RESULTS

The results of the present study are statistically analyzed and summarized in 9 tables and 8 figures.

Table (1): Difference in age, weight, height, SBP and DBP among the studied groups.

Criteria	Studied groups			Anova (F) test	p- value	LSD*
	Group I	Group II	Group III			
Age in years ($\bar{X}$± SD)	27.1± 4.6	26.3± 5.0	27.7± 8.0	0.19	> 0.05	NS**
Weight in Kg ($\bar{X}$± SD)	65.4± 8.6	76.7± 6.8	78.6± 10.9	7.12	< 0.005	Group I&II Group I& III
Height in cm ($\bar{X}$± SD)	157.1± 4.6	158.1± 4.1	156.6± 4.1	0.61	> 0.05	NS**
BMI ($\bar{X}$± SD)	26.5± 2.7	30.7± 2.7	32.3± 5.2	6.9	< 0.005	Group I&II Group I&III
SBP in mmHg ($\bar{X}$± SD)	118.3± 8.8	111.7± 8.9	164.5±14.8	99.2	< 0.0001	Group I&III GroupII&III
DBP in mmHg ($\bar{X}$± SD)	77.8± 8.5	71.8± 8.9	105± 8.6	71.1	< 0.0001	Group I&III GroupII&III

There is significant difference between weight of pregnant control and case groups and that of non pregnant control group ($p < 0.005$).

There is significant difference between body mass index of pregnant control and case groups and that of non pregnant control group ($p < 0.005$).

There is highly significant difference between systolic blood pressure of pregnant and non pregnant control groups and that of case group ($p < 0.0001$).

There is highly significant difference between diastolic blood pressure of pregnant and non pregnant control groups and that of case group ($p < 0.0001$).

*** LSD =** Least significant difference.
**** NS =** non significant.
-SBP = Systolic blood pressure.
-DBP = Diastolic blood pressure.
N.B:
Group I: Non pregnant control group
Group II: Pregnant control group.
Group III: Cases with preeclampsia group.

Table (2): Difference in results of haematological profile among the studied groups.

Haematological profile	Studied groups			Anova (F) test	p- value	LSD
	Group I	Group II	Group III			
RBC count (million/L) ($\bar{X}$± SD)	3.7± 0.4	4.0± 0.49	3.9± 0.4	1.7	> 0.05	NS
HB (gm/ dl) ($\bar{X}$± SD)	13.2± 0.8	12.1± 1.2	11.3± 1.3	9.2	< 0.0001	Group I& II Group I& III
WBC count (X 10^3/ L) ($\bar{X}$± SD)	6.7± 1.6	6.2± 1.8	7.6± 2.7	2.0	> 0.05	NS
Platelet count (X 10^3/ L) ($\bar{X}$± SD)	288.3±73.13	234.4±50.5	91.7±32.12	64.4	< 0.0005	Group II&III Group I& III

There is significant difference between hemoglobin of non pregnant control group, pregnant control group and case group ($p < 0.0001$).

There is highly significant difference between platelet count of pregnant and non pregnant control groups and that of case group ($p < 0.0005$).

Table (3): Difference in results of biochemical profile among the studied groups.

Biochemical study	Studied groups			Anova (F) test	p- value	LSD
	Group I	Group II	Group III			
Uric acid level (mg/ dl) ($\bar{X}$± SD)	4.1± 1.9	4.0± 0.7	8.6± 2.2	36.8	< 0.0001	Group II&III Group I&III
AST (U/ L) ($\bar{X}$± SD)	14± 4.3	16.9± 10.2	30.9±13.6	10.5	< 0.0001	Group II&III Group I&III
ALT (U/ L) ($\bar{X}$± SD)	7.1± 2.4	8.4± 5.2	20.5±10.6	14.6	< 0.0001	Group II&III Group I&III
Blood urea level (mg/ dl) ($\bar{X}$± SD)	15.6± 4.1	19.1± 5.7	42.2± 39.7	4.6	< 0.05	Group II&III Group I&III
Serum creatinine (mg/ dl) ($\bar{X}$± SD)	0.88±0.11	0.83±0.11	1.29±0.86	3.17	> 0.05	NS

There is highly significant difference between serum uric acid level of pregnant and non pregnant control groups and that of case group ($p < 0.0001$).

There is highly significant difference between serum AST level of pregnant and non pregnant control groups and that of case group ($p < 0.0001$).

There is highly significant difference between serum ALT level of pregnant and non pregnant control groups and that of case group ($p < 0.0001$).

There is significant difference between blood urea level of pregnant and non pregnant control groups and that of case group($p < 0.05$).

Table (4): Difference in level of calprotectin among the studied groups.

Parameter	Studied groups			Anova (F) test	p- value	LSD
	Group I	Group II	Group III			
Calprotectin (ng/ ml) ($\bar{X}\pm$ SD)	167.9±49.8	113.7±40	294.9±56.6	59.7	< 0.0001	All groups alternatively

There is highly significant difference between serum calprotectin level of non pregnant control group, pregnant control group and case group ($p < 0.0001$).

