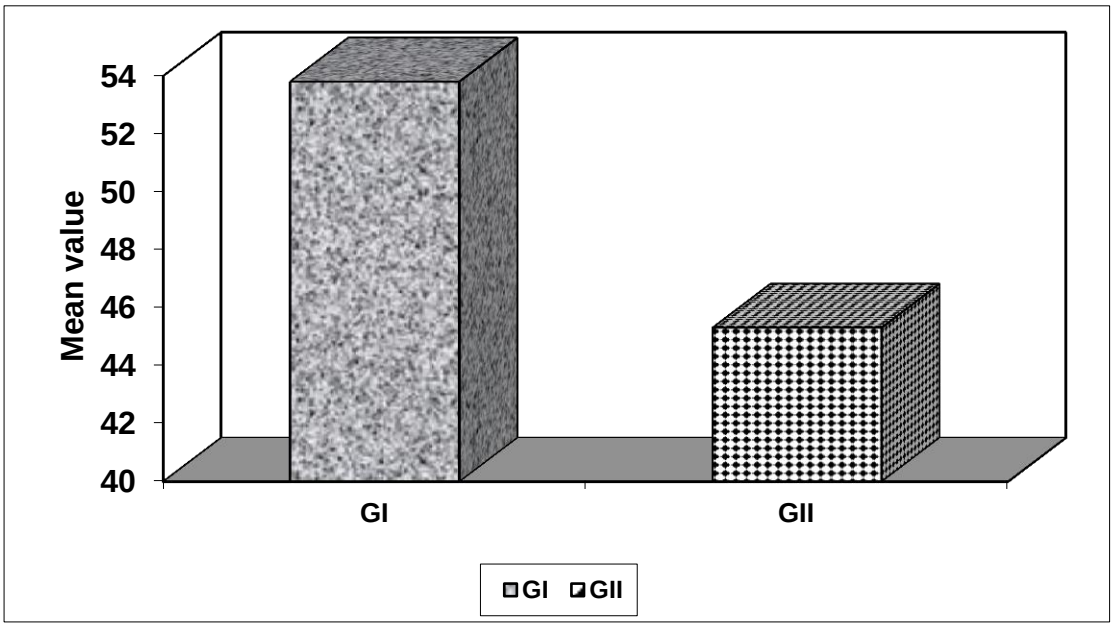
RESULTS

Table(1): Age distribution in the two studied groups, group I (transudates) group II (exudates)

-	Range	Mean + SD	t. test	p. value	-
G I	-	-	-	-	-
G II	-	-			

Chart(1): Age distribution in group I and group II

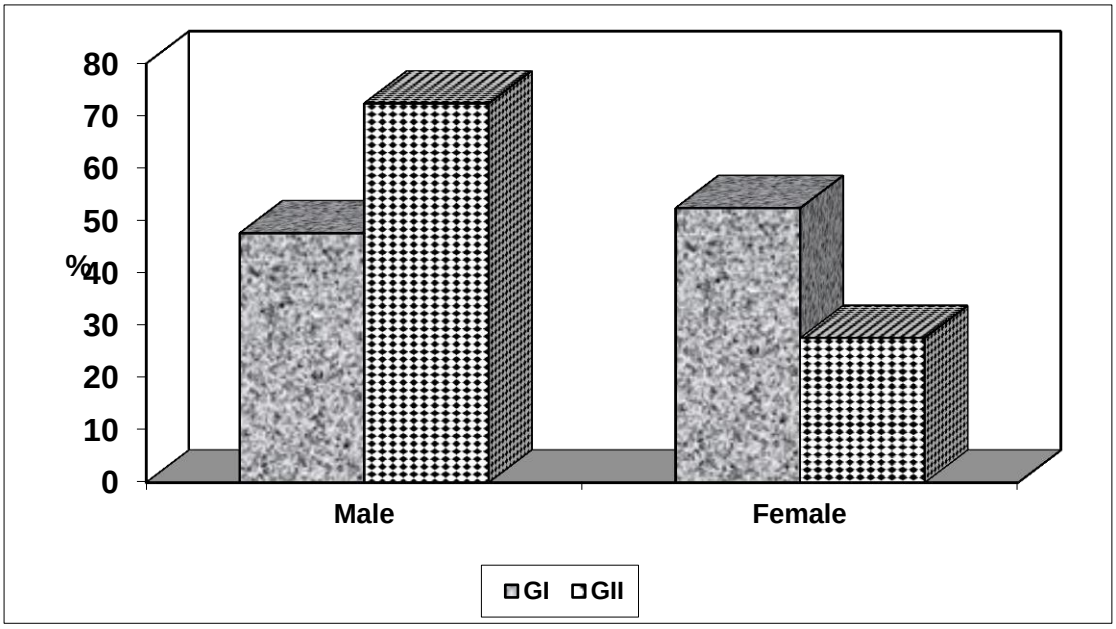


This chart showed that lower mean age in group I than group II.

Table(2): Sex distribution in group I (transudates) and group II (exudates)

			sex		
			Male	**Female**	**Total**
G_I		N	10	11	21
		%	47.6	52.4	100
G_{II}		N	21	8	29
		%	72.4	27.6	100
Total		N	31	19	50
		%	62	38	100
Chi-Square	X^2		**3.178**		
	P-value		**0.075**		

