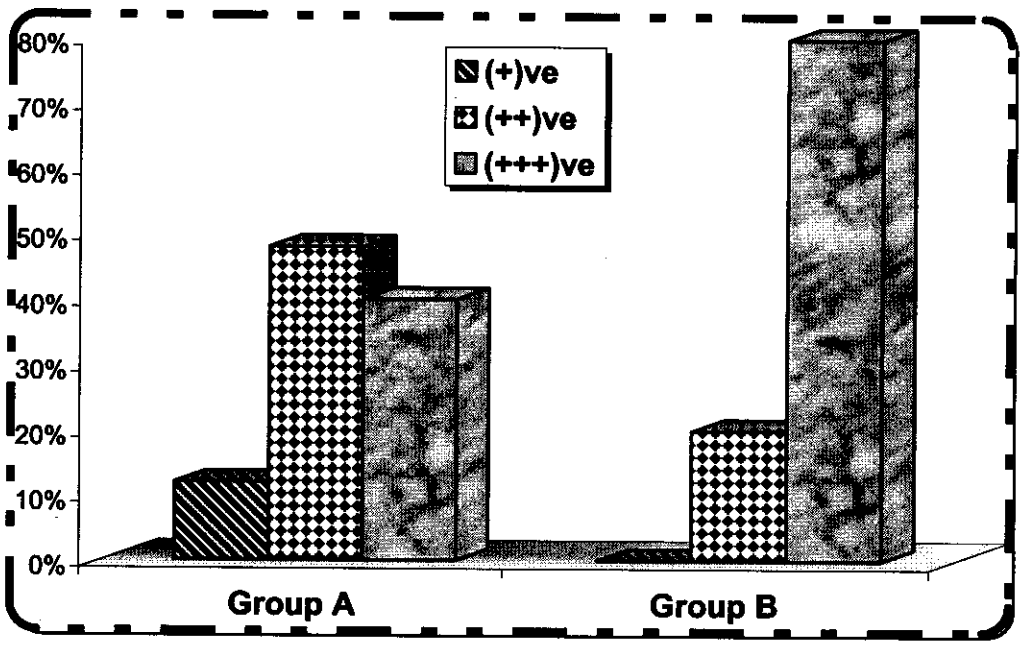


Fig. (4)

Table (5): Frequency Table for Nausea in Group A and Group B. And Chi-square for Group A.

Nausea		Frequency	Percent
Group A	+	7	28.0
	++	9	36.0
	+++	9	36.0
	Total	25	100.0
	Chi-square	0.32	
	p-value	0.852	
Group B	+	1	20.0
	++	2	40.0
	+++	2	40.0
	Total	5	100.0

In our study of **Nausea**, 28% mild (+), 36% moderate (++) and 36% sever (+++) in group A and it is not significant difference at 0.05. In group B we find 20% mild (+), 40% moderate (++) and 40% sever (+++).

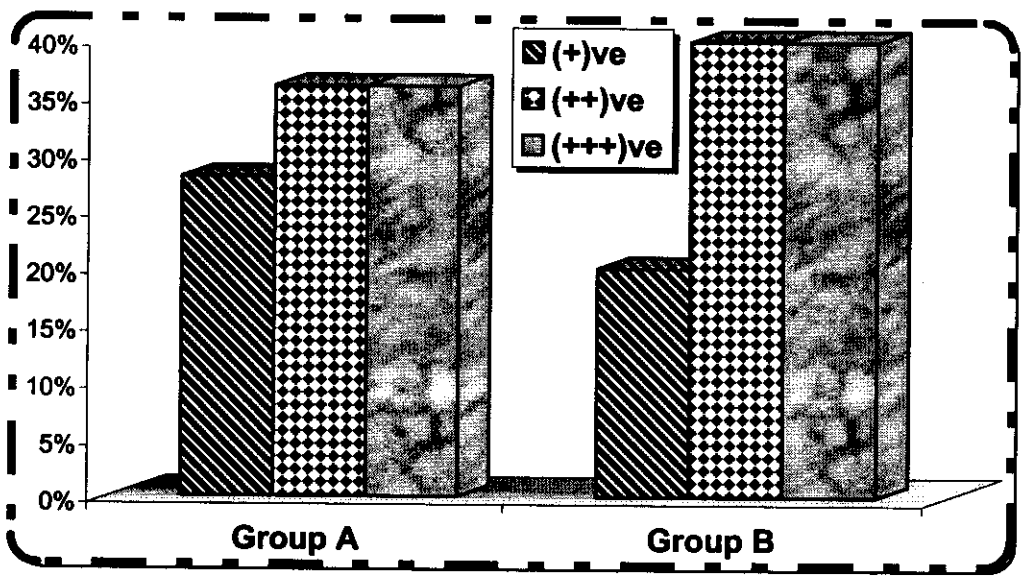


Fig. (5)

Table (6): Frequency Table for Vomiting in Group A and Group B. And Chi-square for Group A.

Vomiting		Frequency	Percent
Group A	-	1	4.0
	+	12	48.0
	++	9	36.0
	+++	3	12.0
	Total	25	100.0
	Chi-square	311.64	
	p-value	0.001*	
Group B	+	3	60.0
	++	1	20.0
	+++	1	20.0
	Total	5	100.0

* Significant at 0.05.

In our study of **Vomiting**, 4% negative, 48% mild (+), 36% moderate (++) and 12% sever (+++) in group A and it is not significant difference at 0.05. In group B we find 60% mild (+), 20% moderate (++) and 20% sever (+++).

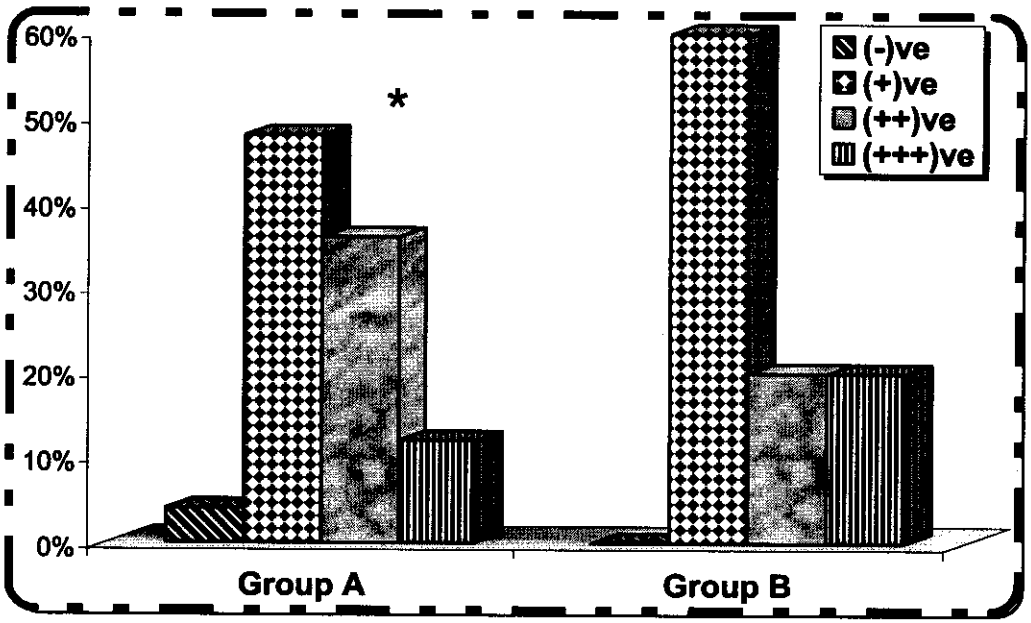


Fig. (6)

Table (7): Frequency Table for Change in bowel-habits in Group A and Group B. And Chi-square for Group A.

Change in bowel-habits		Frequency	Percent
Group A	-ve	9	36.0
	+ve	16	64.0
	Total	25	100.0
	Chi-square	1.96	
	p-value	0.62	
Group B	-ve	2	40.0
	+ve	3	60.0
	Total	5	100

In our study of **Change in bowel-habits**, 36% negative (-ve) and 64% positive (+ve) in group A and it is not significant difference at 0.05. In group B we find 40% negative (-ve) and 60% positive (+ve).

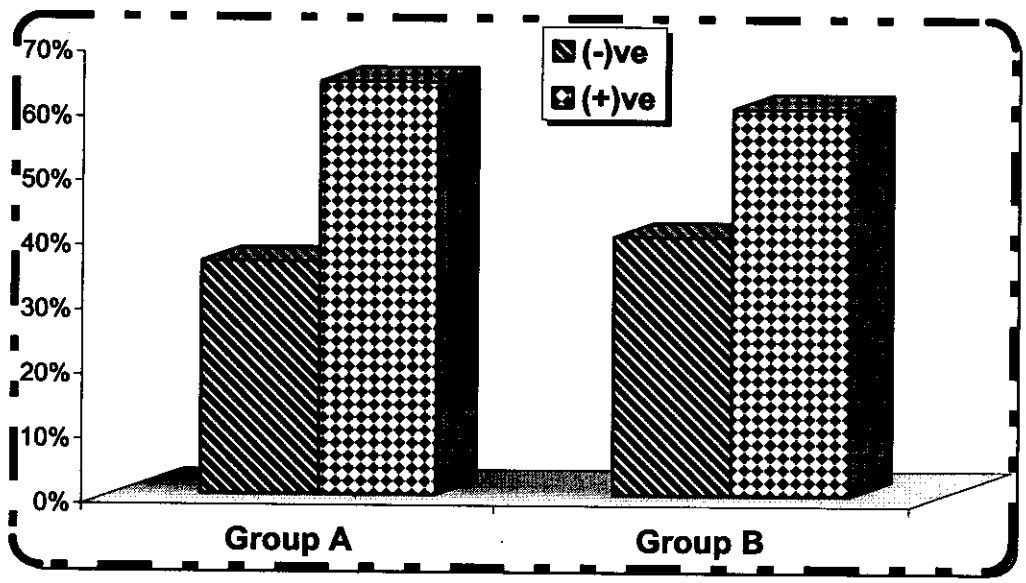


Fig. (7)

Table (8): Frequency Table for History of jaundice in Group A and Group B. And Chi-square for Group A.