Table (5): Difference in plasma calprotectin level among different grades of proteinuria.

Criterion	Proteinuria grades			Anova (F) test	p- value	LSD
	1	2	3			
Calprotectin level(ng/ ml) ($\bar{X}\pm$ SD)	214.66±54.8	309.58±20.99	335.17±7.96	24.86	< 0.0001	1 & 2 1 & 3

There is highly significant difference between serum calprotectin level of grade 1 proteinuria group, grade 2 group and grade 3 group ($p < 0.0001$).

Table (6): Correlation between plasma calprotectin level and maternal age.

Parameters of correlation	$\bar{X}$± SD	Pearson's correlation coefficient (r)	p- value
Serum calprotectin level (ng/ ml)	294.9±56.6	0.1	> 0.05
Maternal age in years	27.7± 8.0		

There is no significant correlation between serum calprotectin level and maternal age among case group ($p > 0.05$, $r=0.1$).

Table(7): Correlation between plasma calprotectin level and the elements of haematological profile.

Parameters of correlation	$\bar{X}$± SD	Pearson's correlation coefficient (r)	p- value
Serum calprotectin level (ng/ ml) **RBC count (million/mL)**	294.9±56.6 3.9± 0.4	- 0.07	> 0.05
Serum calprotectin level (ng/ ml) **HB %**	294.9±56.6 11.3± 1.3	0.11	> 0.05
Serum calprotectin level (ng/ ml) **WBC count (X 10^3/mL)**	294.9±56.6 7.6± 2.7	0.53	<0.05
Serum calprotectin level (ng/ ml) **Platelet count (X 10^3/mL)**	294.9±56.6 91.7±32.12	-0.82	<0.0001

There is significant positive correlation between serum calprotectin level and WBC count among case group ($p < 0.05$, $r = 0.53$).

There is highly significant negative correlation between serum calprotectin level and platelet count among case group ($p < 0.0001$, $r = -0.82$).

Table(8): Correlation between plasma calprotectin level and the elements of biochemical profile.

Parameters of correlation	$\bar{X}$± SD	Pearson's correlation coefficient (r)	p- value
Serum calprotectin level (ng/ ml) **S.Uric acid level (mg/dl)**	294.9±56.6 8.6± 2.2	0.51	< 0.05
Serum calprotectin level (ng/ ml) **AST (U/L)**	294.9±56.6 30.9±13.6	0.76	< 0.0001
Serum calprotectin level (ng/ ml) **ALT (U/L)**	294.9±56.6 20.5±10.6	0.63	< 0.01
Serum calprotectin level (ng/ ml) **Blood Urea (mg/dl)**	294.9±56.6 42.2± 39.7	0.53	< 0.05
Serum calprotectin level (ng/ ml) **Serum creatinine (mg/dl)**	294.9±56.6 1.29±0.86	0.48	< 0.05

There is significant positive correlation between serum calprotectin level and serum uric acid among case group ($p < 0.05$, $r = 0.51$).

There is highly significant positive correlation between serum calprotectin level and AST level among case group ($p < 0.0001$, $r = 0.76$).

There is significant positive correlation between serum calprotectin level and ALT level among case group ($p < 0.01$, $r = 0.63$).

There is significant positive correlation between serum calprotectin level and blood urea level among case group ($p < 0.05$, $r = 0.53$).

There is significant positive correlation between serum calprotectin level and serum creatinine level among case group ($p<.0.05$, $r = 0.48$).

Table (9): Correlation between plasma calprotectin level and the elements of clinical examination and anthropometric measurements.

Parameters of correlation	$\bar{X}$± SD	Pearson's correlation coefficient (r)	p- value
Serum calprotectin level (ng/ ml) **Systolic blood pressure (in mm.Hg)**	294.9±56.6 164.5±14.8	0.50	< 0.05
Serum calprotectin level (ng/ ml) **Diastolic blood pressure (in mm.Hg)**	294.9±56.6 105± 8.6	0.35	> 0.05
Serum calprotectin level (ng/ ml) **Weight in Kg**	294.9±56.6 78.6± 10.9	0.02	> 0.05
Serum calprotectin level (ng/ ml) **Height in cm**	294.9±56.6 156.6± 4.1	- 0.02	> 0.05
Serum calprotectin level (ng/ ml) **BMI**	294.9±56.6 32.3± 5.2	-0.01	> 0.05

There is significant positive correlation between serum calprotectin level and systolic blood pressure among case group ($p < 0.05$, $r = 0.50$).