Chart(2): Sex distribution in group I and group II



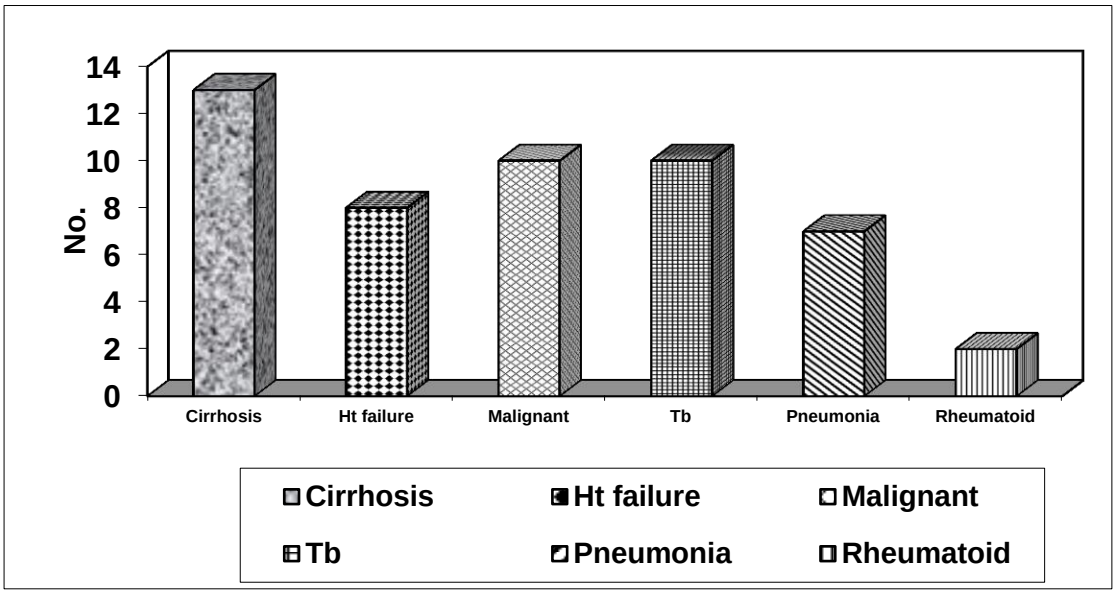
Table(3): Different causes of pleural effusions in the study

	Etiology	No.	%
Transudates (no: 20)	Liver cirrhosis	13	26%
	Ht. failure	8	16%
Exudates (no: 29)	Malignant	10	20%
	Tuberculosis	10	20%
	Pneumonia	7	14%
	Rheumatoid	2	4%

This table showed that, transudative effusions were 42% of all patients included in the study, cases of liver cirrhosis constituted 26% of all patients and cases of heart failure constituted 16%.

Exudative effusion were 58% of all patients in the study, cases of malignant effusion constituted 20%, tuberculous effusions 20%, parapneumonic effusions 14% and the least rheumatoid effusions only 4%.

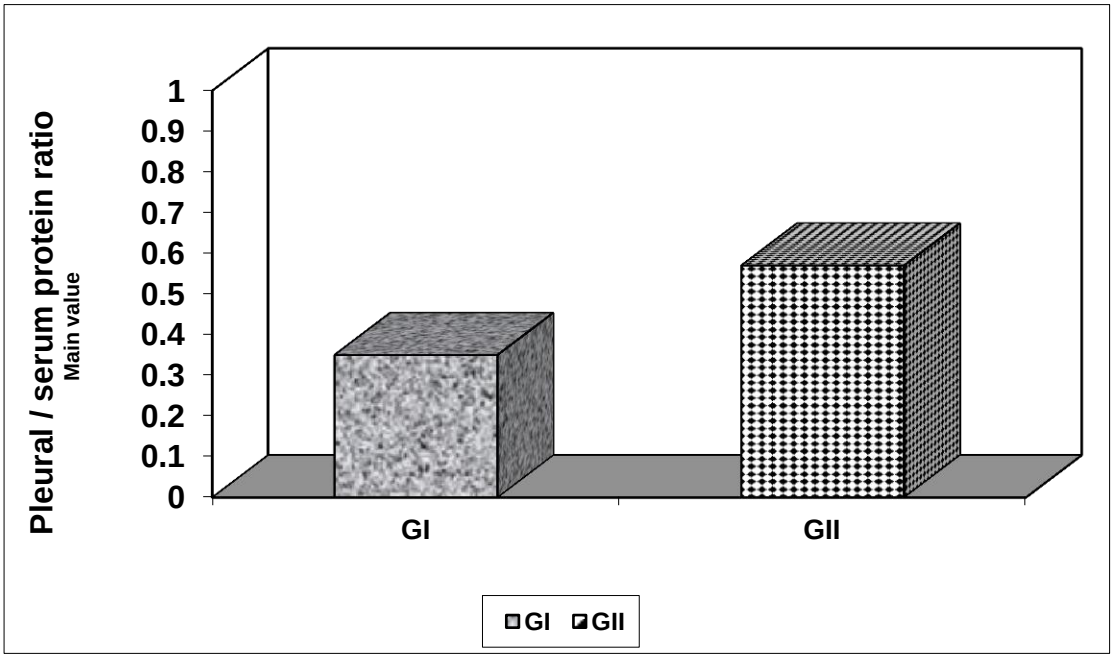
Chart(3): Different causes of pleural effusions in the study



Table(4): Comparison between group I (transudates) and group II (exudates) as regards to pleural to serum protein ratio

Pl/serum protein ratio	Range	Mean ± SD	T. test	P. value	-
G I	-	-	-	-	-
G II	-	-			

Chart(4): Comparison between group I (transudates) and group II (exudates) as regards to pleural to serum protein ratio

