RESULTS

The results of this works show the following :

1) Immunoglobulin G (IgG) Table (1) Fig. (1):

The IgG concentration in group I (Preclamptics) ranged from 584-1419 mg/dl with a mean of 1049.5 ± 208.7 mg/dl.

The normal control pregnant group (group II) showed a range from 748-1366 mg/dl with a mean of 1182.79 mg/dl ± 204.81 mg/dl.

The normal non pregnant control group (group III) showed range from 786-1366 mg/dl with a mean of 1218.1 ± 214.13 mg/dl.

A statistically significant difference was found between pre-eclamptics group (I) and normal pregnant (group II) ($P<0.05$). Also statistically significant difference was found between pre-eclamptics and normal non pregnant group III ($P < 0.05$).

Table (1) : IgG mean level (mg/dl) in pre-eclampsia, normal pregnant and normal non pregnant women.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	1049.5	208.7		
II	Normal pregnant	14	1182.79	204.81	2.04	<0.05
III	N. Non pregnant	10	1218.1	214.13	2.21	<0.05

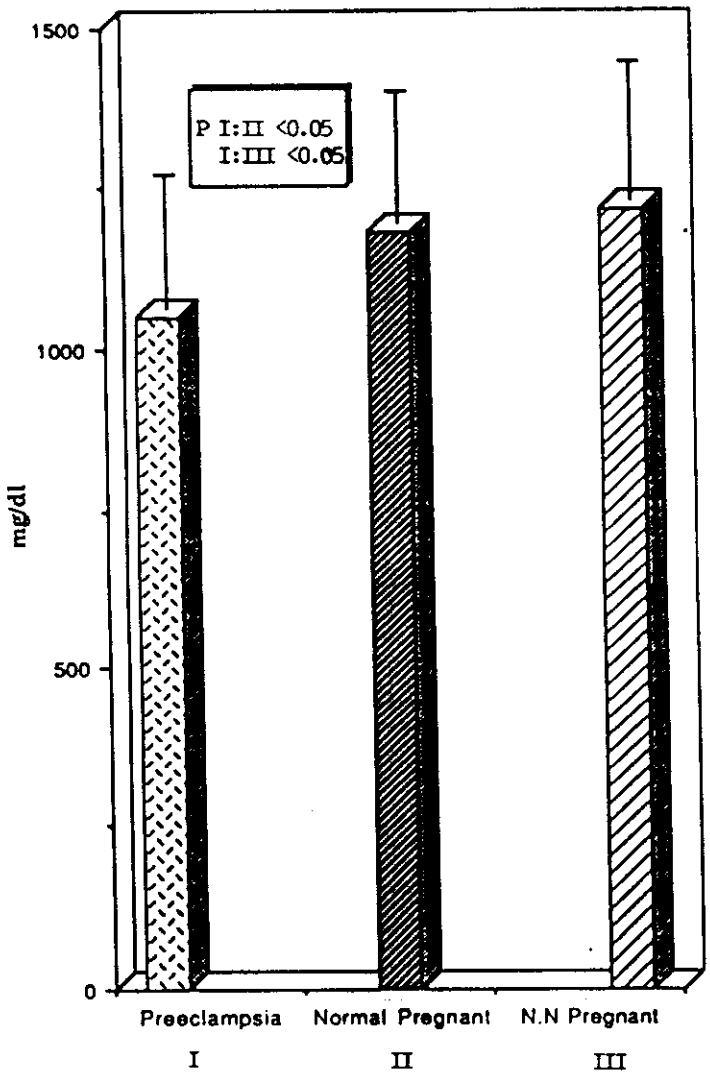

Fig (1) • Immunoglobulin G (IgG) in different groups

2) Immunoglobulin M (IgM) : Table (2) Fig. (2)

The IgM concentration in the pre-eclamptics ranged from 108-341 mg/dl with a mean of 197.1 ± 69.71 mg/dl. While the normal pregnant control group ranged from 108-364 mg/dlwith a mean of 195.1 mg/dl ± 61.5 mg/dl.

The level of normal non pregnant control group ranged from 124-352 mg/dl with a mean of 199.3 ± 67.58 mg/dl. There was no statistically significant difference between pre-eclampsia and normal pregnant control group ($P>0.05$). Also there was no statistically significant difference in the concentration of IgM between pre-eclamptics and non pregnant control group ($P > 0.05$).