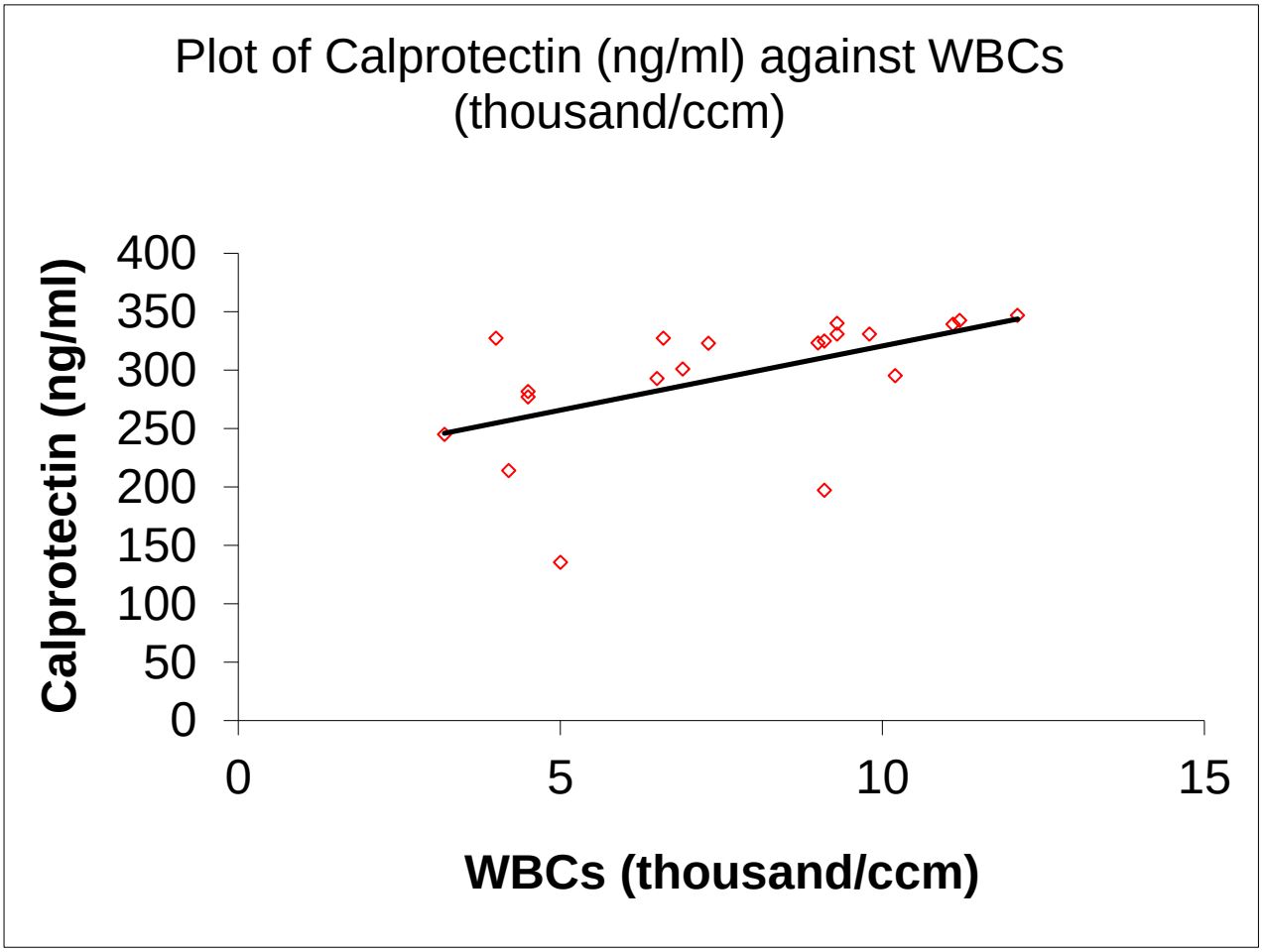

Fig (1): Correlation between serum calprotectin level and WBC count among pre-eclampsia cases ($p < 0.05$, $r = 0.53$).