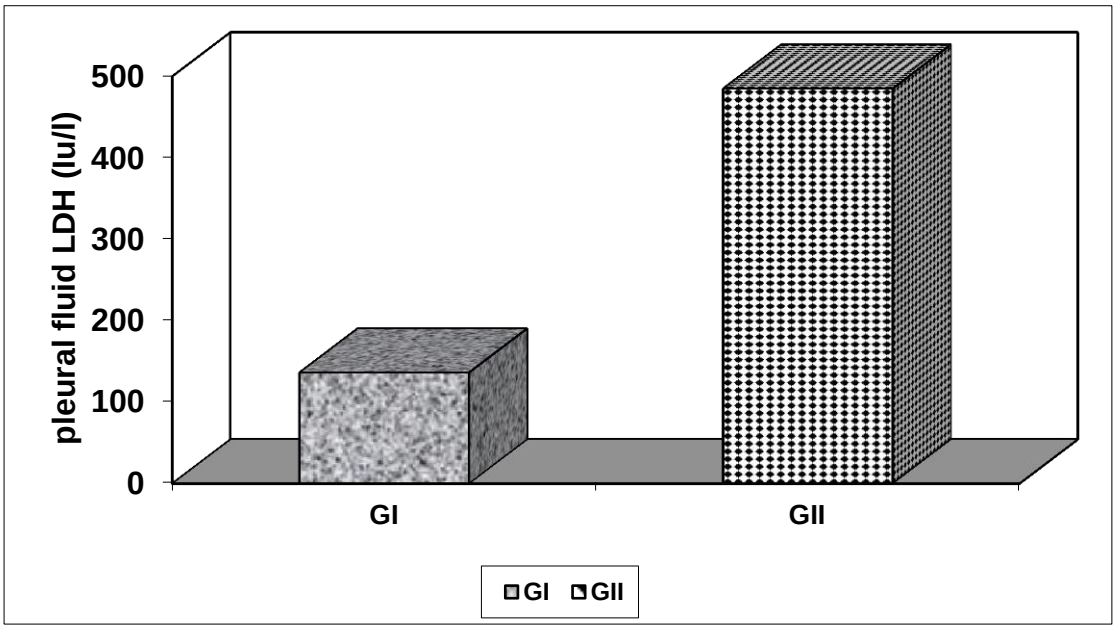


There was highly significant difference in statistical comparison between group I and group II as regards to pleural fluid LDH to serum protein ratio.

Table(5): Comparison between group I (transudates) and group II (exudates) as regards to pleural fluid LDH

Pleural fluid LDH	Range (IU/L)	Mean ± SD	T. test	P. value	--
G I	--	--	-	-	-
G II	--	--			

Chart(5): Comparison between group I and group II as regards to pleural fluid LDH

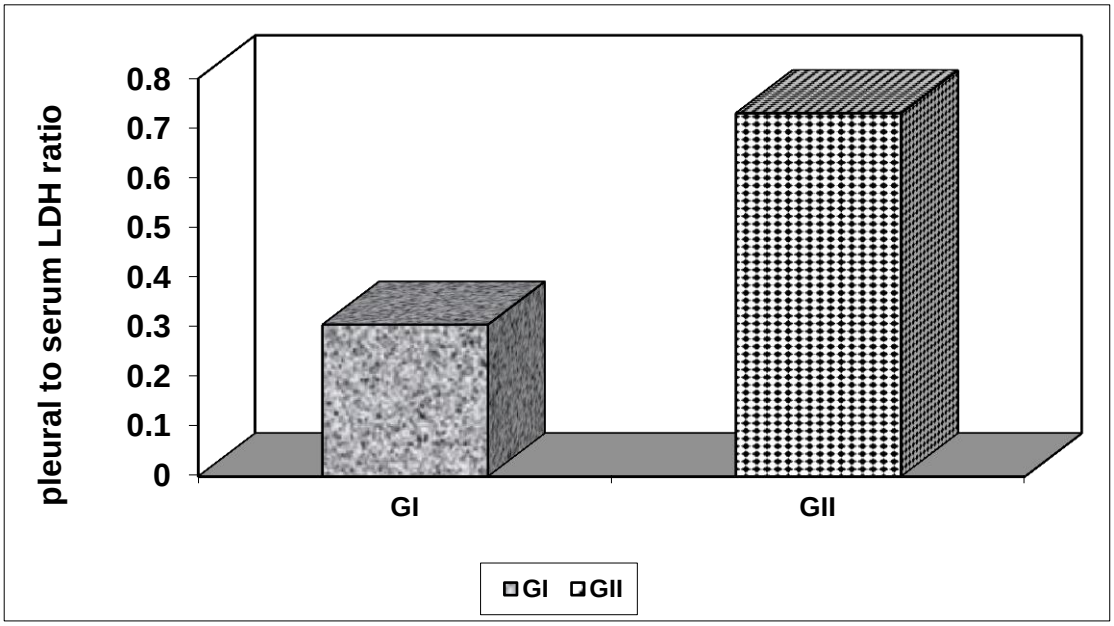


There was highly significant difference in statistical comparison between group I and group II as regards to pleural fluid LDH.

Table(6): Comparison between group I (transudates) and group II (exudates) as regards to pleural to serum LDH ratio

Pleural fluid to serum LDH ratio	Range	Mean + SD	T. test	P. value	--
G I	--	--	-	-	-
G II	--	--			

Chart(6): Comparison between group I and group II as regards to pleural to serum LDH ratio

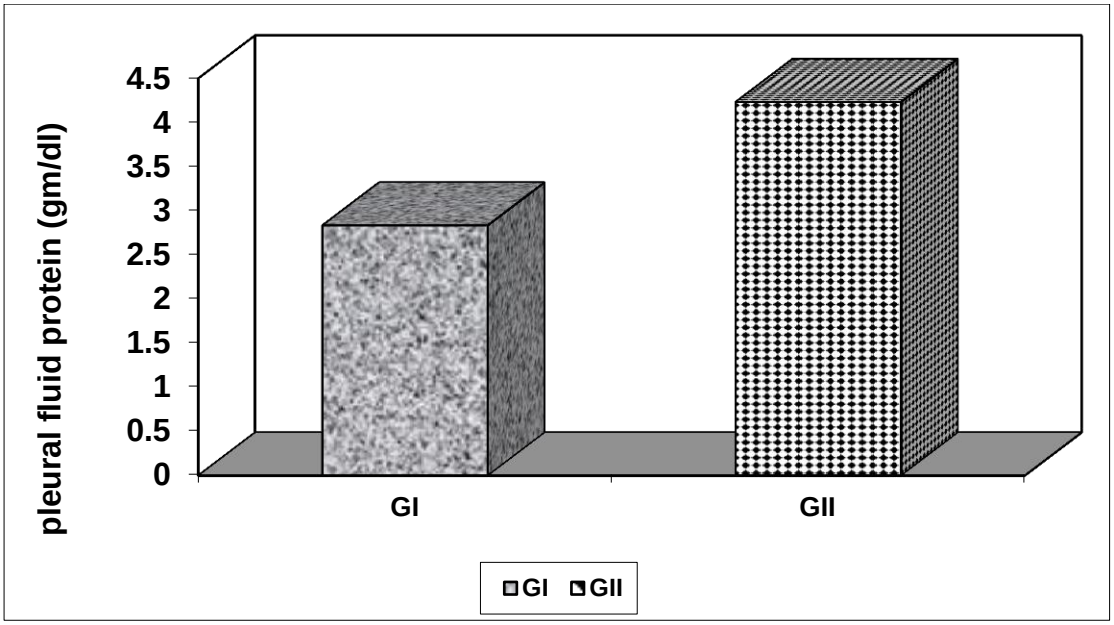


There was highly significant difference between group I and group II as regards to pleural to serum LDH ratio.