Table (2) : IgM mean level (mg/dl) in pre-eclampsia, normal pregnant and normal non pregnant women.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	197.1	69.71		
II	Normal pregnant	14	195.1	61.5	0.098	N.S
III	N. Non pregnant	10	199.3	67.58	0.089	N.S

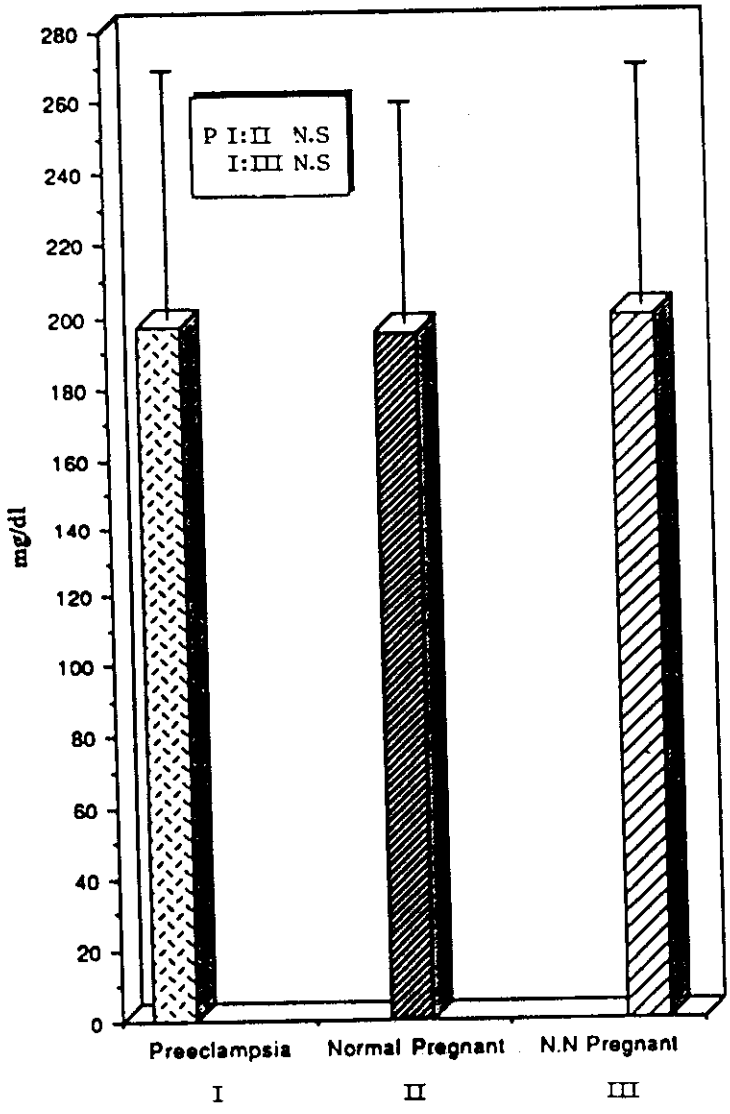

Fig (2). Immunoglobulin (IgM) in different groups

3- **Immunoglobulin (A) IgA: Table (3) Fig. (3)**

The IgA concentration in the pre-eclamptics ranged from 64-410 mg/dl with a mean of 234.18 ± 107.46 mg/dl.

The concentration of IgA in the normal pregnant group ranged from 78-410 mg/dl with a mean of 238.29±102.74 mg/dl.

While in the normal non pregnant control group it ranged from 115-410 mg/dl with a mean of 240.2 ± 95.79 mg/dl.

There was no statistically significant difference between pre-eclamptics and normal pregnant control group ($P > 0.05$), also there was no statistically significant difference between pre-eclamptics and normal non pregnant control group ($P > 0.05$).

Table (3) : IgA mean level (mg/dl) in pre-eclampsia, normal pregnant and normal non pregnant women.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	234.18	107.46		
II	Normal pregnant	14	238.29	102.74	0.124	N.S
III	N. Non pregnant	10	240.2	95.79	0.169	N.S