History of jaundice		Frequency	Percent
Group A	-ve	23	92.0
	+ve	2	8.0
	Total	25	100.0
	Chi-square	17.64	
	p-value	0.00*	
Group B	-ve	2	40.0
	+ve	3	60.0
	Total	5	100

* Significant at 0.05

In our study of **History of jaundice**, 92% negative (-ve) and 8% positive (+ve) in group A and it is significant difference at 0.05. In group B we find 40% negative (-ve) and 60% positive (+ve).

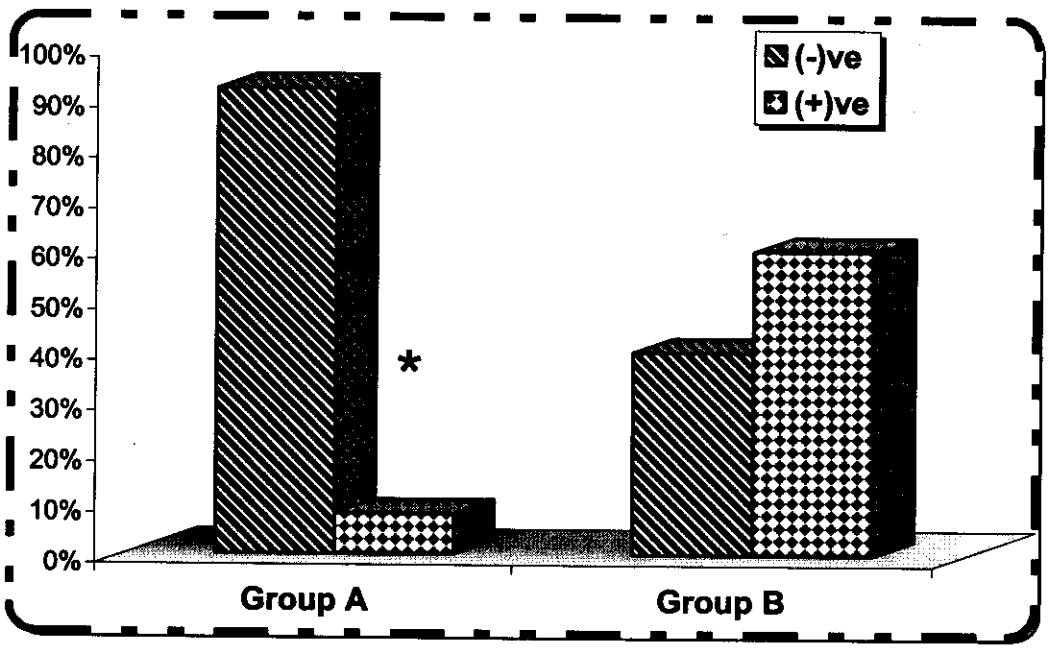


Fig. (8)

Table (9): Frequency Table for Murphy's sign in Group A and Group B. And Chi-square for Group A.

Murphy's sign		Frequency	Percent
Group A	+ve	25	100.0
	Total	25	100.0
Group B	+ve	5	100.0
	Total	5	100.0

In our study of **Murphy's sign**, 0% negative (-ve) and 100% positive (+ve) in group A. In group B we find 0% negative (-ve) and 100% positive (+ve).

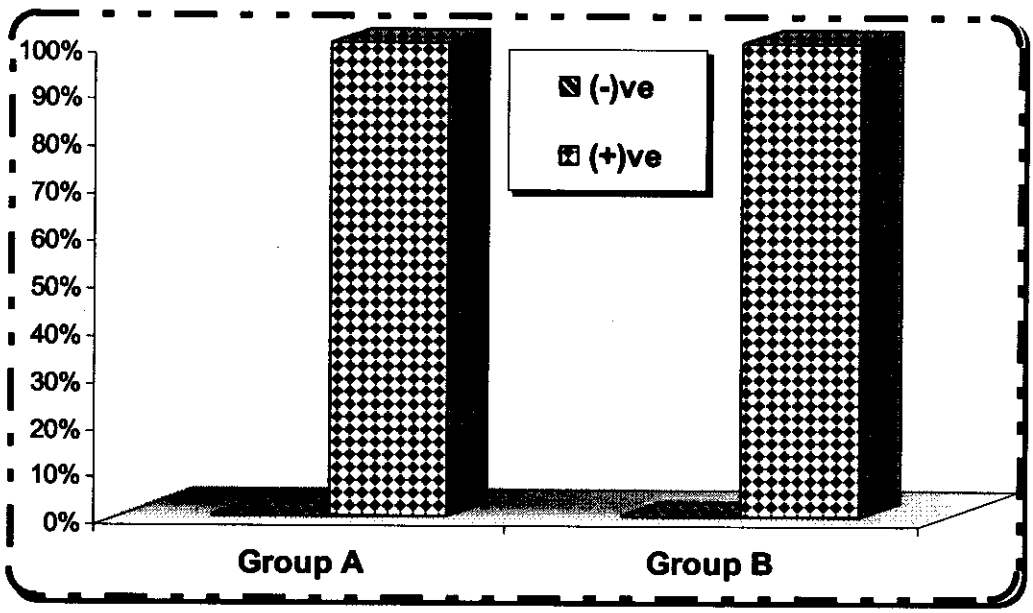


Fig. (8)

Table (10): Frequency Table for Total bilirubin in Group A and Group B. And Chi-square for Group A.

Total bilirubin		Frequency	Percent
Group A	Normal	25	100
	Total	25	100
Group B	Normal	5	100
	Total	5	100

In our study of **Total bilirubin**, 0% abnormal and 100% normal in group A. In group B we find 0% negative and 100% positive.

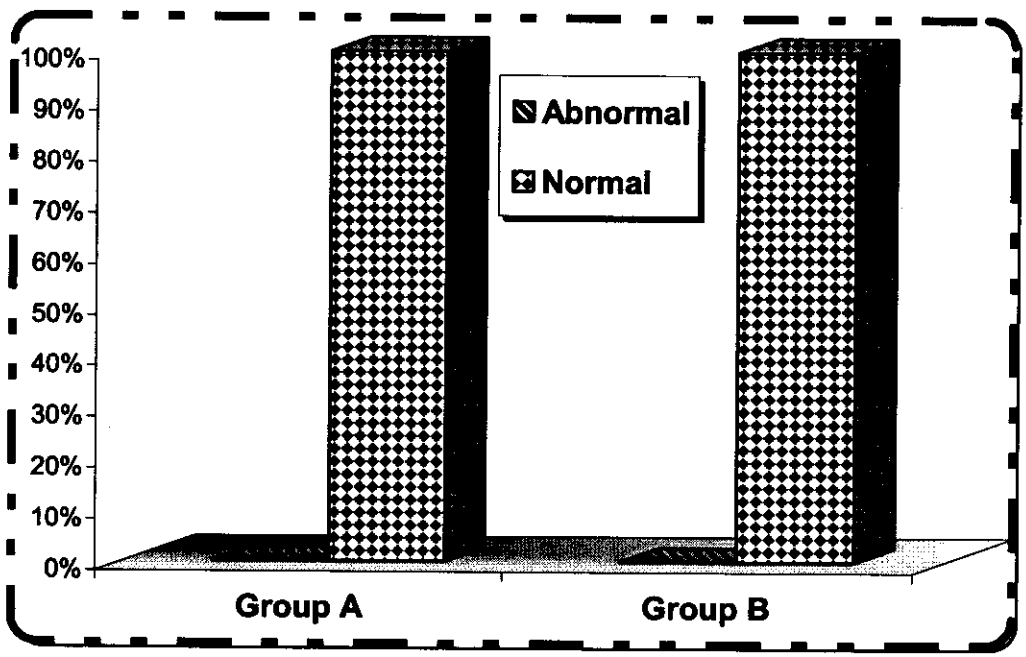


Fig. (10)

Table (11): Frequency Table for Direct bilirubin in Group A and Group B. And Chi-square for Group A.

Direct bilirubin		Frequency	Percent
Group A	Normal	25	100
	Total	25	100
Group B	Normal	5	100
	Total	5	100

In our study of **Direct Bilirubin**, 0% abnormal and 100% normal in group A. In group B we find 0% negative and 100% positive.