Table(7): Comparison of studied groups, group I (transudates) and group II (exudates) as regards to pleural fluid protein

Pl. fluied protein	Range (gm/dL)	Mean ± SD	T. test	P. value	
G_I					
G_{II}					

Chart(7): Comparison between group I and group II as regards to pleural fluid protein

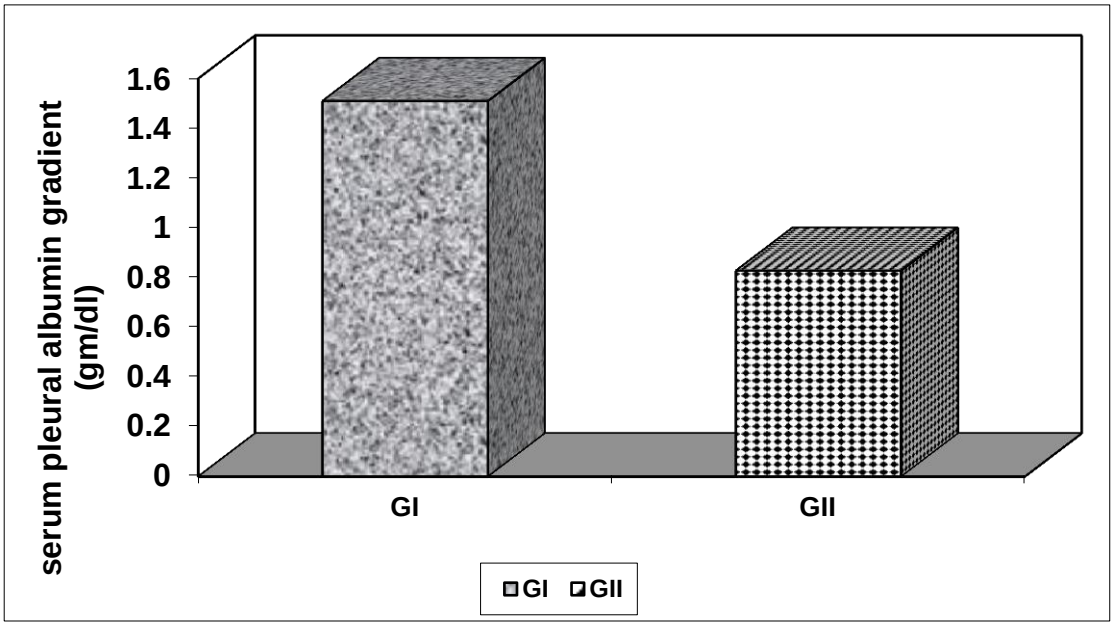


There was highly significant difference in statistical comparison between group I and group II as regards to pleural fluid protein.

Table(8): Comparison between group I (transudates) and group II (exudates) as regards to serum-pleural albumin gradient

Alb	Range (gm/dL)	Mean + SD	T. test	P. value	-
G_I	-	-	-	-	-
G_{II}	-	-			

Chart(8): Comparison between group I and group II as regards to serum-pleural albumin gradient



There was highly significant difference between group I and group II as regards to serum-pleural albumin gradient.

Table(9): Distribution of types of effusions according to the etiology

Transudative effusions	**Exudative effusions**
21 Cases	29 Cases

Table(10): Distribution of types of effusions in the study according to Light's criteria

Transudative effusions	Exudative effusions
19 Cases	31 Cases

Table(11): Distribution of types of effusions according to serum-pleural albumin gradient

Transudative effusions	Exudative effusions
24 Cases	26 Cases

Table (12): Number of misclassified effusions in each group for every parameter in the study

	P/S protein	P.LDH	P/S LDH	Whole light's criteria	S-P alb gradient
Transudates	2/21	2/21	1/21	3/21	1/21
Exudates	3/29	3/29	8/29	1/29	4/29
Total	5/50 (10%)	5/50 (10%)	9/50 (18%)	4/50 (8%)	5/50 (10%)

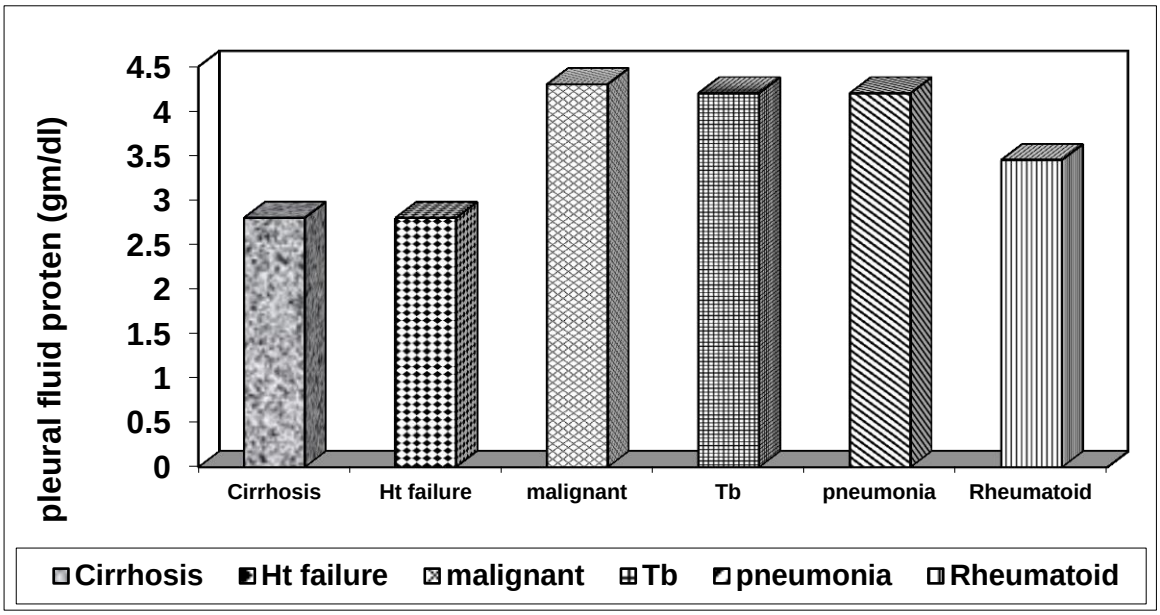
Table (13): Accuracy, sensitivity and specificity in each group for every parameter in the study