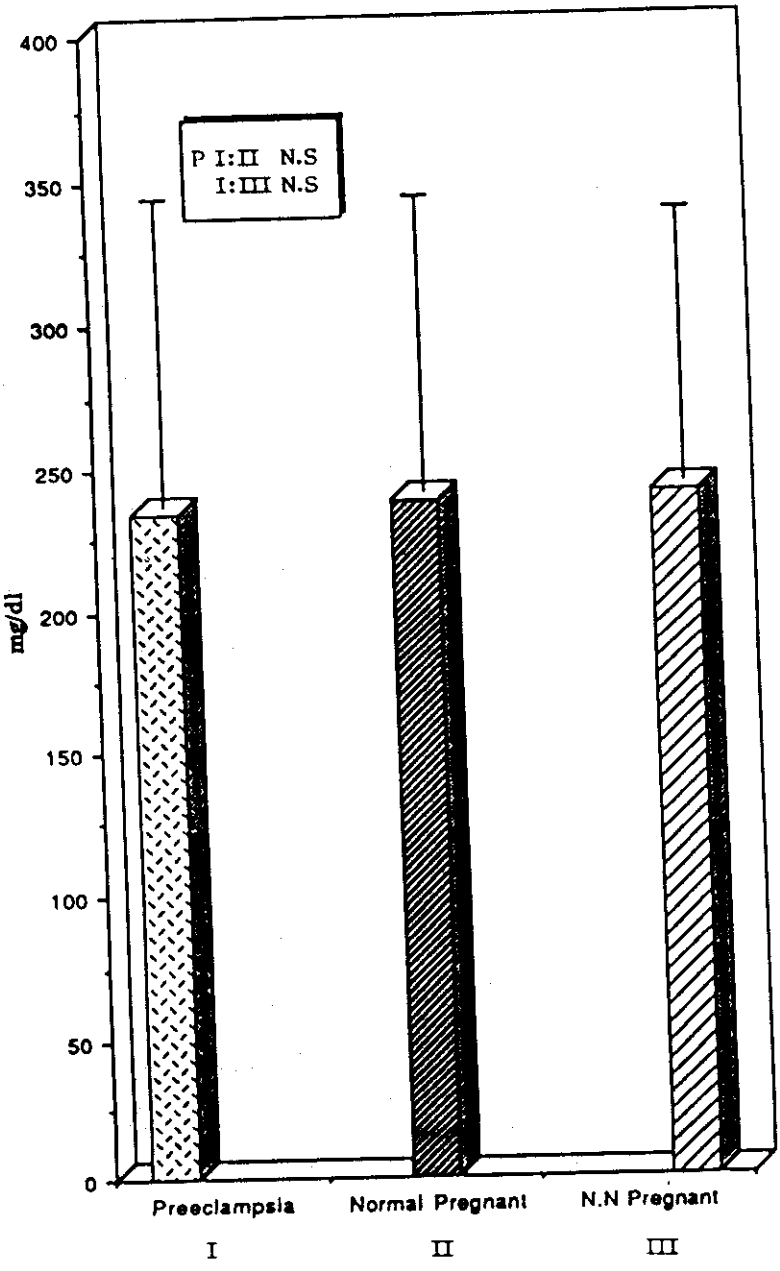

Fig (3) Immunoglobulin A (IgA) in different groups

4- Immunoglobulin E (IgE) Table (4) Fig. (4)

The concentration of immunoglobulin E ranged from 98-414 IU/ml in pre-eclamptic group with a mean of 235.06 ± 86.6 Iu/ml.

In the normal pregnant group IgE concentration ranged from 64-320 IU/ml a mean of 177.57 ± 71.81 IU/ml.

In the normal non pregnant control group the IgE level ranged from 58-305 IU/ml with a mean of 175.8 ± 78.94.

There was statistically significant increase between pre-eclamptics and normal pregnant women ($P < 0.05$).

Also, there was a statistically significant difference between pre-eclmptics and non pregnant control group ($P<0.05$).

Table (4) : IgE mean level (IU/ml) in pre-eclampsia, normal pregnant and normal non pregnant women.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	235.06	86.6		
II	Normal pregnant	14	177.57	71.81	2.37	<0.05
III	N. Non pregnant	10	175.8	78.94	2.04	<0.05

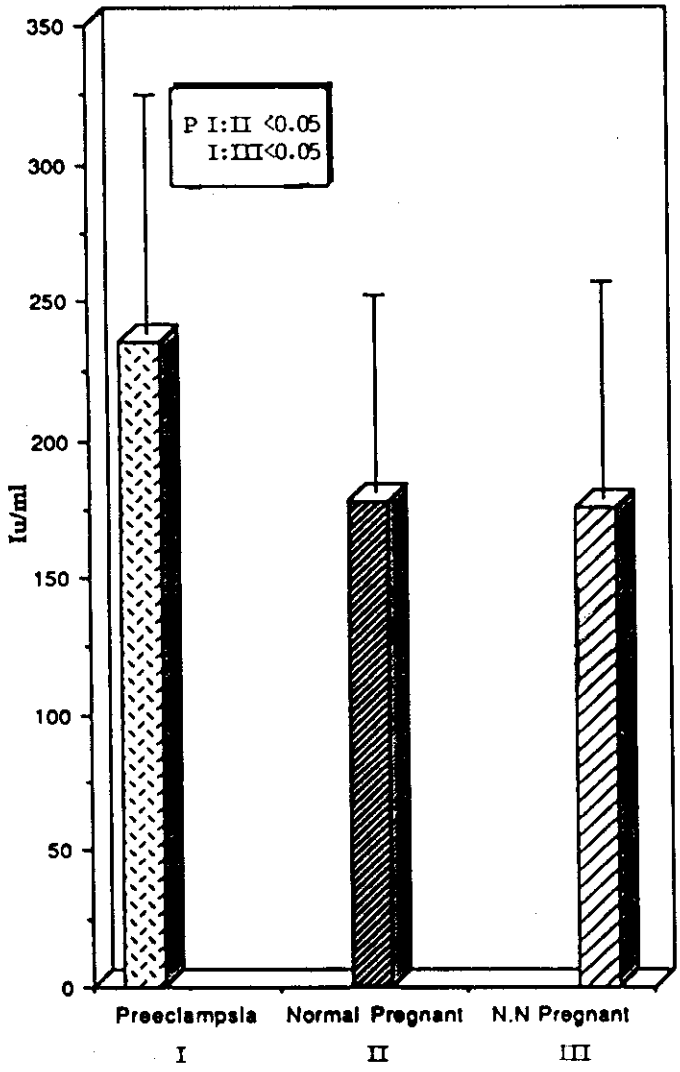

Fig (4). Immunoglobulin E in different groups

5- Complement C3 Table (5) Fig. (5)