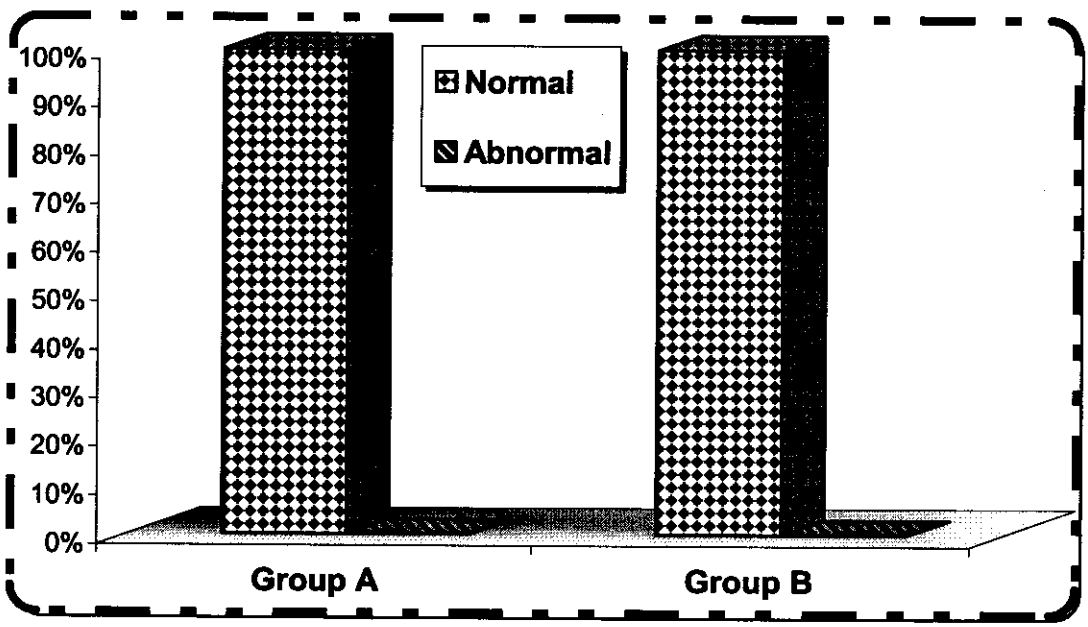


Fig. (11)

Table (12): Frequency Table for Size of the G.B in Group A and Group B. And Chi-square for Group A.

Size of the G.B		Frequency	Percent
Group A	Large	3	10
	Small	3	10
	Small contract	8	26.7
	Normal	15	50
	Distended	1	3.3
	Total	25	100
	Chi-square	13.46	
	p-value	0.004*	
Group B	Small contract	5	100
	Total	5	100

* Significant at 0.05

In our study of **Size of the G.B**, 10% **Large**, 10% **Small**, 26.7% **Small contract**, 50% **Normal** and 3.3% **Distended** in group A and it is significant difference at 0.05. In group B we find 100% **Small** contract.

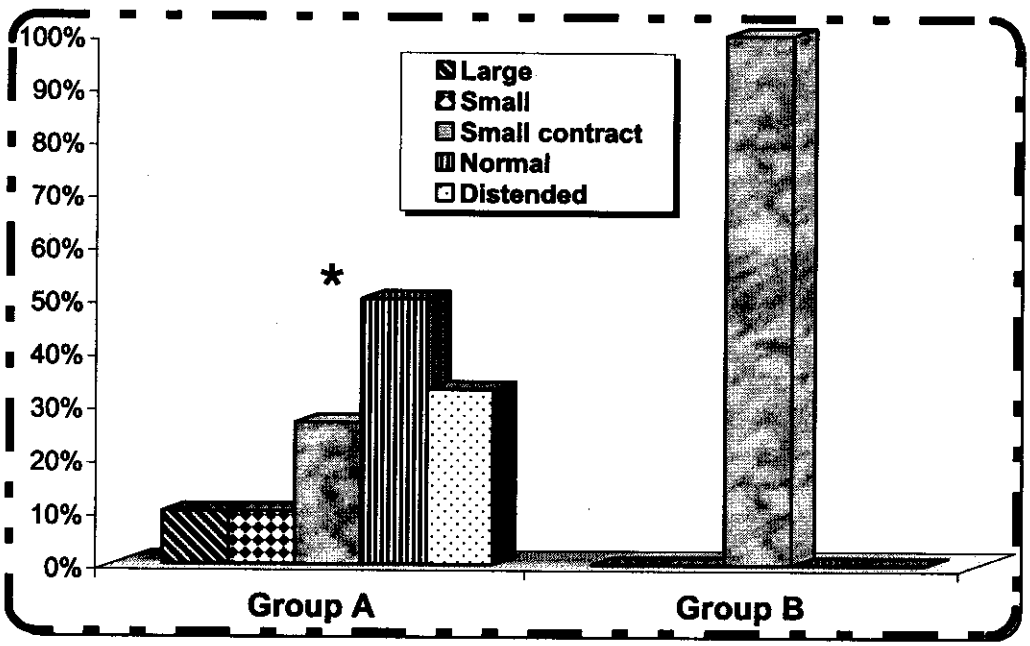


Fig. (12)

Table (13): Frequency Table for Tenderness on probing in Group A and Group B. And Chi-square for Group A.

Tenderness on probing		Frequency	Percent
Group A	-	3	12.0
	+	11	44.0
	++	9	36.0
	+++	2	8.0
	Total	25	100.0
	Chi-square	9.4	
	p-value	0.024*	
Group B	-	1	20.0
	+	2	40.0
	++	1	20.0
	+++	1	20.0
	Total	5	100.0

* Significant at 0.05.

In our study of **Tenderness on probing**, 12% negative, 44% mild (+), 36% moderate (++) and 8% sever (+++) in group A and it is significant difference at 0.05. In group B we find 20% negative, 40% mild (+), 20% moderate (++) and 20% sever (+++).

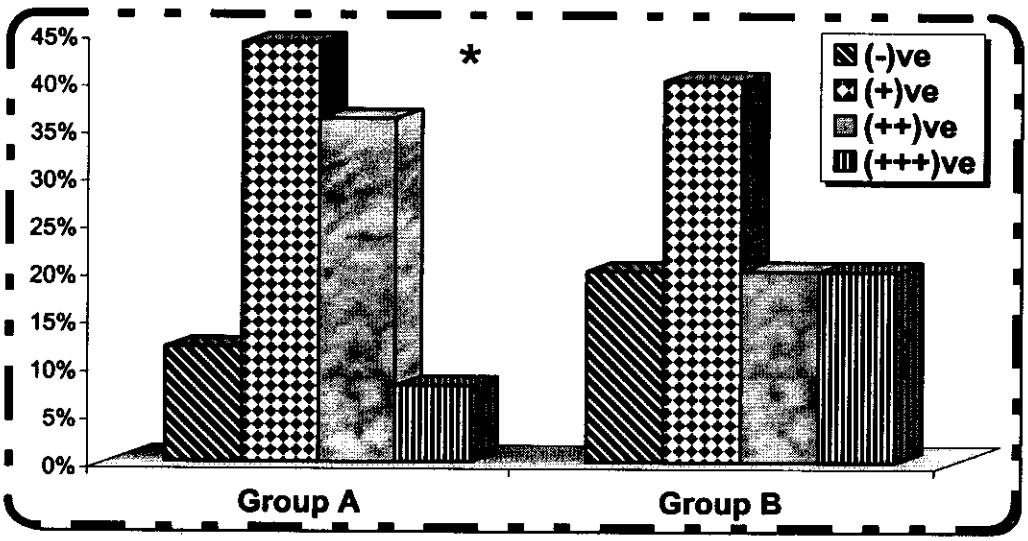


Fig. (13)

Table (14): Frequency Table for Thickness of the G.B wall in Group A and Group B. And Chi-square for Group A.

Thickness of the G.B wall		Frequency	Percent
Group A	So Thick	1	4.0
	Thick	16	64.0
	Normal	8	32.0
	Total	25	100.0
	Chi-square	13.52	
	p-value	0.001*	
Group B	So Thick	2	40.0
	Thick	3	60.0
	Total	5	100.0

* Significant at 0.05.

In our study of **Thickness of the G.B**, 4% so thick, 64% thick and 32% normal in group A and it is significant difference at 0.05. In group B we find 40% so thick and 60% thick.