	Accuracy	Sensitivity	Specificity
Light's criteria	92 %	96.55 %	85.7 %
P/S ratio	90 %	89.7 %	90.4 %
Pl.F.LDH > 200 IU/L	90 %	89.7 %	90.4 %
P/S LDH > 0.6	82 %	72 %	95 %
S-P albumin gradient	90 %	86 %	95 %

Table(14): Comparison between different causes of effusions as regards to pleural fluid protein, pleural fluid LDH, serum LDH, pleural to serum LDH ratio and serum-pleural albumin gradient

	Cirrhosis (No,13)	**Ht failure (No,8)**	**Malignant (No,10)**	**Tb (No,10)**	**Pneumonia (No,7)**	**Rheumatoid (No,2)**	**F**	**p**	**Sig**
Pl Protein	2.8±0.31	2.88±39	4.34±38	4.27±0.64	4.24±0.58	3.450.95	28.5	0.001*	H.S
PL.F. LDH	129.3±56.7	147.2±44.5	735.1±87.2	579.2±79.2	546.5±72.6	224+25.1	21.0	0.001*	H.S
Serum LDH	440.0±70.1	448±60.67	576.2±104.4	494.8±81.6	678.4±145	332.5+47.2	11.3	0.041*	S
LDH ratio%	0.37+0.25	0.38±1.3	1.42±0.25	1.33±0.25	1.38±0.34	0.67+0.21	10.0	0.001*	H.S
alb	1.40±0.05	1.68±0.27	0.77±0.09	0.97±0.07	0.67±0.15	0.9+0.2	0.07	0.001*	H.S

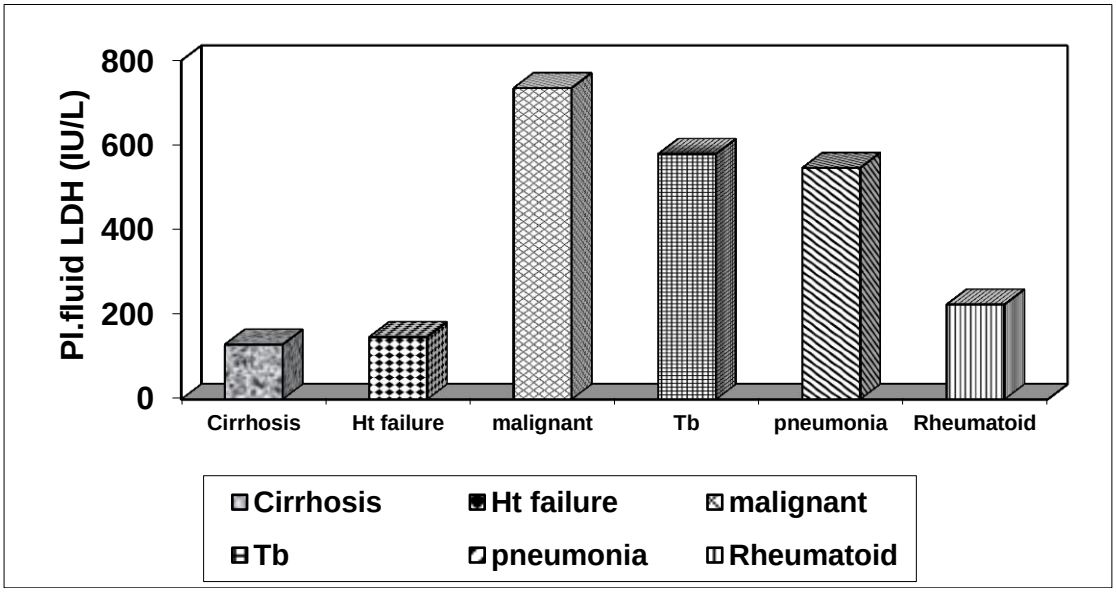
Chart(9): Comparison between different causes of effusions as regards to pleural fluid protein



This chart showed that higher pleural fluid protein level in group II than in group I.

In group II lower pleural protein level in rheumatoid effusion than other causes of pleural effusions in the same group.

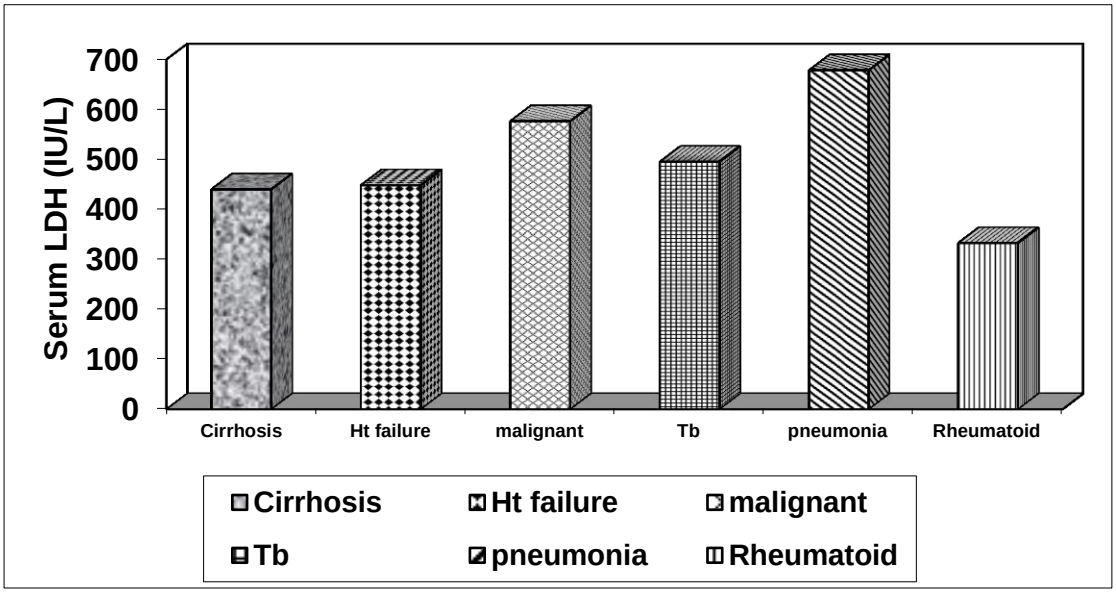
Chart(10): Comparison between different causes of effusions as regards to pleural fluid LDH



This chart showed that patients of group II (exudate) had higher levels of pleural fluid LDH than patients of group I (transudates).