The C3 level in the pre-eclamptic patients ranged from 127-237 mg/dl with a mean of 183.8 ± 29.1 mg/dl.

The level in normal pregnant ranged from 137-237 mg/dl with a mean of 195.4 ± 32.4 mg/dl.

The level in normal non pregnant control group ranged from 155-232 mg/dl with a mean of 198.5 ± 28.4 mg/dl.

There was no statistically significant difference between pre-eclmaptic and normal pregnant control group ($P > 0.05$). also no significant difference between pre-eclamptics and non pregnant controls ($P > 0.05$).

Table (5) : Complement C3 mean level (mg/dl) in pre-eclampsia, normal pregnant and normal non pregnant.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	183.8	29.1		
II	Normal pregnant	14	195.4	32.4	1.17	N.S
III	N. Non pregnant	10	198.5	28.4	1.43	N.S

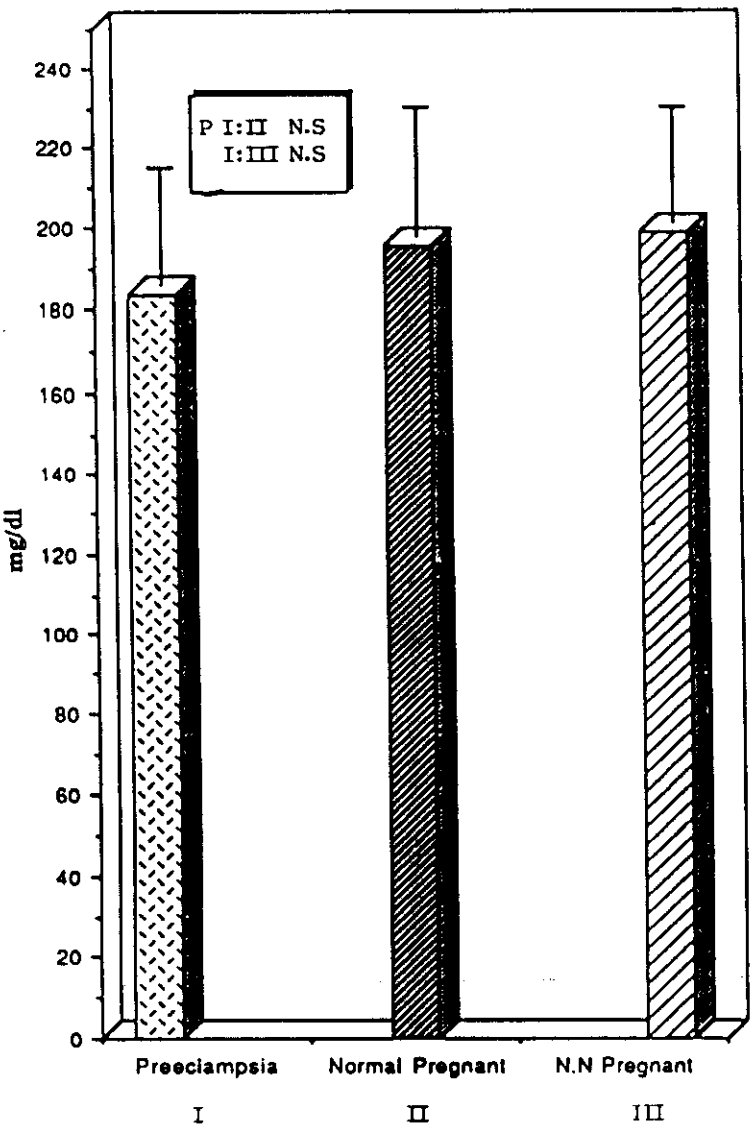

Fig (5)· Complement C3 in different groups

6- The complement C4 Table (6) Fig. (6)

The C4 concentration in the pre-eclamptic patients ranged from 17.6-65.2 mg/dl with a mean of 37.3 mg/dl ± 11.4 mg/dl.

The C4 concentration in the normal pregnant controls was ranged from 23.1-51.9 with a mean of 33.9 ± 8.2 mg/dl.

The level ranged from 24.3-50.3 mg/dl in the non pregnant controls with a mean of 36.2 ± 8.42 mg/dl.

