RESULTS

The results of the present study were summarized, statistically analyzed and presented in 8 tables and 8 figures.

Table (1): Range, Mean and Standard deviation for different groups:

Parameter	G I(case study) no(30)			G II(control pregnant) no (10)			G III(control non pregnant)- no (10)		
	Range	Mean	S.D	Range	Mean	S.D	Range	Mean	S.D
Age (years)	20-40	27.03	4.68	17-37	25.6	5.32	20-40	31	7.42
anti-AnxV IgG(U/ml)	2-7	3.17	1.12	2-4	2.9	0.57	2-4	2.8	0.79
anti-AnxV IgM(U/ml)	1-15	3.13	2.58	1-9	3.3	2.11	1-12	3.5	3.14
Toxo. IgG (IU/ml)	3-74	20.13	18.32	3-15	7.4	4.17	3-15	7.4	4.37
Toxo. IgM (IU/ml)	2-32	9.47	6.85	4-13	8.8	3.08	1-15	7.2	3.93
CMV IgG (IU/ml)	3-57	13.27	13.69	1-4	2.6	0.97	1-5	2.8	1.14
CMV IgM (Index)	0.2-0.9	0.53	0.22	0.2-0.9	0.58	0.28	0.1-0.8	0.41	0.22
ACA IgG (GPL-U/ml)	5-87	19.97	17.17	5-18	8.7	3.86	5-17	8.8	3.61
ACA IgM (MPL-U/ml)	2-9	5.13	2.1	3-10	5.8	2.34	2-9	5.5	2.37
FT4 (ng/dl)	0.9-2.9	1.38	0.45	0.9-1.8	1.28	0.34	0.8-1.6	1.23	0.28
TSH (µIU/ml)	0.2-3.5	2.17	0.91	0.7-3	2.01	0.79	0.7-3.1	1.74	0.93
LA (sec.)	35-41	37.73	1.93	34-40	37.3	2.11	34-39	36.4	1.9
Fibr.(ng/dl)	220-380	297.83	53.69	220-340	283.5	46.9	220-380	305	51.9
PT(sec.)	11-12.5	11.87	0.33	11.3-12.3	11.79	0.35	11-12	11.68	0.3
PTT(sec.)	28-43	35.53	5.44	28-42	33.5	5.44	28-40	33.4	5.04
No. of abortions	3-15	4.8	3.02						

Table (2): Number and percentage of women with positive antibodies in different groups:

Parameter		G I(case study)-no of women (%) with Positive antibodies	GII(control pregnant)-no of women (%) with Positive antibodies	GIII(control non pregnant)-no of women (%) with Positive antibodies
anti-AnxV (U/ml)	IgG	1(3.3%)	0(0%)	0(0%)
	IgM	3(10%)	1(10%)	1(10%)
Toxo. (IU/ml)	IgG	12(40%)	0(0%)	0(0%)
	IgM	3(10%)	0(0%)	0(0%)
CMV	IgG (IU/ml)	26(86.7%)	0(0%)	1(10%)
	IgM (Index)	0(0%)	0(0%)	0(0%)
ACA	IgG (GPL-U/ml)	6(20%)	0(0%)	0(0%)
	IgM (MPL-U/ml)	0(0%)	0(0%)	0(0%)
Total no. of women		30	10	10

Anti anx V, IgG was positive in one case (3.3%) in GI (n= 30), and negative in all cases of GII (n=10) and GIII (n=10). IgM was positive in 3 cases (10%) in GI, one case in GII (10%) and one case in GIII(10%). Toxo. IgG was positive in 12 cases (40%) in GI and was negative in all cases of GII and GIII. IgM was positive in 3 cases (10%) in GI and negative in all cases of GII and GIII.CMV, IgG was positive in 26 cases (86.7%) in GI, negative in all cases of GII and positive in one case (10%) in GIII. IgM was negative in all cases of all groups. ACA, IgG was positive in 6 cases (20%) in GI and negative in all cases of GII and GIII. IgM was negative in all cases of all groups.