In group II higher levels of pleural fluid LDH in patients with malignant effusion than other patients.

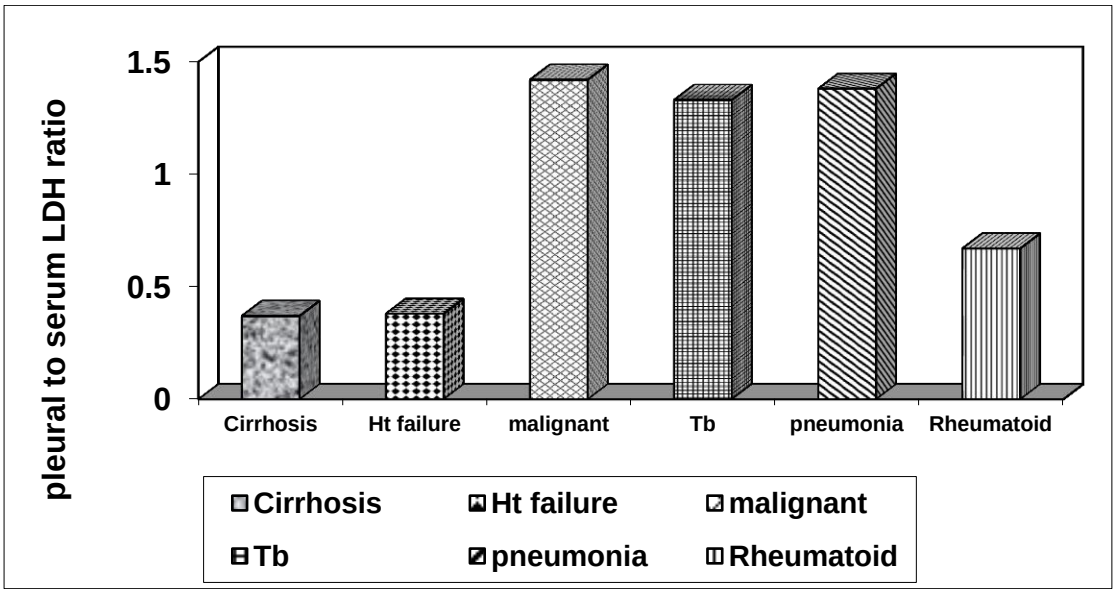
Chart(11): Comparison between different causes of effusions as regards to serum LDH



This chart showed higher levels of serum LDH in group II (exudate) than in group I (transudate).

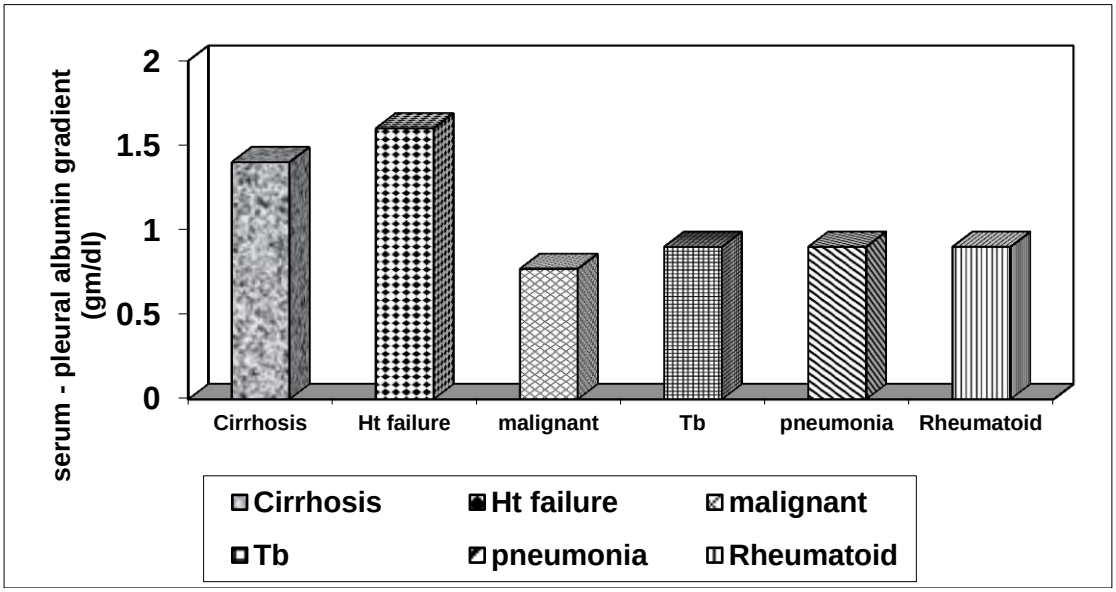
In group II serum LDH was higher in parapneumonic effusions than other exudative effusions.

Chart(12): Comparison between different causes of effusions as regards to pleural to serum LDH ratio