There was no statistically significant difference between pre-eclmpsia and normal pregnant group ($P > 0.05$). Also, there is no statistically significant difference between pre-eclampsia and non pregnant control group ($P > 0.05$).

Table (6) Complement C4 mean level (mg/dl) in pre-eclampsia, normal pregnant and normal non pregnant.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	37.3	11.4		
II	Normal pregnant	14	33.9	8.2	1.15	N.S
III	N. Non pregnant	10	36.2	8.42	0.33	N.S

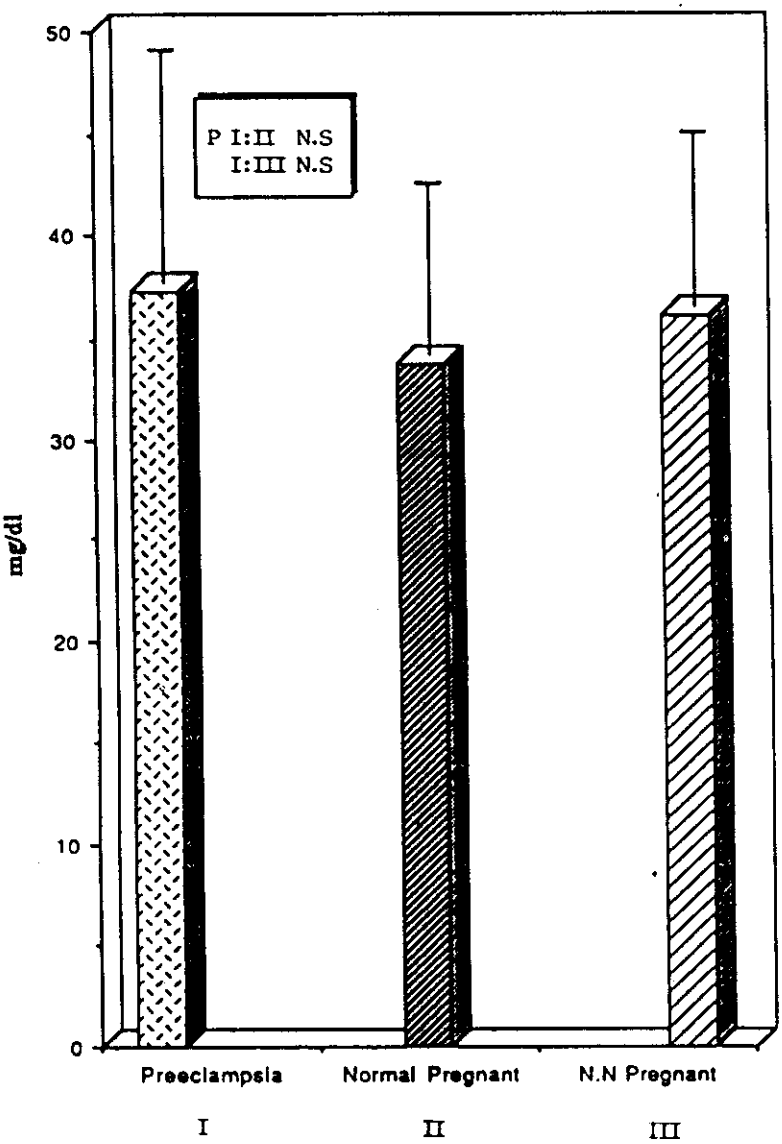

Fig (6). Complement C4 in different groups

7- Circulating immune complexes (CICs) Table (8) Fig. (8):

The level of CICs ranged from 3.6-17.9 µg eq/ml in the pre-eclamptics with a mean of 10.6 ± 4.42 µg eq/ml.

The CICs levels in the normal pregnant control group ranged from 3.8-15.4 µg eq/ml with a mean of 9.4 ± 3.04 µg eq/ml.

The CICs levels in normal non pregnant control ranged from 4.6-13.6 µg eq/ml with a mean of 9.42 µg eq/ml ± 2.8 µg eq/ml.

There was no statistically significant difference between pre-eclamptics and normal pregnant controls ($P > 0.05$), also there was no significant difference between pre-eclmptics and normal non pregnant control ($P > 0.05$).