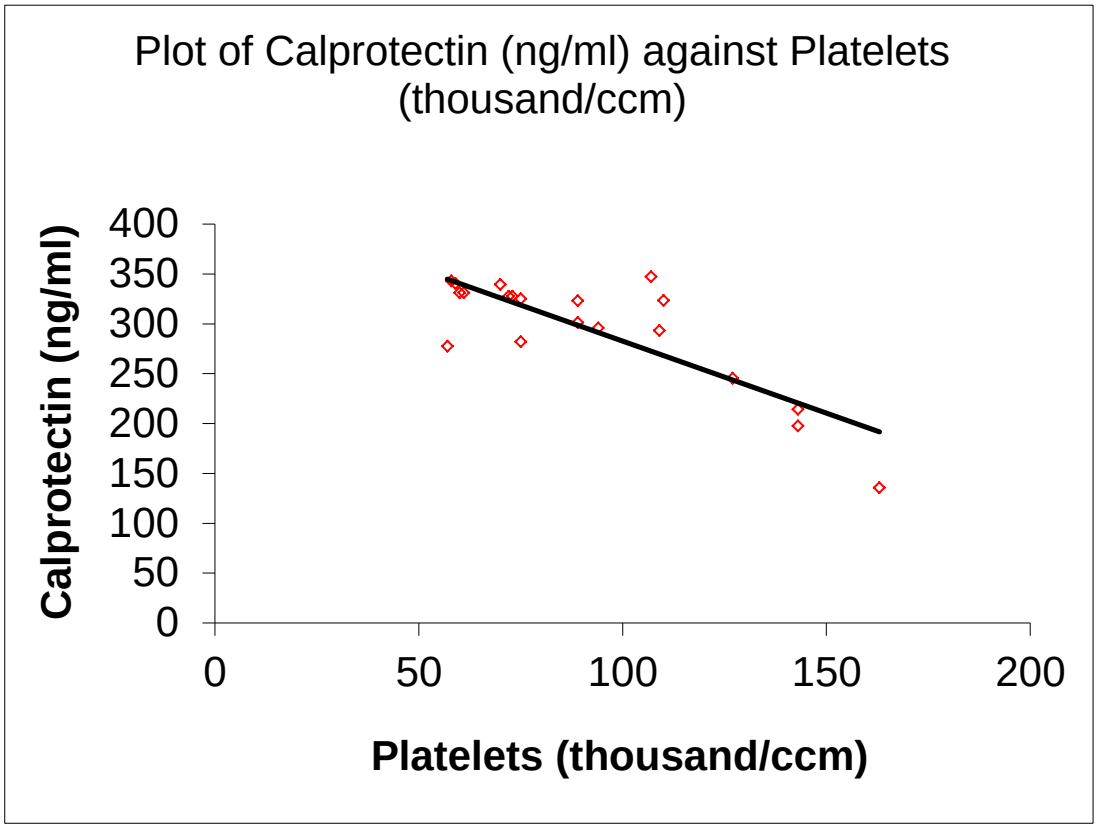

Fig (2): Correlation between serum calprotectin level and platelet count among pre-eclampsia cases ($p < 0.0001$, $r = -0.82$).