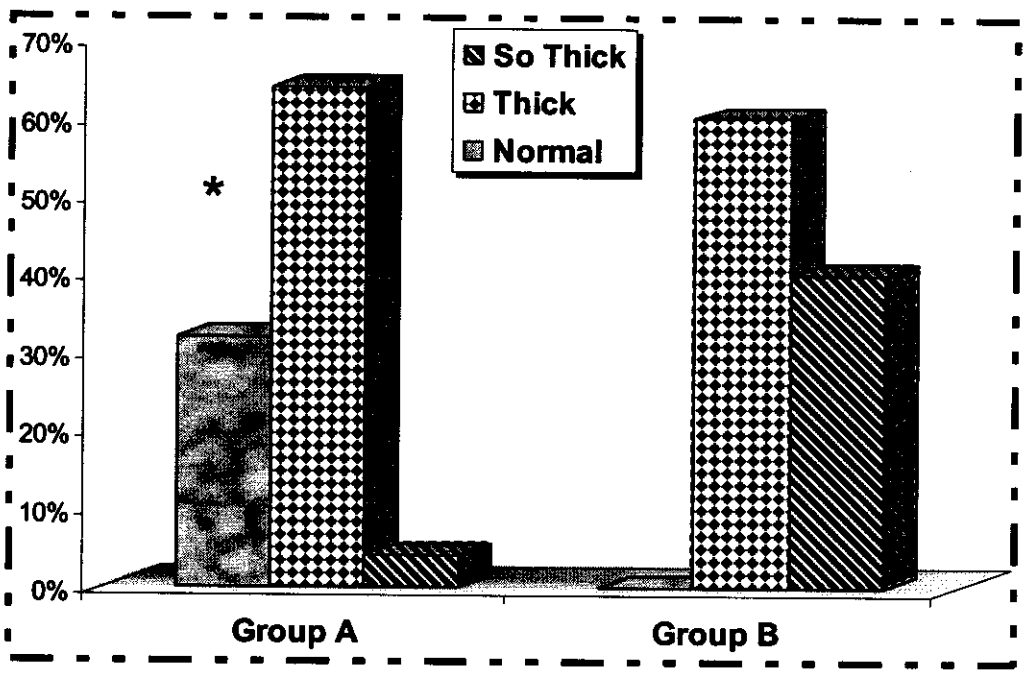


Fig. (14)

Table (15): Frequency Table for Presence mud or sludge in Group A and Group B. And Chi-square for Group A.

Presence mud or sludge		Frequency	Percent
Group A	Sludge	4	16.0
	No sludge	18	72.0
	Much	3	12.0
	Total	25	100.0
	Chi-square	16.00	
	p-value	0.00*	
Group B	Sludge	5	100.0
	Total	5	100.0

*Significant at 0.05.

In our study of **Presence mud or sludge**, 16% sludge, 72% no sludge and 12% much in group A and it is significant difference at 0.05. In group B we find 100 % sludge.

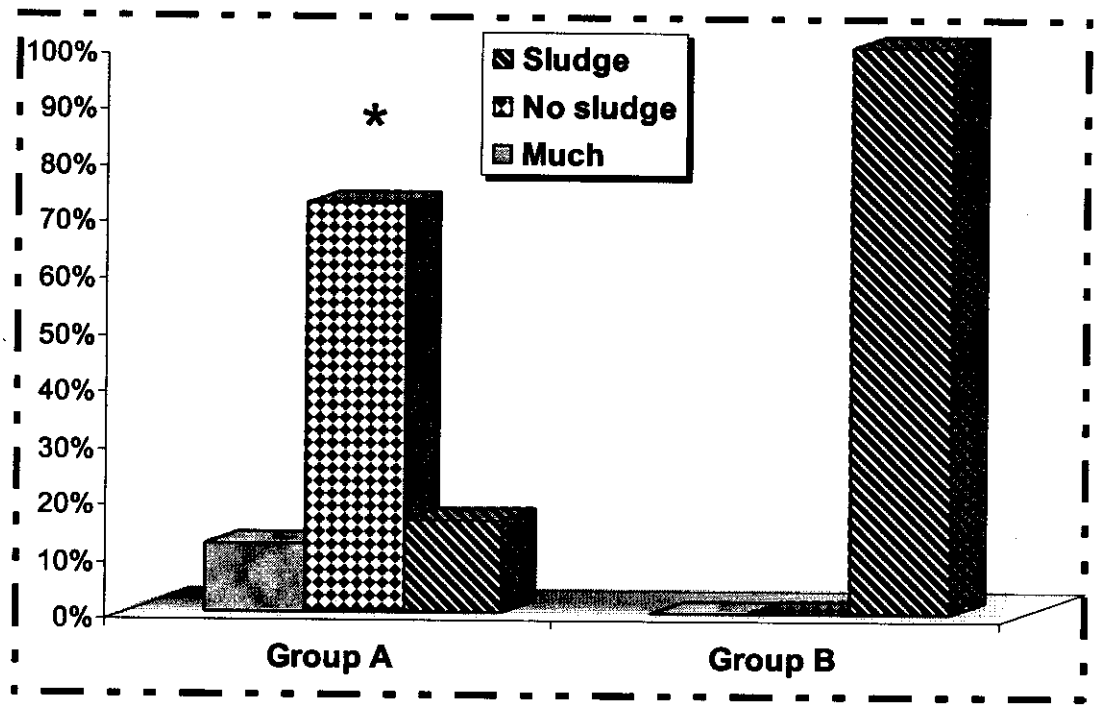


Fig. (15)

Table (16): Frequency Table for C.B.D in Group A and Group B. And Chi-square for Group A.

C.B.D		Frequency	Percent
Group A	Sludge	25	100.0
	Total	25	100.0
Group B	Sludge	5	100.0
	Total	5	100.0

In our study of **C.B.D**, 100% sludge and 0% no sludge in group A. In group B we find 100 % sludge 0% no sludge.

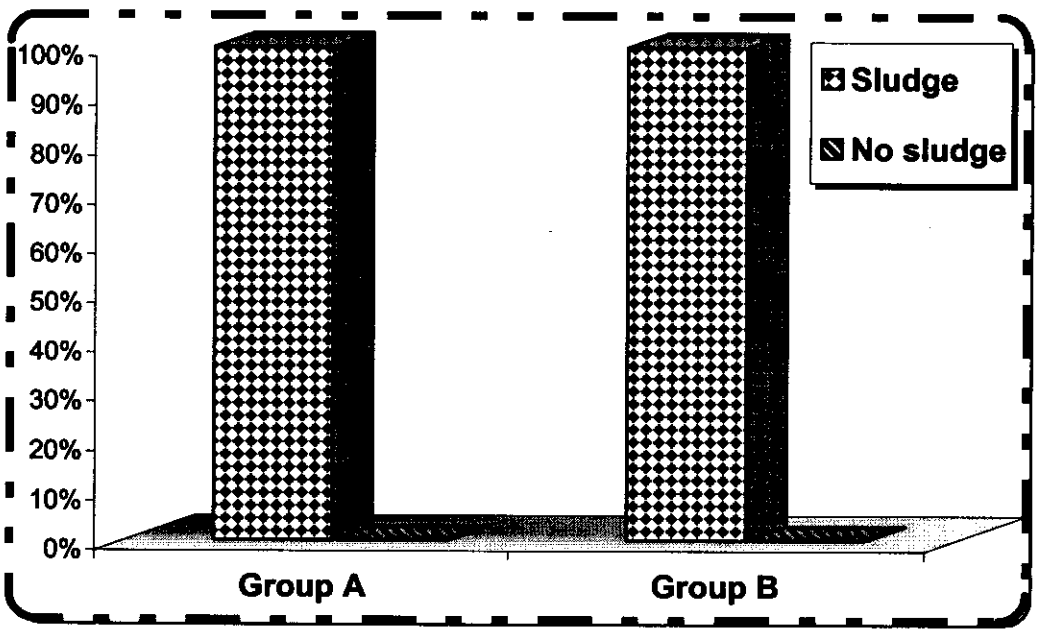


Fig. (16)

Table (17): Frequency Table for Liver extraction in Group A and Group B. And Chi-square for Group A.

Liver extraction		Frequency	Percent
Group A	Normal	25	100.0
	Total	25	100.0
Group B	Normal	5	100.0
	Total	5	100.0

In our study of **Liver extraction**, 0% abnormal and 100% normal in group A. In group B we find 0% abnormal and 100% normal.

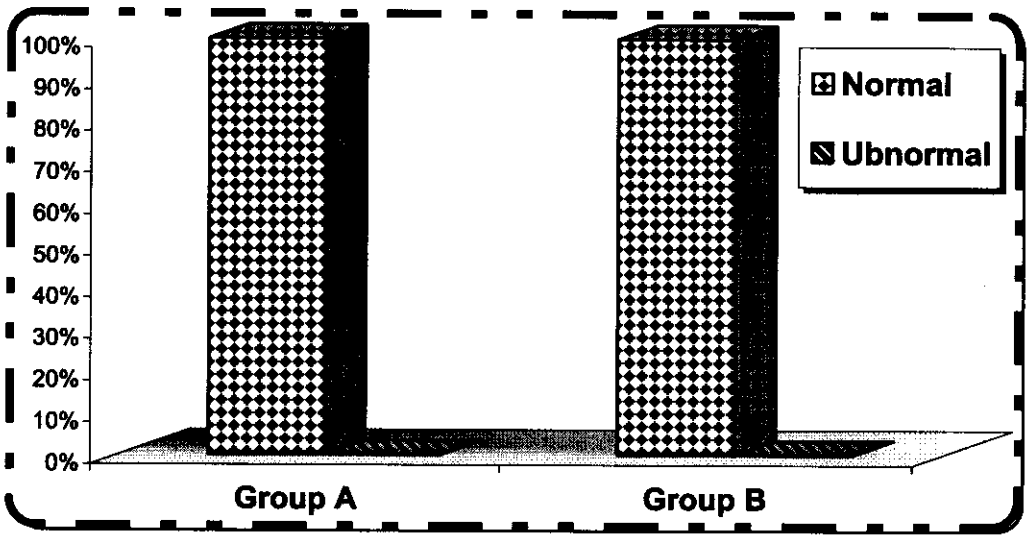


Fig. (17)

Table (18): Frequency Table for Potency of biliary tree in Group A and Group B. And Chi-square for Group A.