Table (7) : Circulating immune complex mean level(µg eq/ml) in pre-eclamptic women, normal pregnant and normal non pregnant women.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	10.6	4.42		
II	Normal pregnant	14	9.4	3.04	1.08	N.S
III	N. Non pregnant	10	9.42	2.8	1.01	N.S

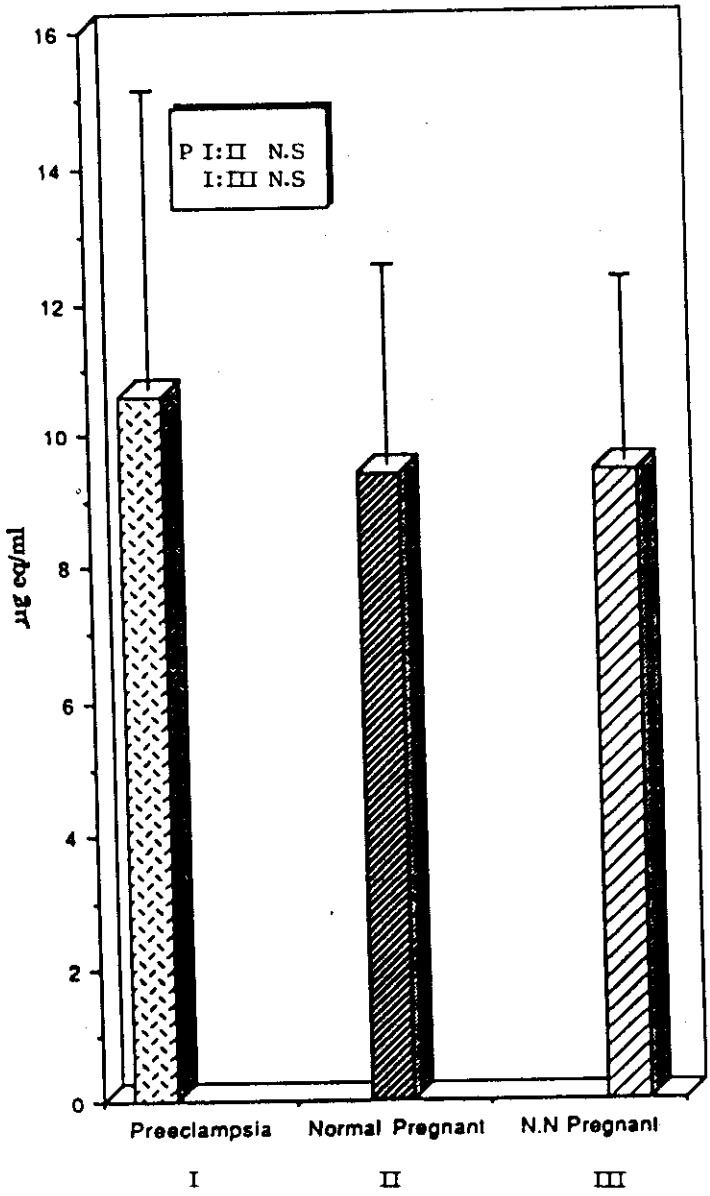

Fig (7) .Circulating Immune Complex in different groups

8- E-rosette Table (8) Fig. (8)

The range of E-rosette percentage in the pre-eclamptics was 24-78% with a mean of 50.88 ± 15.06.

The range was 42-87% in the normal pregnant control group with a mean of 61.07 ± 12.46 and 60-86% in the normal non pregnant control with a mean of 68.7 ± 7.12.

There was statistically significant decrease between pre-eclamptics and normal pregnant women ($P < 0.05$) also there was highly statistically significant difference between pre-eclamptics and normal non pregnant control group ($P<0.01$).

Table (8) : Mean percentage of E-rossete forming cells in pre-eclampsia, normal pregnant and normal non pregnant group.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	50.88	15.06		
II	Normal pregnant	14	61.07	12.46	2.42	< 0.05
III	N. Non pregnant	10	68.7	7.12	5.15	<0.01