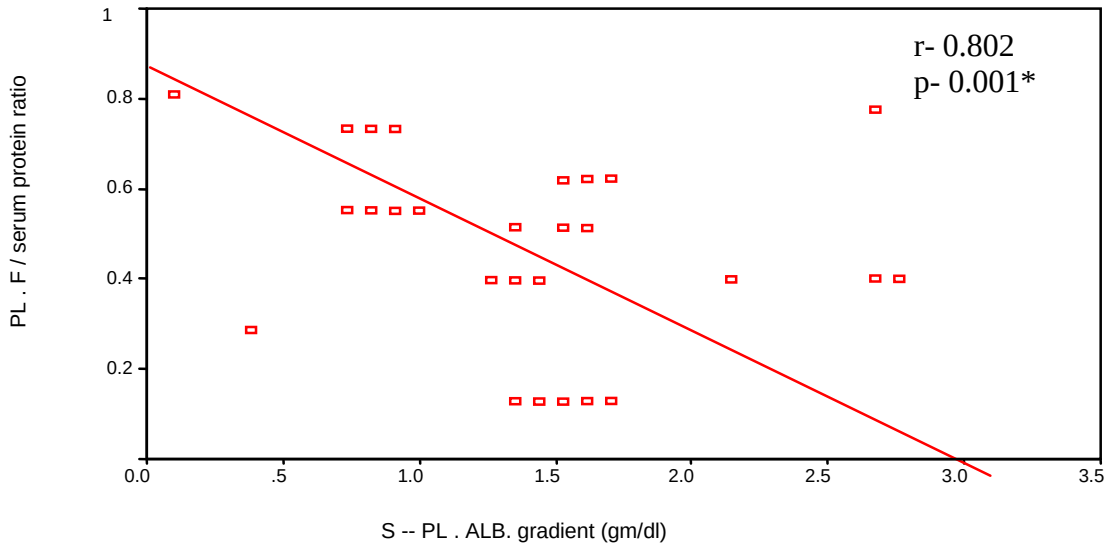
This figure showed higher values of pleural to serum LDH ratio in group II (exudate) than in group I (transudate).

Chart(13): Comparison between different causes of effusions as regards to serum-pleural albumin gradient



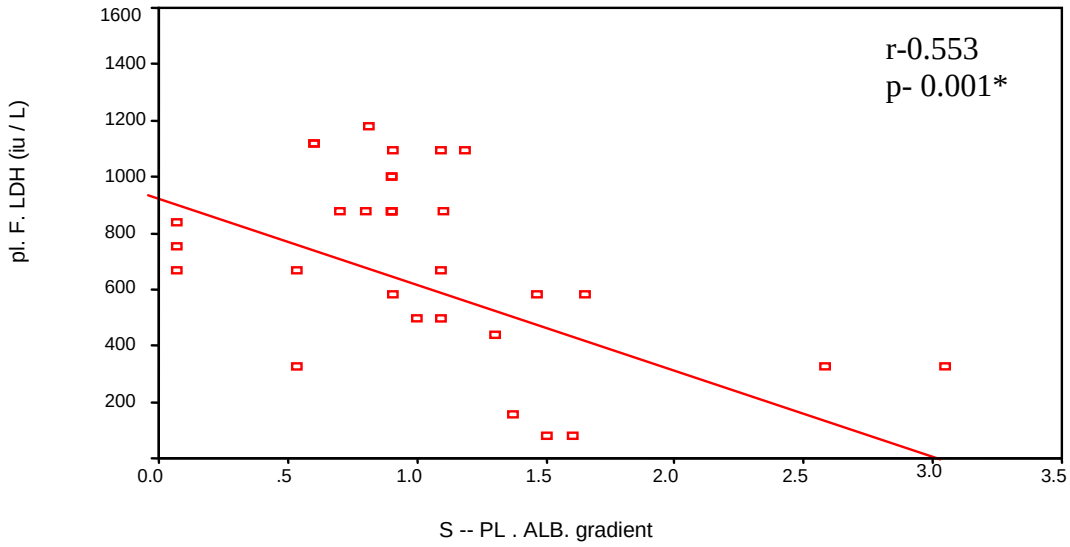
This figure showed higher values of serum-pleural albumin gradient in group I (transudate) than group II (exudate).

Chart(14): Corelation between pleural to serum protein ratio and serum-pleural albumin gradient



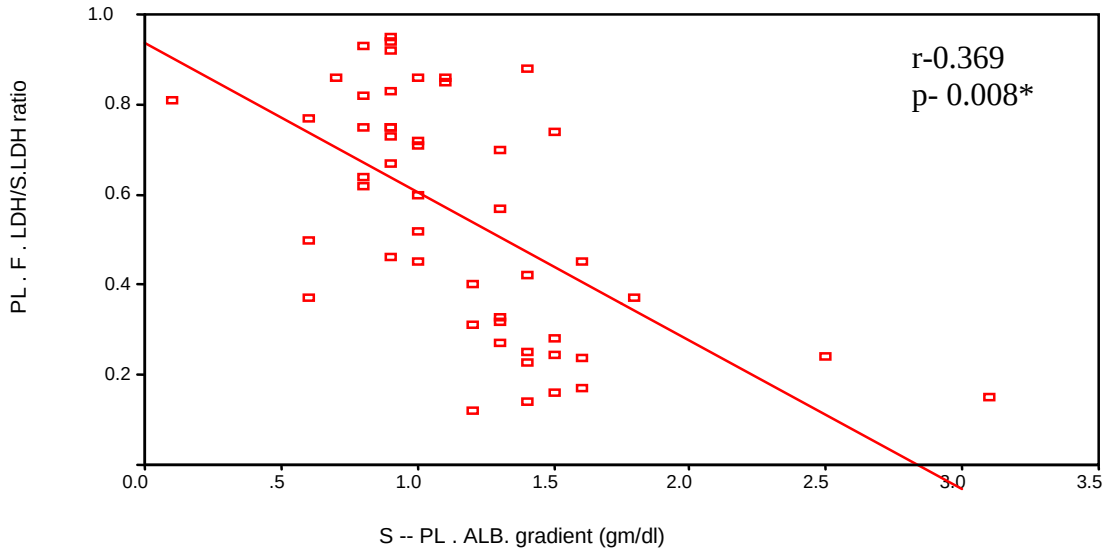
There is statistically highly significant positive corelation between values of pleural fluid to serum protein ratio and serum-pleural albumin gradient.