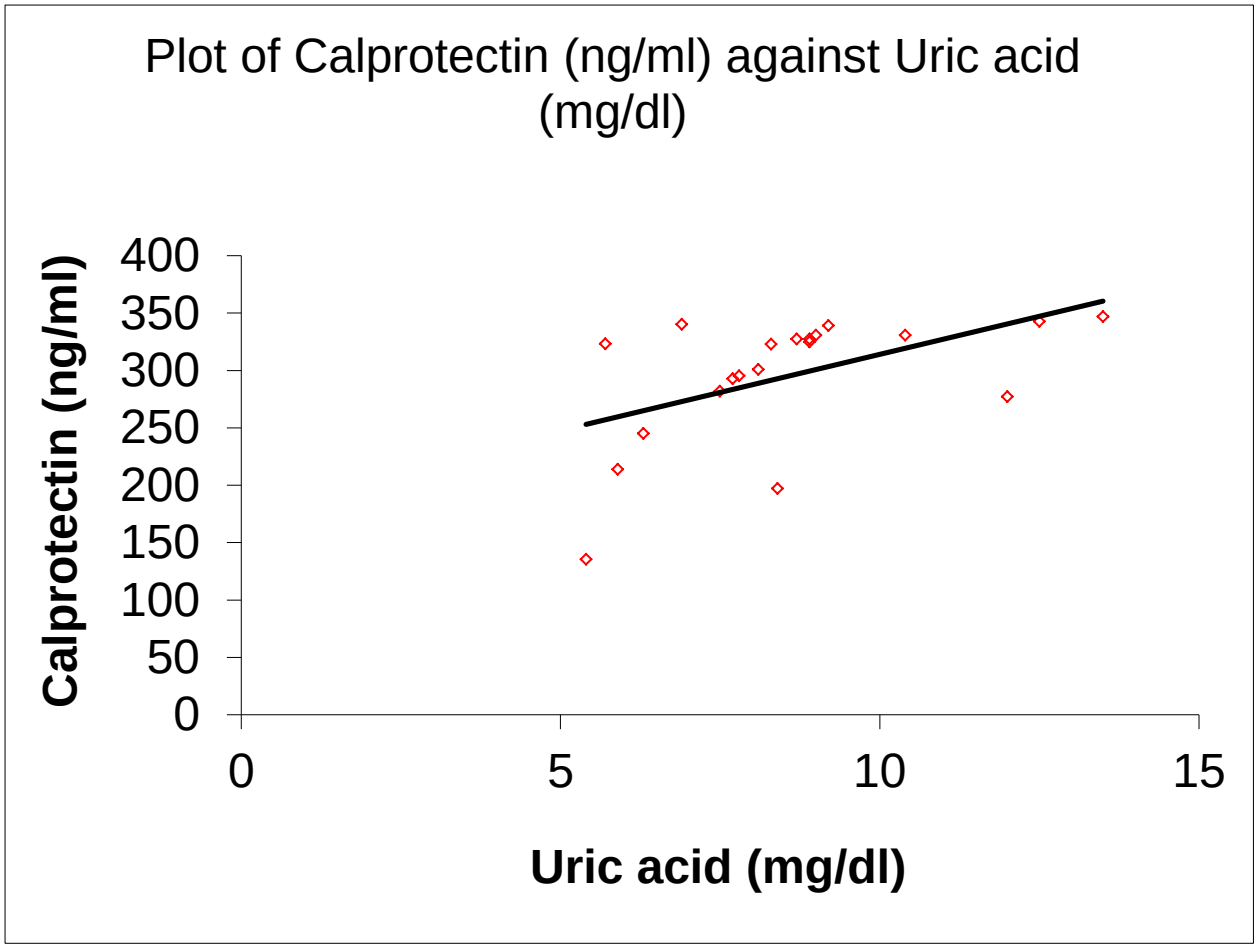

Fig (3): Correlation between serum calprotectin level and serum uric acid among pre-eclampsia cases ($p < 0.05$, $r = 0.51$).

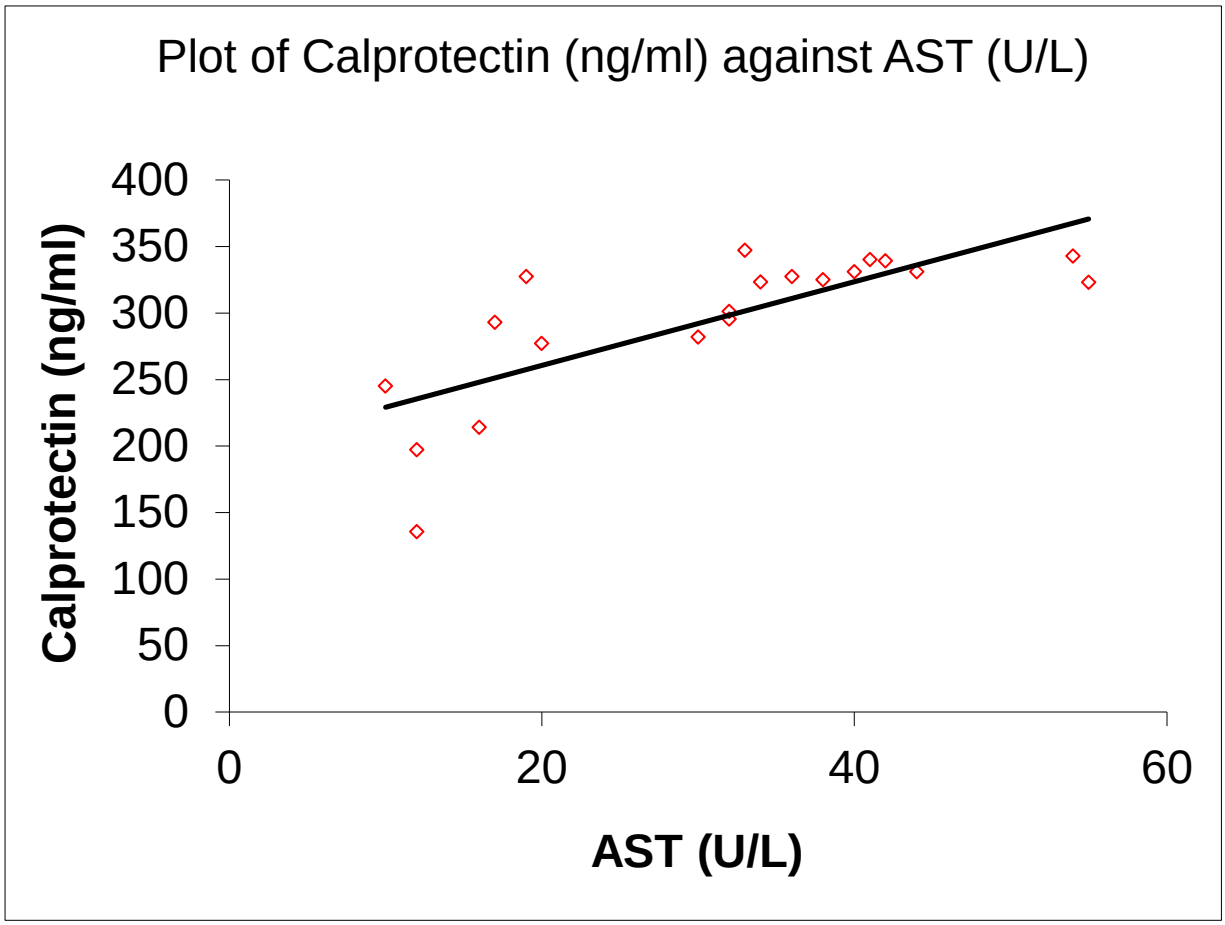

Fig (4): Correlation between serum calprotectin level and AST level among pre-eclampsia cases ($p < 0.0001$, $r = 0.76$).