Potency of biliary tree		Frequency	Percent
Group A	Patent	25	100.0
	Total	25	100.0
Group B	Dilated	5	100.0
	Total	5	100.0

In our study of **Potency of biliary tree**, 0% **Dilated** and 100% **Patent** in group A. In group B we find 0% **Patent** and 100% **Dilated.**

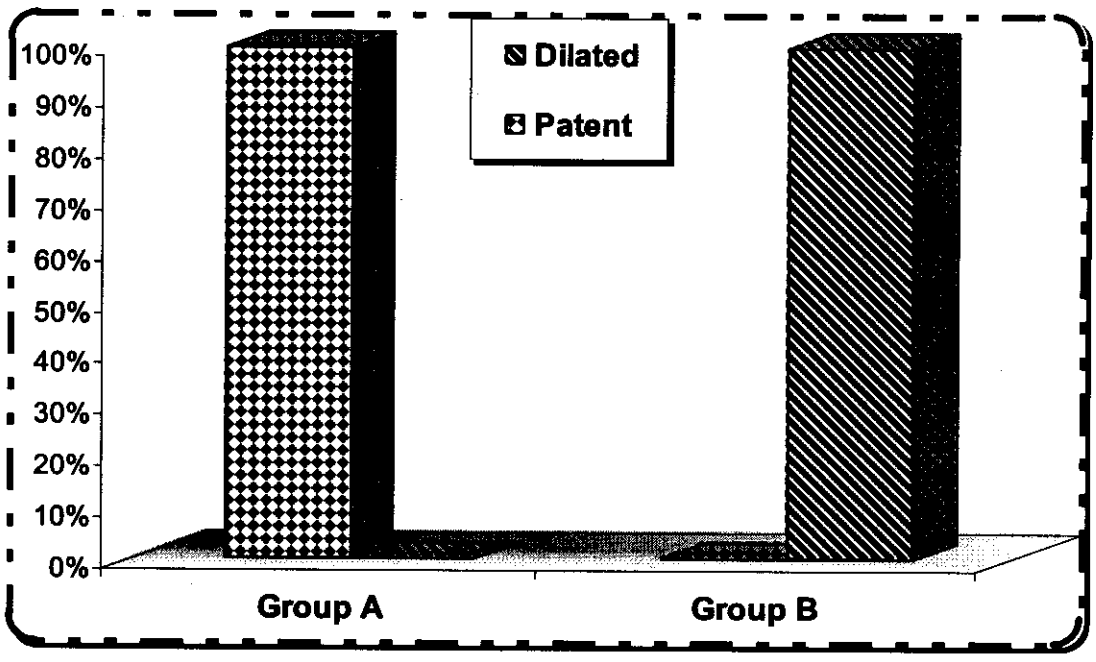


Fig. (18)

Table (19): Frequency Table for Biliary pain (Post operative follow-up) in Group A and Group B. And Chi-square for Group A.

Biliary pain (Post operative follow-up)		Frequency	Percent
Group A	Improved	19	76
	+	3	12
	++	3	12
	Total	25	100.0
	Chi-square	6.76	
	p-value	0.001*	
Group B	+	1	20
	++	1	20
	+++	3	40
	Total	5	100.0

* Significant at 0.05.

In our study of Biliary pain (Post operative follow-up), 76% Improved, 12% mild (+) and 12% moderate (++) in group A and it is significant difference at 0.05. In group B we find 20% mild (+), 20% moderate (++) and 40% sever (+++).

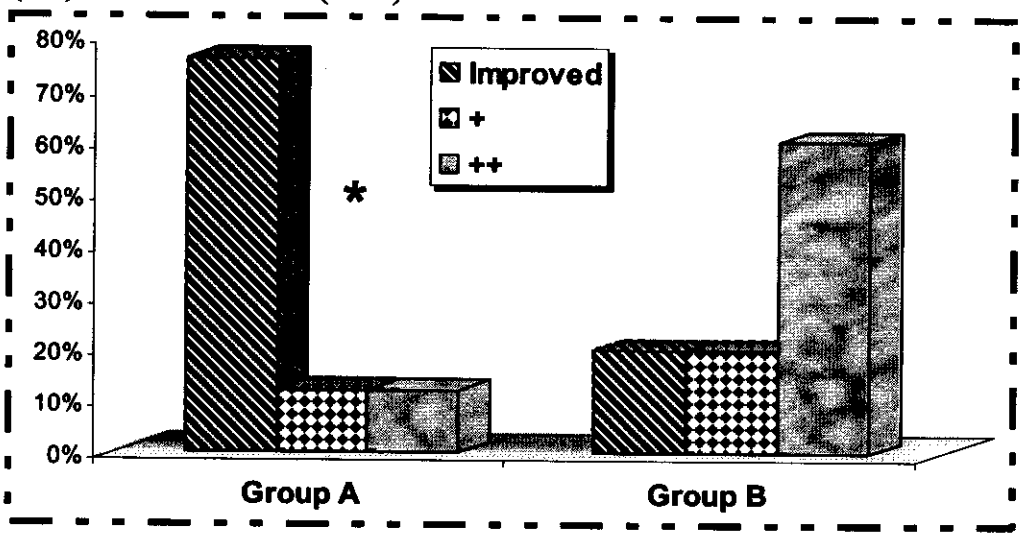


Fig. (19)

Table (20): Frequency Table for Fatty dyspepsia (Post operative follow-up) in Group A and Group B. And Chi-square for Group A.

Fatty dyspepsia (Post operative follow-up)		Frequency	Percent
Group A	Improved	21	84
	+	4	16
	++	0	0
	Total	25	100.0
	Chi-square	11.56	
	p-value	0.001*	
Group B	+	1	20.0
	++	0	0
	+++	4	80
	Total	5	100.0

* Significant at 0.05

In our study of Fatty dyspepsia (Post operative follow-up), 84% Improved, 16% mild (+) and 0% moderate (++) in group A and it is significant difference at 0.05. In group B we find 20% mild (+), 0% moderate (++) and 80% sever (+++).

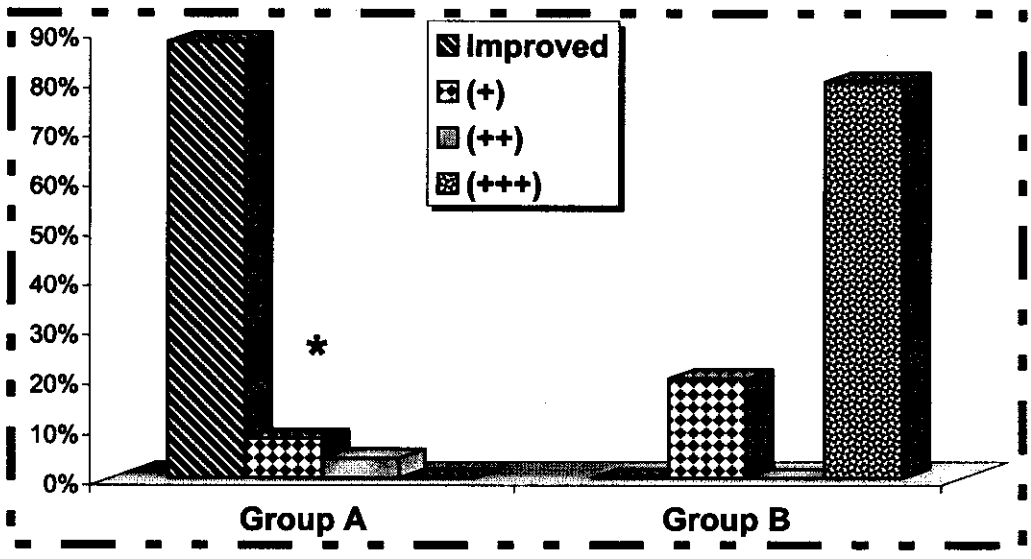


Fig. (20)

Table (21): Frequency Table for Nausea &vomiting (Post operative follow-up)in Group A and Group B. And Chi-square for Group A.

Nausea&vomiting (Post operative follow-up)		Frequency	Percent
Group A	Improved	21	84
	+	2	8
	++	2	8
	+++	0	0
	Total	25	100.0
	Chi-square	52.92	
	p-value	0.00*	
Group B	+	1	20
	++	3	60
	+++	1	20
	Total	5	100.0

* Significant at 0.05.

In our study of **Nausea &vomiting** (Post operative follow-up), 84% Improved, 8% mild (+) and 8% moderate (++) in group A and it is significant difference at 0.05. In group B we find 20% mild (+), 60% moderate (++) and 20% sever (+++).