Chart(15): Corelation between pleural fluid LDH and serum-pleural albumin gradient



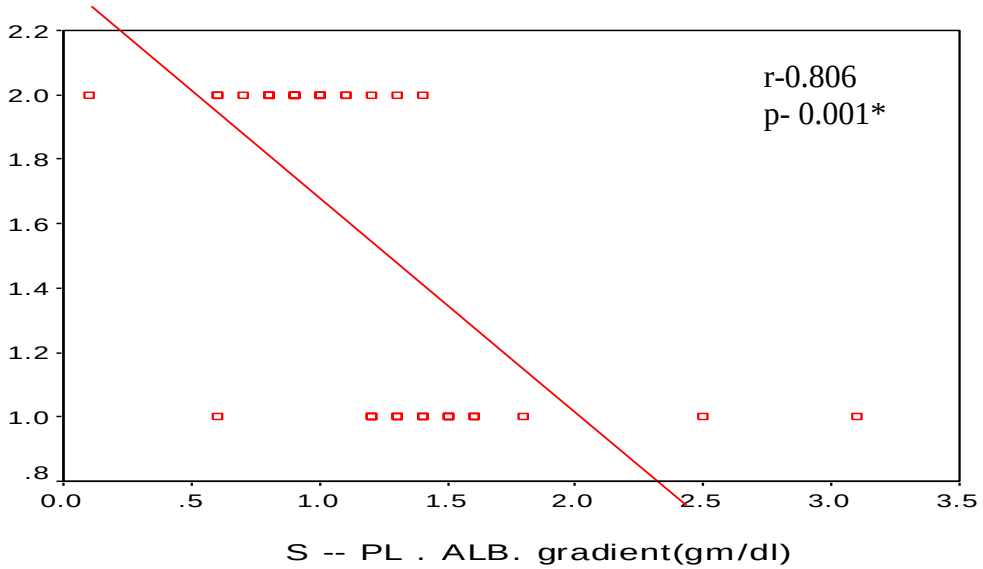
There is statistically highly significant positive corelation between values of pleural fluid LDH and serum-pleural albumin gradient.

Chart(16): Corelation between pleural to serum LDH ratio and serum-pleural albumin gradient



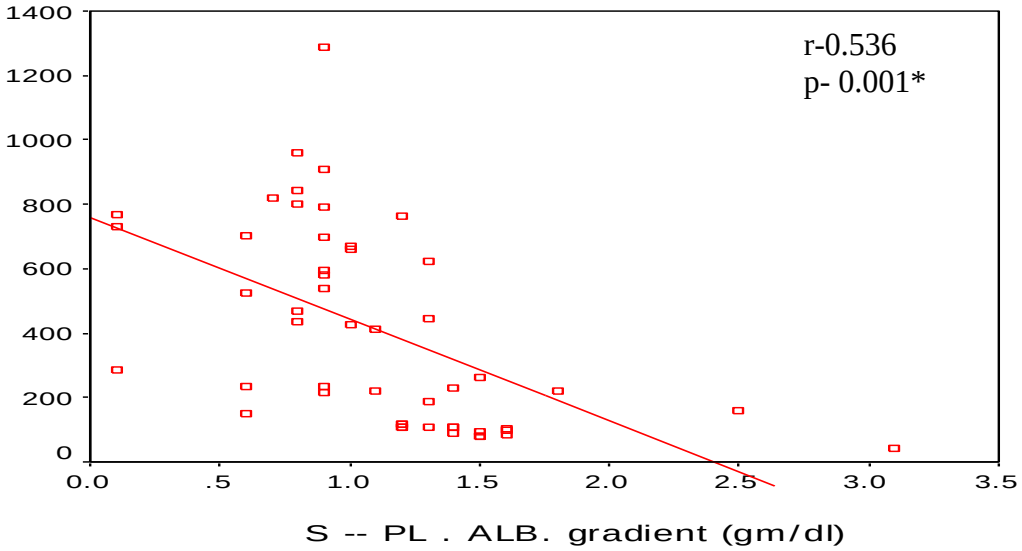
There is statistically significant positive corelation between values of pleural to serum LDH ratio and serum-pleural albumin gradient.

Chart(17): Corelation between pleural fluid protein and serum-pleural albumin gradient



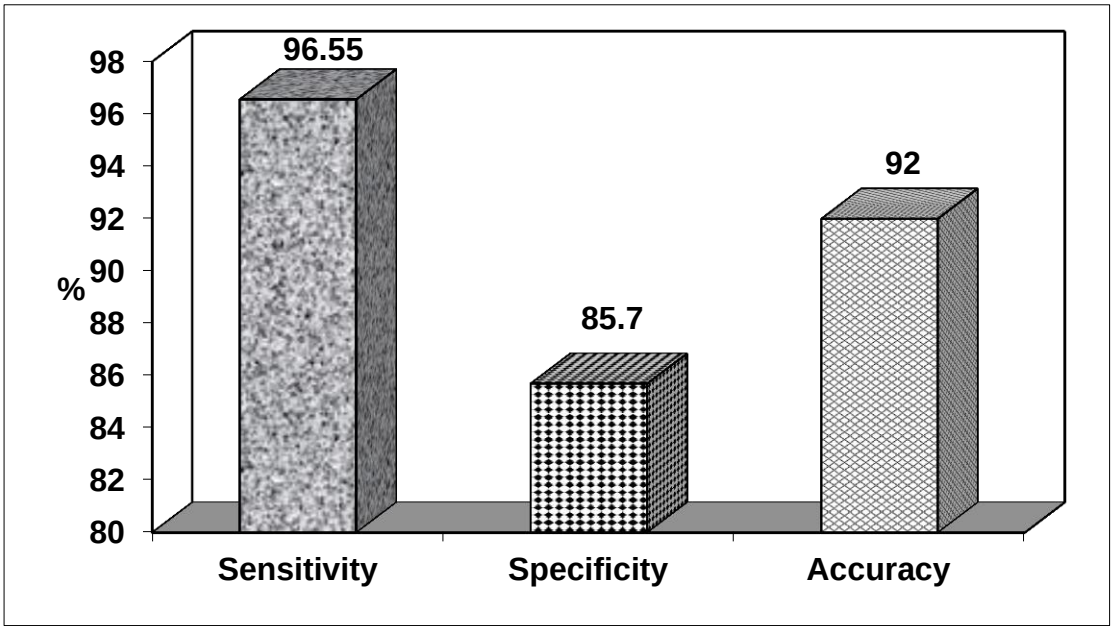
There is statistically high significant positive corelation between values of pleural fluid protein and serum-pleural albumin gradient.

Chart(18): Corelation between serum LDH and serum-pleural albumin gradient



There is statistically high significant positive corelation between values of serum LDH and serum-pleural albumin gradient.

Chart(19): Sensitivity, specificity and accuracy of Light criteria in distinction between transudates and exudates



Chart(20): Sensitivity, specificity and accuracy of serum-pleural albumin gradient in distinction between transudates and exudates