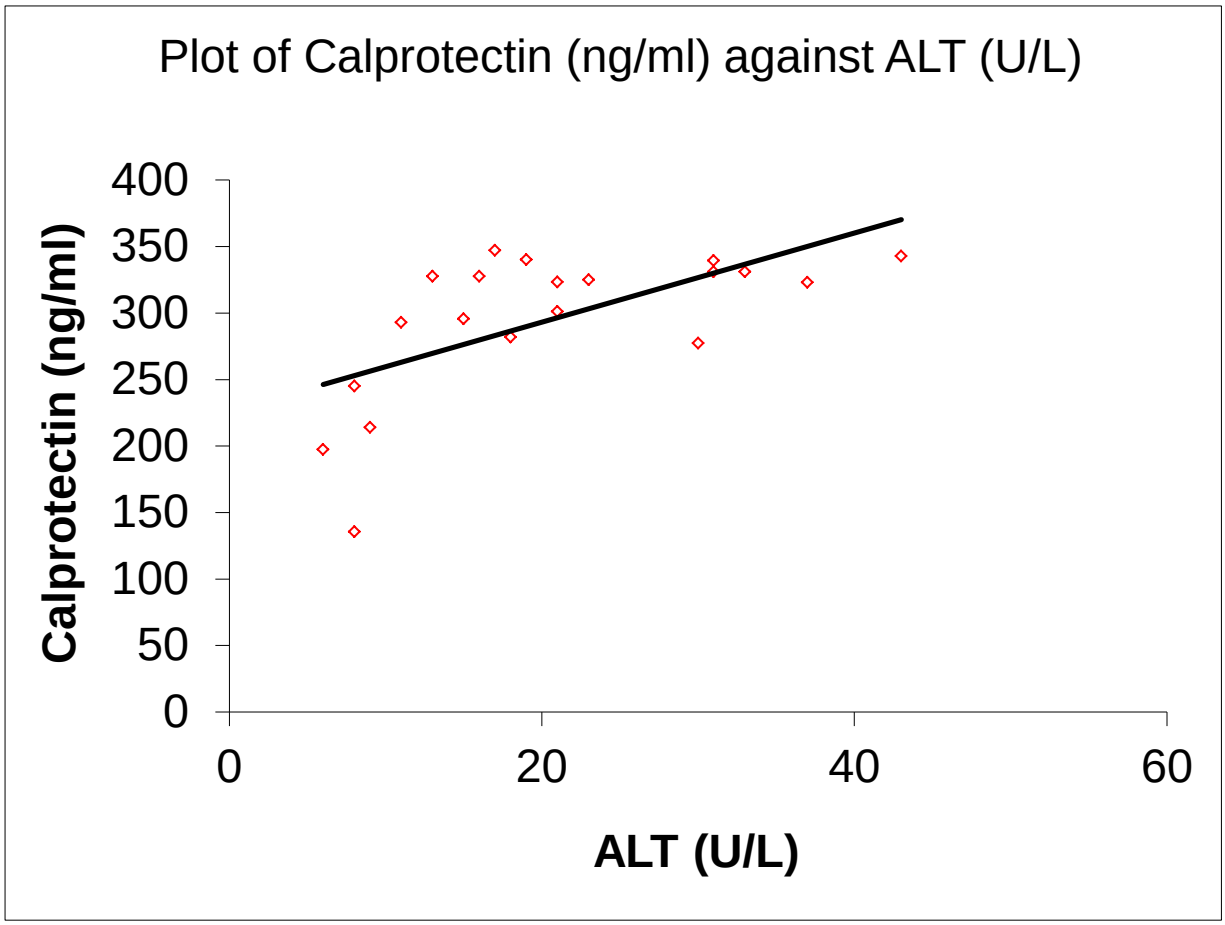

Fig (5): Correlation between serum calprotectin level and ALT level among pre-eclampsia cases ($p < 0.01$, $r = 0.63$).