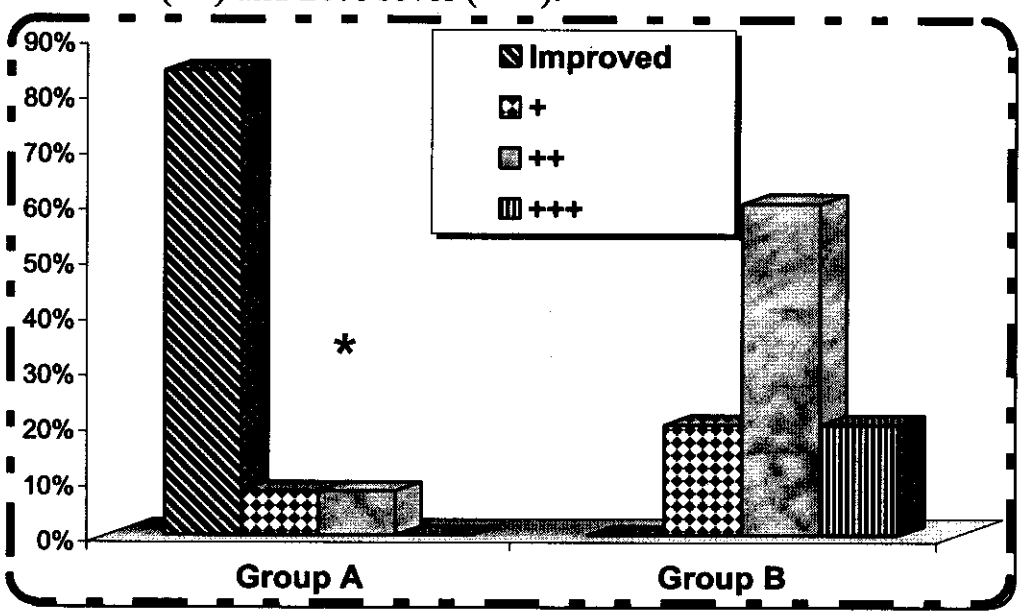


Fig. (21)

Table (22): Cross tabulation between Biliary pain * Biliary pain (Post operative follow-up).

			Biliary pain (Post operative follow-up)				Total
			Improved	+	++	+++	
Biliary pain	+	N	3	0	0	0	3
		% of Total	10	0	0	0	10
	++	N	9	4	0	0	13
		% of Total	30	13.3	0	0	43.3
	+++	N	7	0	4	3	14
		% of Total	23.3	0	13.3	10.0	46.7
	Total	N	19	4	4	3	30
		% of Total	63.3	13.3	13.3	10	100
Contingency Coefficient		r	0.569				
		p-value	0.026*				

* Significant at 0.05.

In our study we make comparison between **Biliary pain and Biliary pain (Post operative follow-up)**, and we find that

1. 10% was mild (+) (pre-operation) and improved post operation.

2-I 30% was moderate (++) (pre-operation) and improved post operation.

2-II 13.3% 30% was moderate (++) (pre-operation) and improved post operation.

3-I 23.3% was sever (+++) (pre-operation) and improved post operation.

3-II 13.3% was sever (+++) (pre-operation) and moderate post operation.

3-III 10% was sever (+++) (pre-operation) and sever post operation.

And it was significant correlation between Biliary pain and Biliary pain (Post operative follow-up).

Table (23): Cross tabulation between Fatty dyspepsia * Fatty dyspepsia (Post operative follow-up)

			Fatty dyspepsia (Post operative follow-up)			Total
			Improved	+	+++	
Fatty dyspepsia	+	N	3	0	0	3
		% of Total	10	0	0	10
	++	N	8	5	0	13
		% of Total	26.7	16.7	0	43.3
	+++	N	10	0	4	14
		% of Total	33.3	0	13.3	46.7
	Total	N	21	5	4	30
		% of Total	70	16.7	13.3	100
Contingency Coefficient		r	0.529			
		p-value	0.020*			

* Significant at 0.05.

In our study we make comparison between **Fatty dyspepsia * Fatty dyspepsia (Post operative follow-up)**, and we find that

1. 10% was mild (+) (pre-operation) and improved post operation.
2-I 26.7% was moderate (++) (pre-operation) and improved post operation.
2-II 16.7% was moderate (++) (pre-operation) and mild post operation.
3-I 33.3% was sever (+++) (pre-operation) and improved post operation.
3-II 13.3% was sever (+++) (pre-operation) and sever post operation.

And it was significant correlation between Fatty dyspepsia (Pre- andPost operative follow-up).

Table (24): Cross tabulation between Nausea and vomiting * Nausea &vomiting (Post operative follow-up).

			Nausea &vomiting (Post operative follow-up)				Total
			Improved	+	++	+++	
Nausea and vomiting	+	N	3	0	0	1	3
		% of Total	10	0	0	3.3	10
	++	N	9	4	0	0	13
		% of Total	30	13.3	0	0	43.3
	+++	N	7	0	4	3	14
		% of Total	23.3	0	133	10	46.7
	Total	N	19	4	4	3	30
		% of Total	63.3	13.3	13.3	10	100
Contingency Coefficient		r	0.569				
		p-value	0.026*				

* Significant at 0.05

In our study we make comparison between **Nausea and vomiting * Nausea &vomiting (Post operative follow-up)**, and we find that

1-I 10% was mild (+) (pre-operation) and improved post operation.
1-II 3.3% was mild (+) (pre-operation) and sever post operation.
2-I 30% was moderate (++) (pre-operation) and improved post operation.
2-II 13.3% was moderate (++) (pre-operation) and mild post operation.
3-I 23.3% was sever (+++) (pre-operation) and improved post operation.
3-II 13.3% was sever (+++) (pre-operation) and moderate post operation.
3-III 10% was sever (+++) (pre-operation) and sever post operation.

And it was significant correlation between Nausea and vomiting (Pre- and Post operative follow-up).

Table (25): Cross tabulation between Size of the G.B * Biliary pain (Post operative follow-up)

			Biliary pain (Post operative follow-up)				Total
			Improved	+	++	+++	
Size of the G.B	Large	N	2	1	0	0	3
		% of Total	6.7	3.3	0	0	10.0
	Small contract	N	3	1	1	3	8
		% of Total	10.0	3.3	3.3	10.0	26.7
	Normal	N	13	1	1	0	15
		% of Total	43.3	3.3	3.3	0	50.0
	Distended	N	0	1	0	0	1
		% of Total	0	3.3	0	0	3.3
	Small	N	1	0	2	0	3
		% of Total	3.3	0	6.7	0	10.0
	Total	N	19	4	4	3	30
		% of Total	63.3	13.3	13.3	10.0	100.0
Contingency Coefficient		r	0.648				
		p-value	0.01*				

In our study we make comparison between **Size of the G.B * Biliary pain (Post operative follow-up)**, and we find that

1- 6.7% was Large (pre-operation) and improved post operation.
1- 3.3% was Large (pre-operation) and mild post operation.
2-I 10% was small contract (pre-operation) and improved post operation.
2-II 3.3% was small contract (pre-operation) and mild post operation.
2-III3.3% was small contract (pre-operation) and moderate post operation.
2-IV10% was small contract (pre-operation) and sever post operation.
3-I43.3% was normal (pre-operation) and improved post operation.
3-II 3.3% was normal (pre-operation) and mild post operation.
3-III3.3% was normal (pre-operation) and moderate post operation.
4- 3.3% was distended (pre-operation) and mild post operation.
5-I3.3% was small (pre-operation) and improved post operation.
5-II 3.3% was small (pre-operation) and moderate post operation.
And it was significant correlation between Size of the G.B * Biliary pain (Post operative follow-up).

Table (26): Cross tabulation between Size of the G.B * Fatty dyspepsia (Post operative follow-up).

			Fatty dyspepsia (Post operative follow-up)			Total
			Improved	+	+++	
Size of the G.B	Large	N	3	0	0	3
		% of Total	10.0	0	0	10.0
	Small contract	N	3	1	4	8
		% of Total	10.0	3.3	13.3	26.7
	Normal	N	12	3	0	15
		% of Total	40.0	10.0	0	50.0
	Distended	N	1	0	0	1
		% of Total	3.3	0	0	3.3
	Small	N	2	1	0	3
		% of Total	6.7	3.3	0	10.0
	Total	N	21	5	4	30
		% of Total	70.0	16.7	13.3	100.0
Contingency Coefficient		r	0.568			
		p-value	0.075			

In our study we make comparison between **Size of the G.B * Fatty dyspepsia (Post operative follow-up)**, and we find that

1- 10% was Large (pre-operation) and improved post operation.
2-I 10% was small contract (pre-operation) and improved post operation.
2-II 3.3% was small contract (pre-operation) and mild post operation.
2-III 13.3% was small contract (pre-operation) and sever post operation.
3-I 40% was normal (pre-operation) and improved post operation.
3-II 10% was normal (pre-operation) and mild post operation.
4- 3.3% was distended (pre-operation) and improved post operation.
5-I 6.7% was small (pre-operation) and improved post operation.
5-II 3.3% was small (pre-operation) and mild post operation.

And it was not significant correlation between Size of the G.B * Fatty dyspepsia (Post operative follow-up).

Table (27): Comparison between Group A and Group B in Age by years

Age	Mean ± SD	T-Test p-value
Group A	39.76±10.891	0.73
Group B	41.60±12.033	

In our study of **Age**, we used T-Test to comparison between group A and B, and we find there is not significant difference between the means. And so the age was not a prognostic factor in both group A and group B.