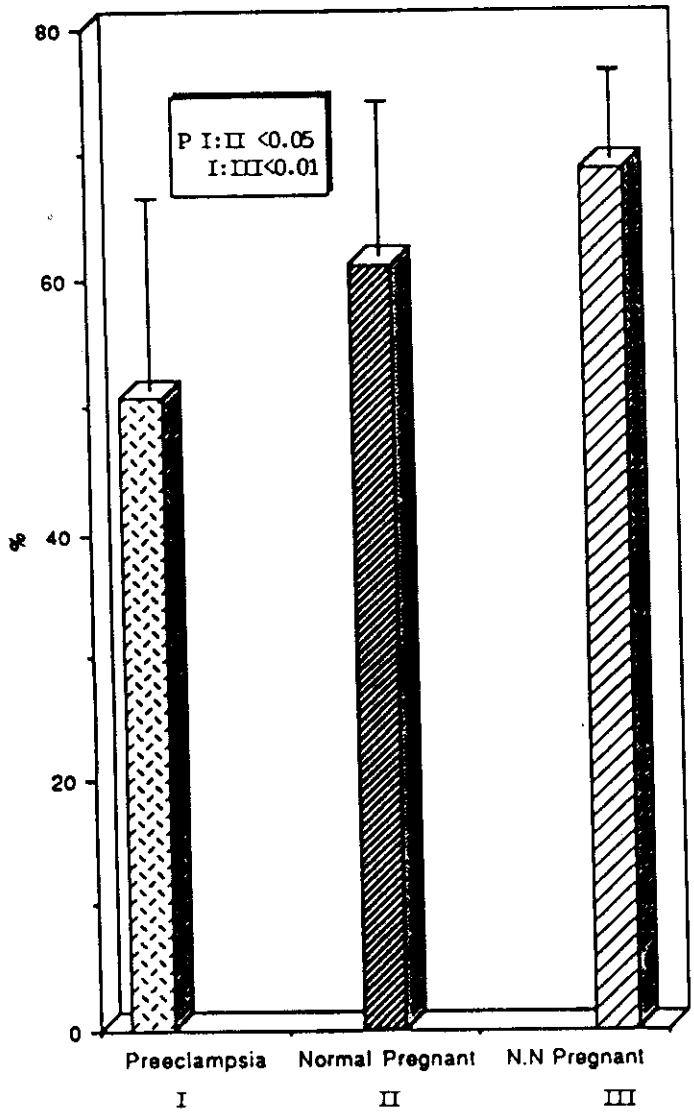

Fig (8). E-rosette percentage in different groups

9- Blastoid Transformation : Table (9) Fig (9)

The range of blastoid transformation was from 28-65% with a mean of 49.44 ± 10.93 in the pre-eclamptics.

The range was from 37-82% in the normal pregnant controls with a mean of 59.71 ± 13.95.

In the normal non pregnant group the range was from 44-86% with a mean of 66.6% ± 14.6.

There was a statistically significant decrease between pre-eclamptics and normal pregnant group ($P < 0.05$). Also there was highly significant difference between pre-eclamptics and non pregnant control group ($P < 0.01$).

Table (9) : Mean percentage of blastoid transformation in pre-eclampsia, normal pregnant and normal non pregnant controls.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	49.44	10.93		
II	Normal pregnant	14	59.71	13.95	2.46	<0.05
III	N. Non pregnant	10	66.6	14.6	3.44	<0.01

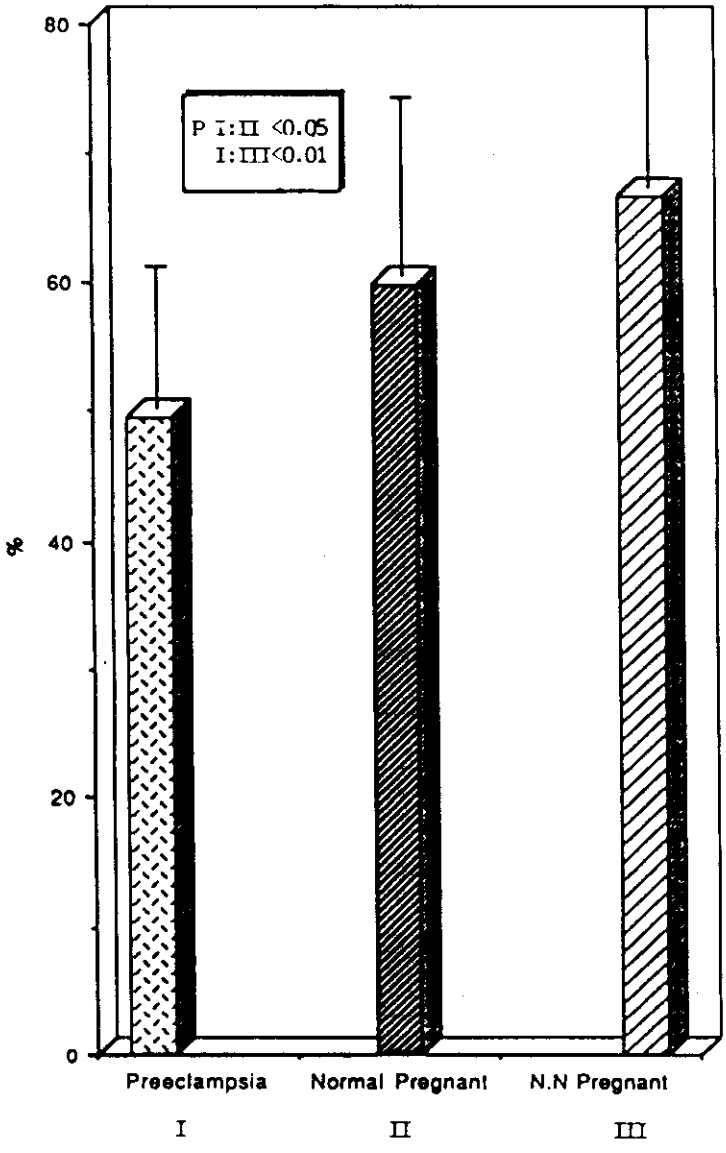

Fig (9)· Blastoid transformation in different groups

10- Macrophage migration inhibition (MIF) Table (10) Fig.(10)

In the pre-eclmptics the percentage of inhibition of migration ranged from 100-52% with a mean of 70.06% ± 10.78, the % of inhibition of migration ranged from 100-62% for normal pregnant control with means of 78.79 ± 12.9, in the normal non pregnant controls they ranged from 100-64 with a mean of 82.2 ± 14.27.