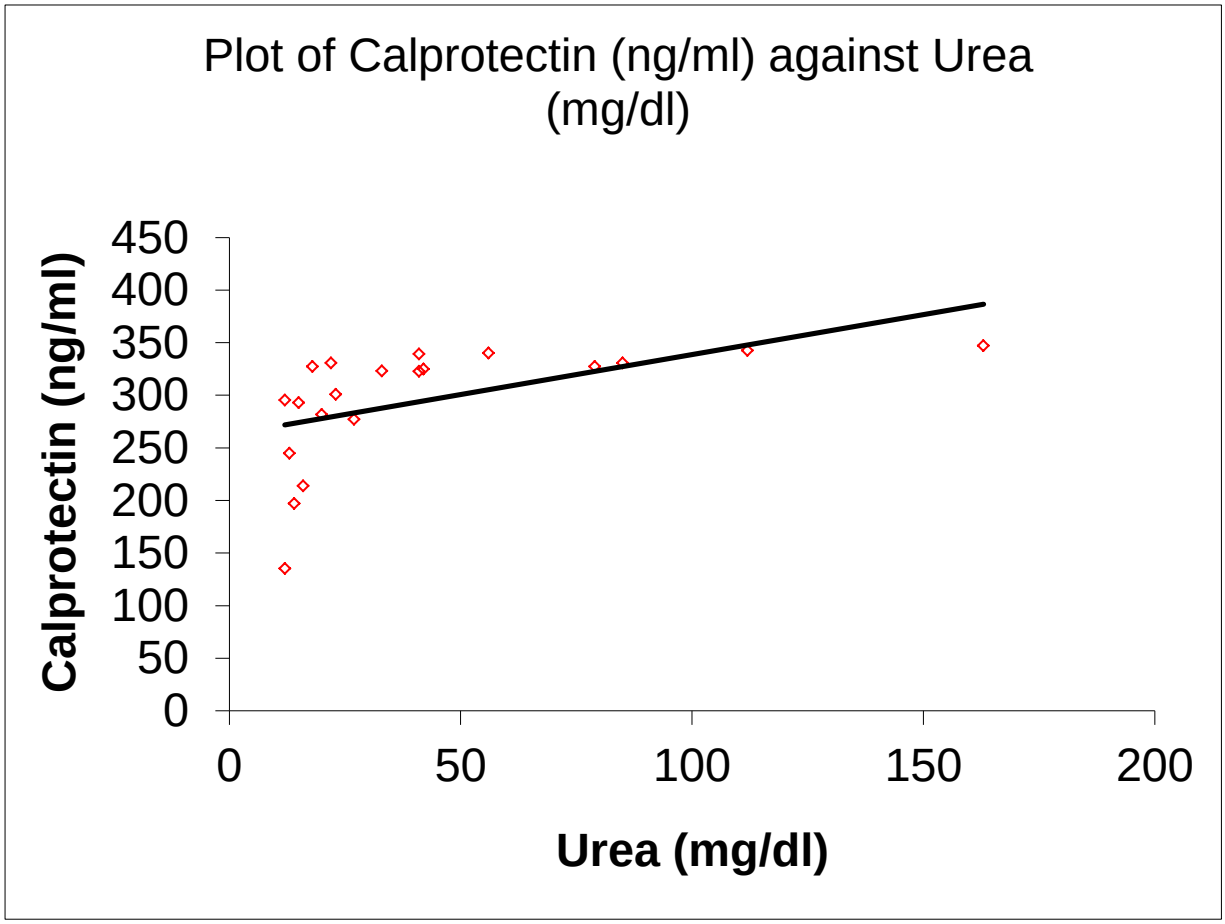

Fig (6): Correlation between serum calprotectin level and blood urea level among pre-eclampsia cases ($p < 0.05$, $r = 0.53$).