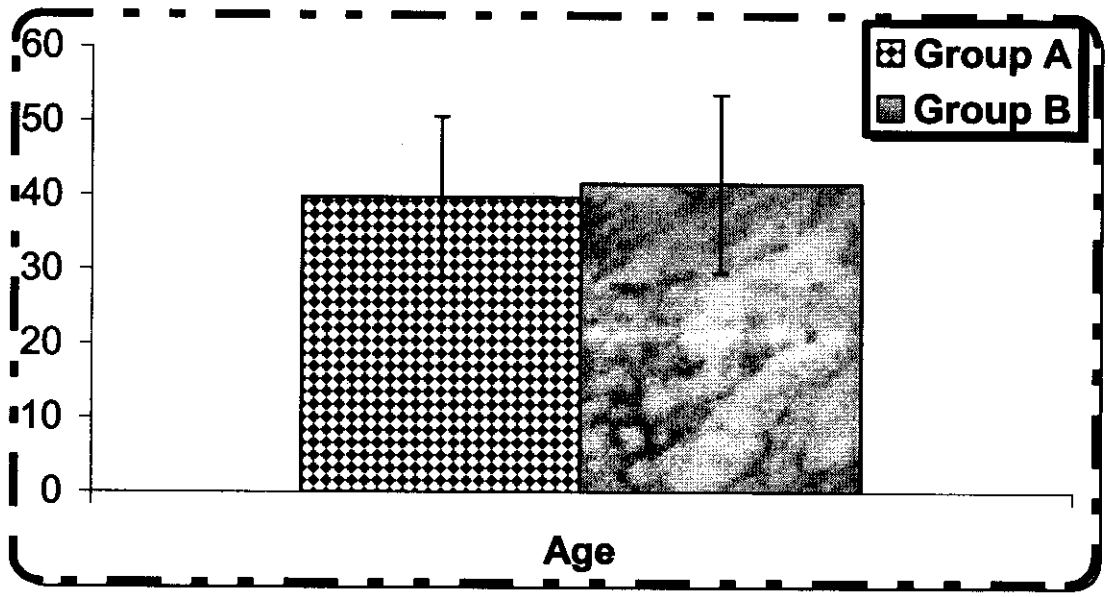


Fig. (22)

Table (28): Comparison between Group A and Group B in Duration of complaint by years

Duration of complaint	Mean±SD	T-Test p-value
Group A	3.0720±1.88205	0.48
Group B	3.7000±1.39642	

In our study of **Duration of complaint** by years, we used T-Test to comparison between group A and B, and we find there is not significant difference between the means.

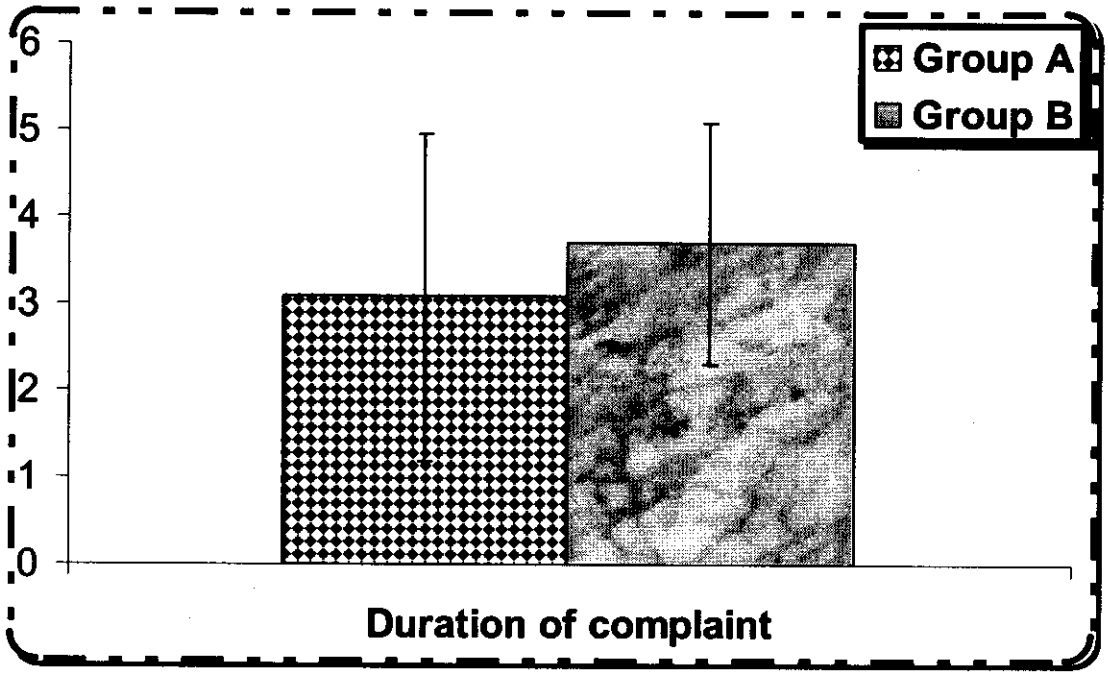


Fig. (23)

Table (29): Comparison between Group A and Group B in SGOT

SGOT	Mean±SD	T-Test p-value
Group A	27.88±0.881	0.00*
Group B	36.00±3.674	

In our study of **SGOT** by years, we used T-Test to comparison between group A and B, and we find there is significant difference between the means.

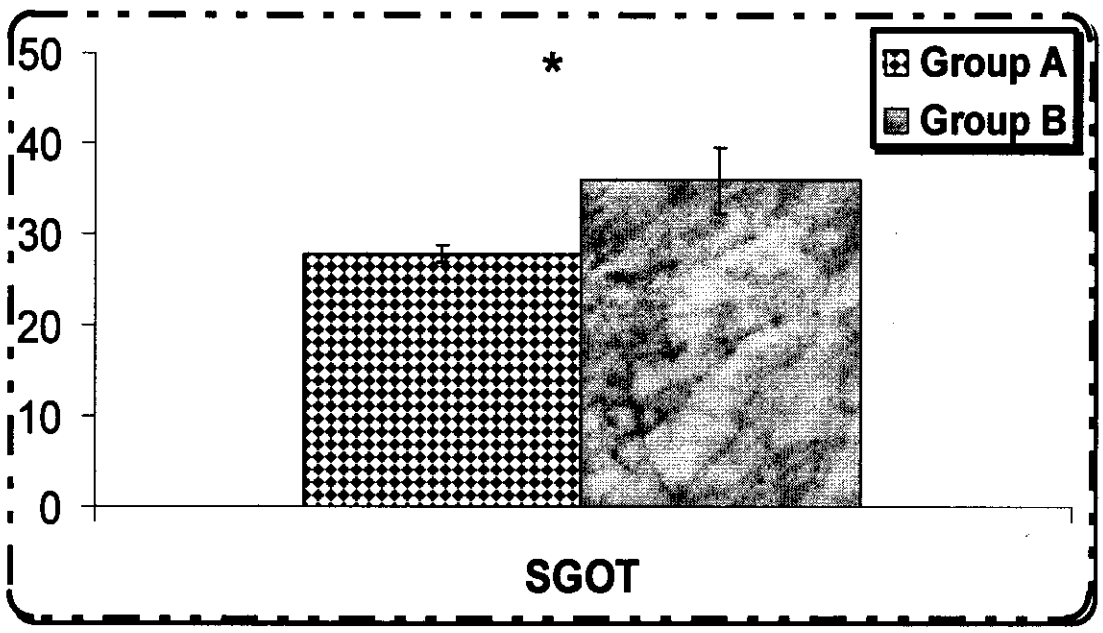


Fig. (24)

Table (30): Comparison between Group A and Group B in SGPT

SGPT	Mean±SD	T-Test p-value
Group A	29.00±1.258	0.00*
Group B	35.60±3.782	

In our study of **SGPT** by years, we used T-Test to comparison between group A and B, and we find there is significant difference between the means.