There was a statistically significant decrease between pre-eclamptics and normal pregnant group ($P<0.05$). Also there was a statistically significant difference between pre-eclamptics and normal non pregnant control group ($P< 0.05$).

Table (10) : Mean percentage of inhibition of migration in pre-eclampsia, normal pregnant and normal non pregnant.

	Group	No	$\bar{X}$	SD	t.versus pre-eclampsia	P
I	Pre-eclampsia	34	70.06	10.78		
II	Normal pregnant	14	78.79	12.9	2.23	<0.05
III	N. Non pregnant	10	82.2	14.27	2.48	<0.05

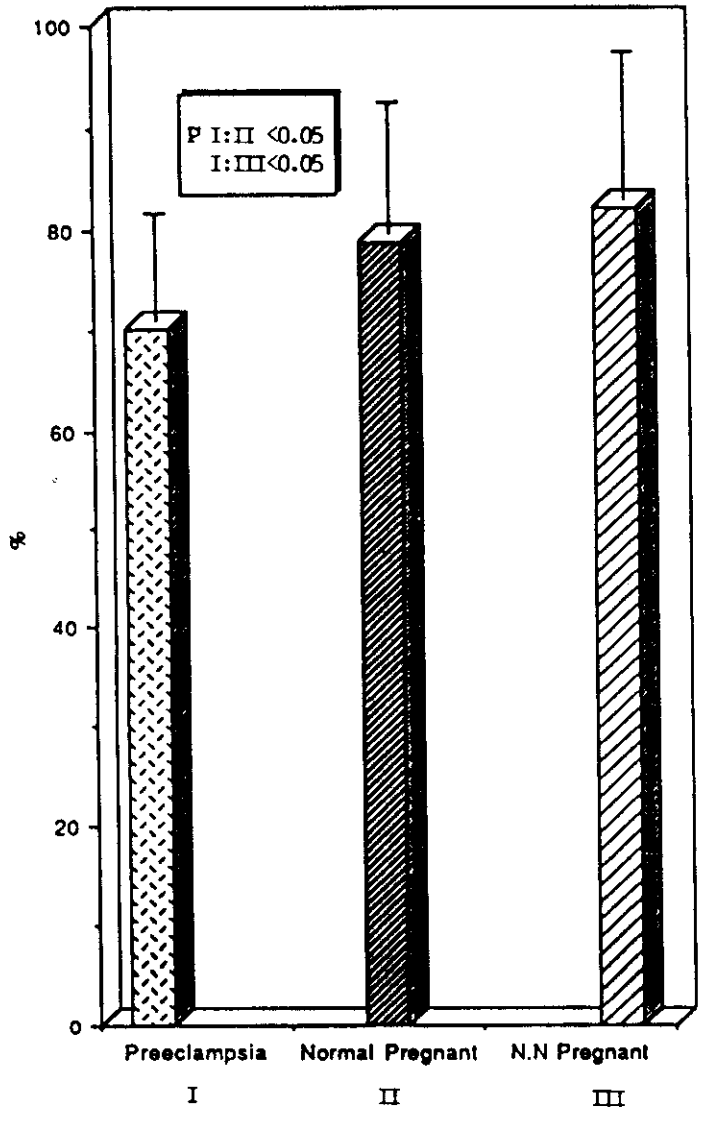

Fig (10) Pecentage of inhibtion of migration in different groups

table (11) Shows statistical comparsion between different immunologic parameters in normal pregnant and normal non pregnant control groups. There is no significant difference between levels in both groups.

Table (11) : Comparison of different immunologic parameters in normal pregnant and normal non pregnant controls.

Variable	N.pregnancy N = 14		N. non preg n = 10		t	P
	$\bar{X}$	SD	$\bar{X}$	SD		
IgG (mg/dL)	1182.79	204.81	1218.1	214.13	0.41	N.S.
IgM (mg/dL)	195.1	61.5	199.3	67.58	0.16	" "
IgA (mg/dL)	238.29	102.74	240.2	95.79	0.05	" "
IgE (Iu/ml)	177.57	71.81	175.8	78.94	0.06	" "
C3 (mg/dL)	195.4	32.4	198.5	28.4	0.24	" "
C4 (mg/dL)	33.9	8.2	36.2	8.42	0.67	" "
C1Csµgeq/ml	9.4	3.04	9.42	2.8	0.02	" "
% E-rosette	61.07	12.49	68.7	7.12	1.89	" "
%blastoid transform	59.71	13.95	66.6	14.6	1.16	" "
%Inhib.Migr	78.79	12.9	82.2	14.27	0.6	" "