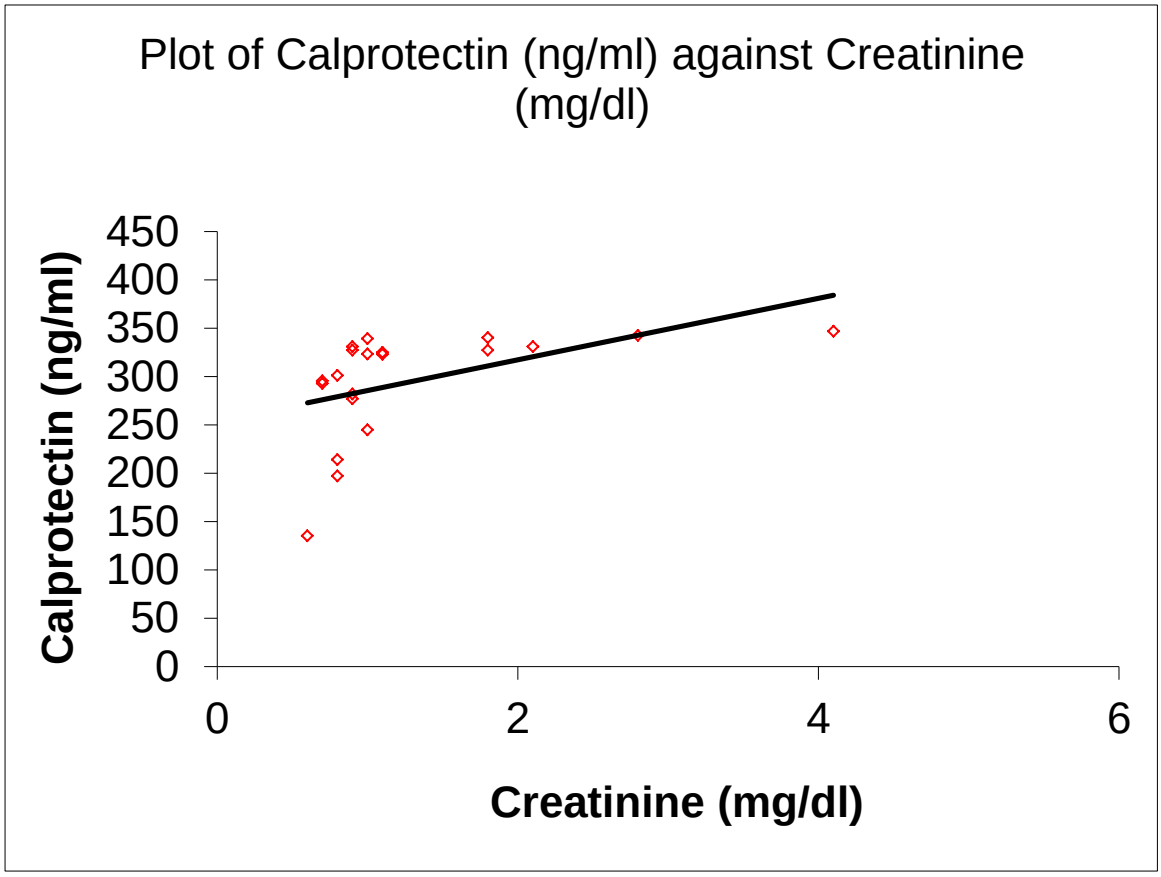

Fig (7): Correlation between serum calprotectin level and serum creatinine level among pre-eclampsia cases ($p < 0.05$, $r = 0.48$).

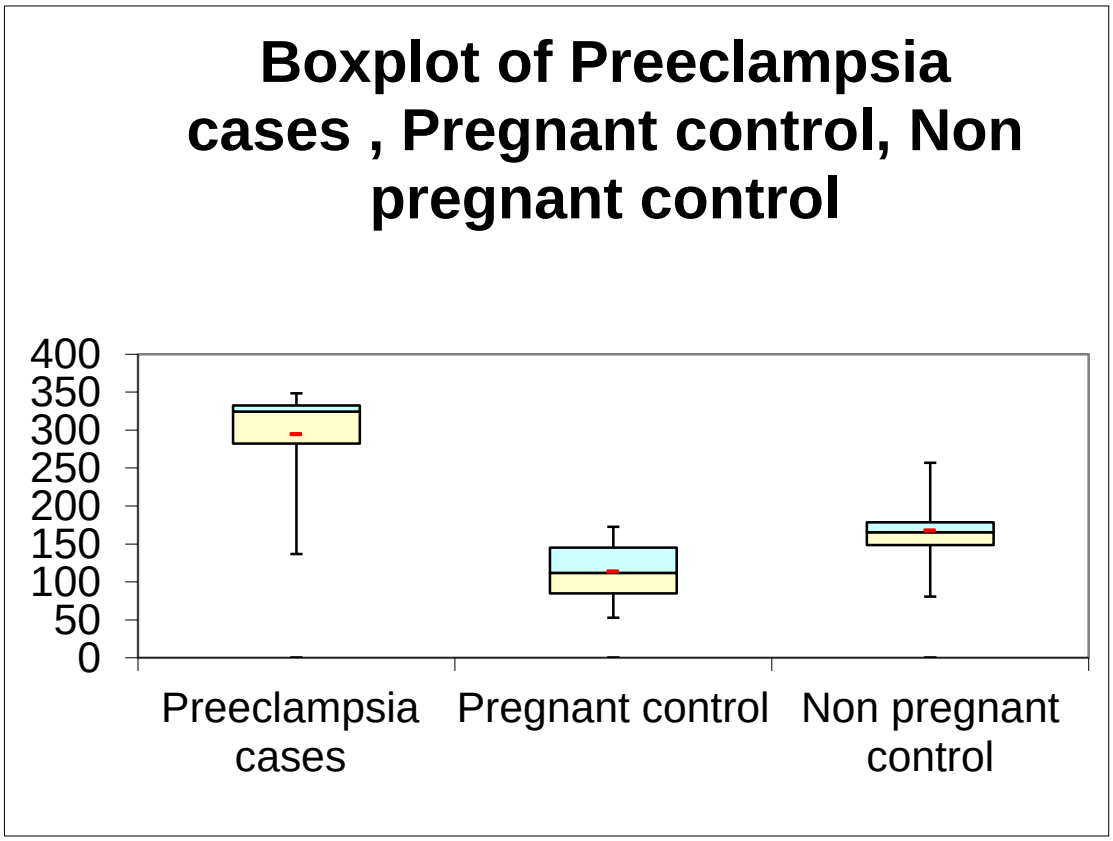

Fig (8): Comparison between mean calprotectin level of the studied groups.