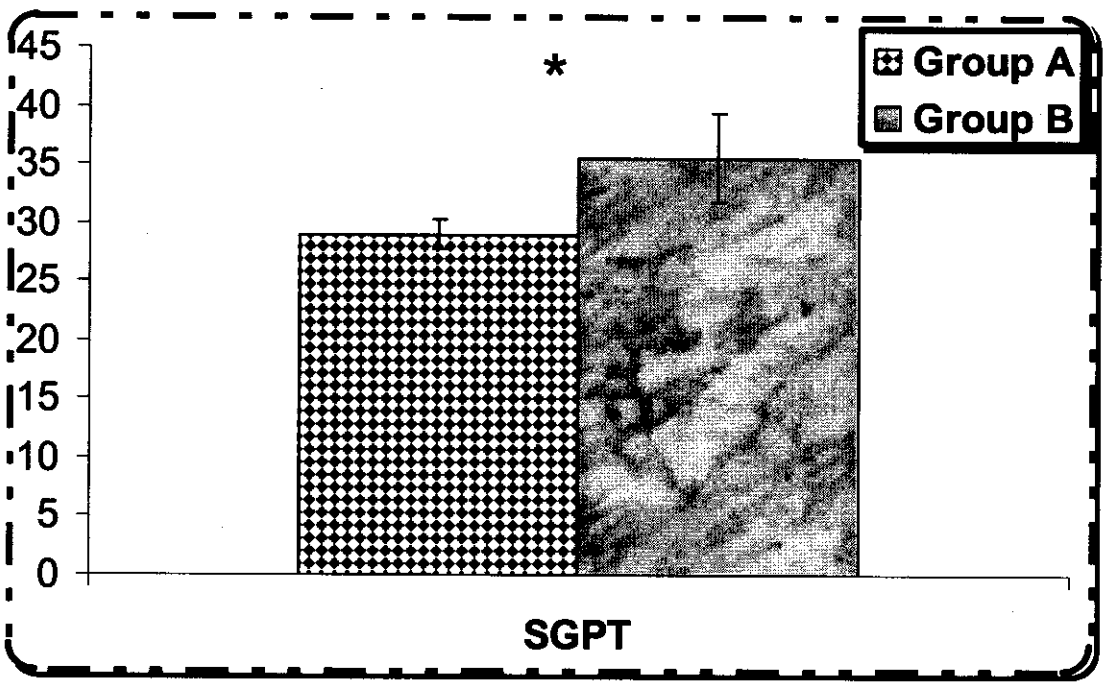


Fig. (25)

Table (31): Comparison between Group A and Group B in Alkaline phosphatase

Alkaline phosphatase	Mean±SD	T-Test p-value
Group A	279.40±9.500	0.45
Group B	283.00±10.368	

In our study of **Alkaline phosphates** by years, we used T-Test to comparison between group A and B, and we find there is not significant difference between the means.

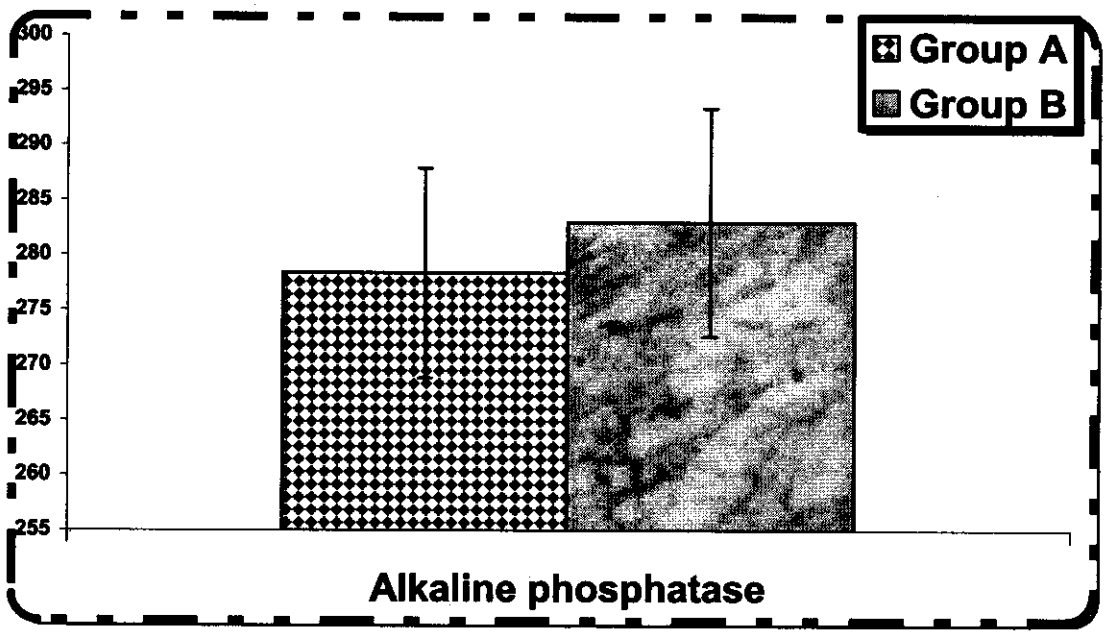


Fig. (26)

Table (32): Comparison between Group A and Group B in Time of visualization of gall bladder by minutes.

Time of visualization of gall bladder	Mean±SD	T-Test p-value
Group A	15.92±3.933	0.00*
Group B	26.60±8.649	

In our study of **Time of visualization of gall bladder** by minutes, we used T-Test to comparison between group A and B, and we find there is significant difference between the means.

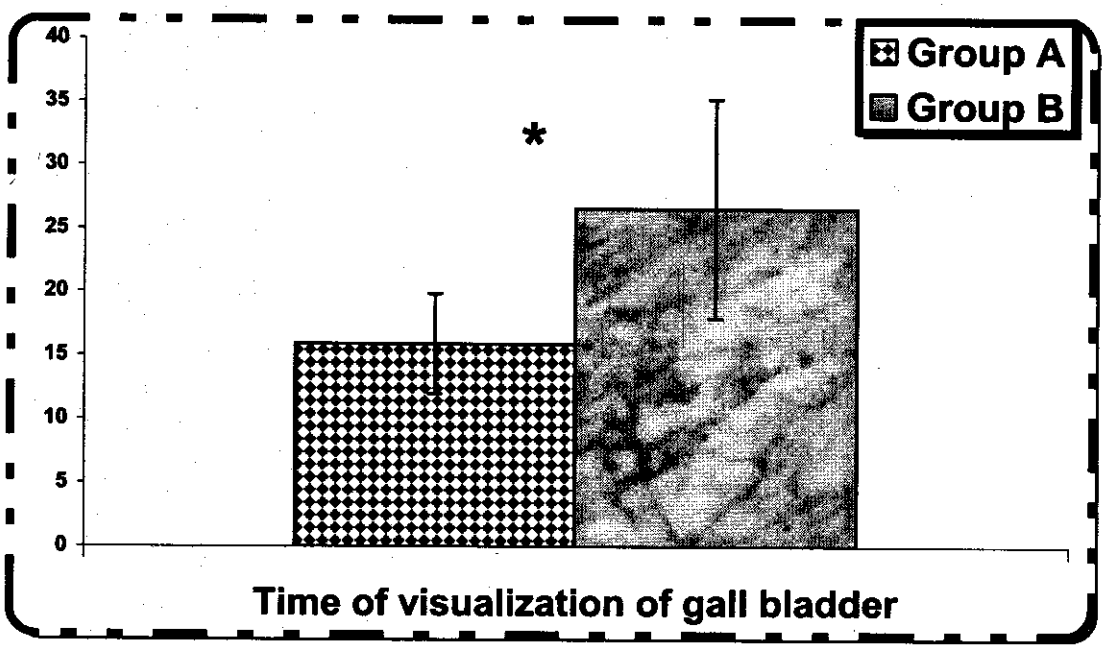


Fig. (27)

Table (33): Comparison between Group A and Group B in Duration (Post operative follow-up) by years.

Duration (Post operative follow-up)	Mean±SD	T-Test p-value
Group A	0.7300±0.18522	0.26
Group B	0.6333±0.07454	

In our study of **Duration (Post operative follow-up)** by years by minutes, we used T-Test to comparison between group A and B, and we find there is not significant difference between the means.

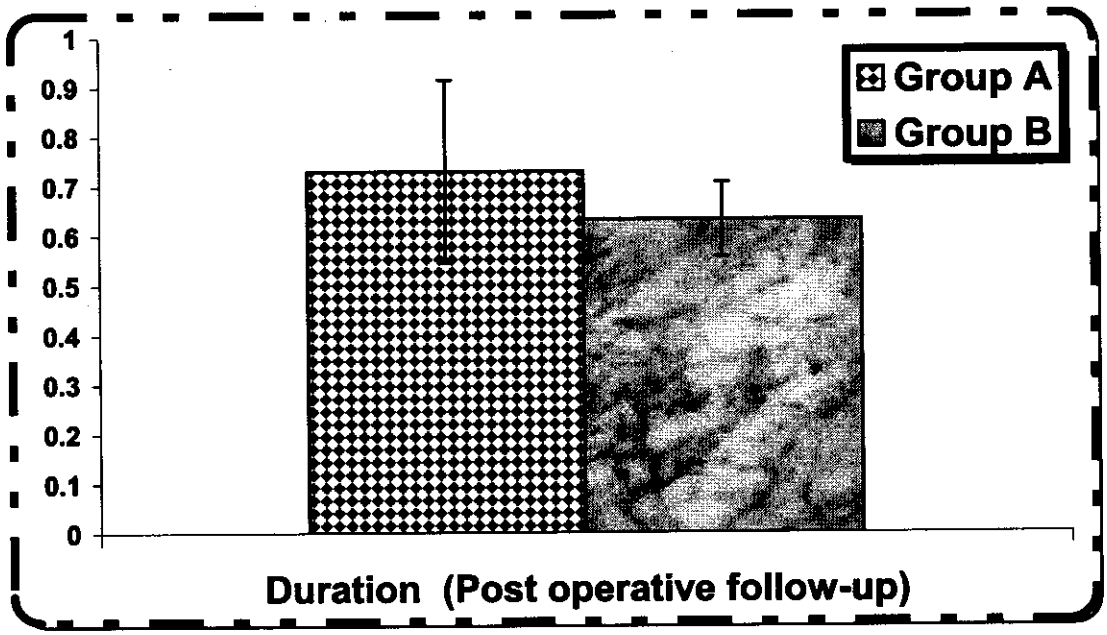


Fig. (28)