Table (3): Nmber and percentage of women with abnormal values of thyroid functions, Rh, LA, Fibrinogen, ACA, PT and PTT in different groups:

Parameter	G I(case study)-no of women (%) with abnormal values.	GII(control pregnant)-no of women (%) with abnormal values.	GIII(control non pregnant)-no of women (%) with abnormal values.
FT4 (ng/dl)	2(6.7%)	0(0%)	0(0%)
TSH (µIU/ml)	2(6.7%)	0(0%)	0(0%)
Rh	1(3.3%)	0(0%)	0(0%)
LA (sec.)	0(0%)	0(0%)	0(0%)
Fibr. (ng/dl)	0(0%)	0(0%)	0(0%)
ANA	0(0%)	0(0%)	0(0%)
PT (sec.)	0(0%)	0(0%)	0(0%)
PTT (sec.)	0(0%)	0(0%)	0(0%)
Total no. of women	30	10	10

FT4 values were abnormal in 2 cases (6.7%) in GI (n= 30), with no abnormal values at any case in GII (n=10) or GIII (n=10). TSH values were abnormal in 2 cases (6.7%) in GI, with no abnormal values at any case in GII or GIII. Rh was negative in one case (3.3%) in GII and was positive in all cases of GII and GIII. No abnormal values were detected at any case at any group concerning, LA, Fibr, ANA, PT or PTT.

Table (4): T test and P values in different groups:

Parameter		G I compared with G II		G I compared with G III		GI I compared with G III	
		t.	p value	t.	P value	t.	P value
Age		-0.811	0.422	1.991	.054	-1.87	0.078
anti-AnxV (U/ml)	IgG	-0.720	0.476	-.958	0.344	0.325	0.749
	IgM	0.184	.855	.369	0.714	-0.167	0.869
Toxo. (IU/ml)	IgG	-2.161	.037*	-2.16	0.037*	0	1.00
	IgM	-.296	.769	-.988	0.329	1.011	0.325
CMV	IgG (IU/ml)	-2.441	.019*	-2.39	0.022*	-0.424	0.676
	IgM (Index)	0.622	0.538	-1.45	0.156	1.507	0.149
ACA	IgG (GPL-U/ml)	-2.04	0.048*	-2.04	0.048*	-0.06	0.953
	IgM (MPL-U/ml)	0.846	0.403	0.464	0.645	0.284	0.779
Thyr.Fs	FT4 (ng/dl)	-0.624	0.536	-0.97	0.337	0.356	0.726
	TSH (µIU/ml)	-0.485	0.631	-1.28	0.21	0.701	0.492
LA (sec.)		-0.601	0.551	-1.90	0.065	1.003	0.329
Fibr.(ng/dl)		-0.753	0.456	0.368	0.715	-0.972	0.344
PT(sec.)		-0.691	0.494	-1.66	0.105	0.768	0.452
PTT(sec.)		-1.023	0.313	-1.09	0.282	0.043	0.966

p<0.05 statistically significant (*) p> 0.05 statistically non significant

IgG antibodies of Toxo., CMV and ACA were statistically significant p<0.05 (comparing GI with GII or GIII).

Concerning age; Anti-annexin A5 antibodies IgG and IgM ; Toxo. IgM, CMV IgM and ACA IgM; FT4; TSH; LP; Fibr. ; PT and PTT all show no statistical significant difference (p> 0.05) (comparing GI with GII or GIII and comparing GII with GIII).

Table (5): Correlation between Anti–anx V antibodies and other parameters in patient group:

Parameter	anti-AnxV IgG		anti-AnxV IgM	
	Correlation Coefficient (r)	P	Correlation Coefficient (r)	P
Age	0.137	0.469	0.231	0.220
Toxo. IgG	-0.102	0.591	-0.185	0.326
Toxo. IgM	-0.132	0.486	-0.029	0.879
CMV IgG	-0.147	0.437	-0.014	0.943
CMV IgM	-0.103	0.588	-0.195	0.302
ACA IgG	-0.178	0.347	-0.235	0.210
ACA IgM	-0.083	0.661	0.270	0.148
FT4	-0.373 *	0.043	-0.216	0.252
TSH	0.171	0.365	0.022	0.906
LA	-0.235	0.212	-0.062	0.745
Fibr.	0.190	0.314	-0.123	0.516
PT	0.363 *	0.048	-0.045	0.814
PTT	0.019	0.921	0.122	0.520
No. of abortions	-0.266	0.156	-0.125	0.512

**. Correlation is significant at the 0.05 level (2-tailed).*

There is –ve correlation without statistical significance in patient group between anti–annexin A5 IgG antibodies and Toxo IgG and IgM, CMV IgG and IgM, ACA IgG and IgM, LA and the number of abortions. ***There is*** *–ve statistically significant correlation between anti–annexin A5 IgG antibodies and FT4, also there is +ve statistically significant correlation between it and PT.*

There is also –ve correlation without statistical significance in patient group between anti–annexin A5 IgM antibodies and Toxo IgG and IgM, CMV IgG and IgM, ACA IgG, LA, FT4, fibr., PT and the number of abortions. There is also +ve correlation without statistical significant difference between anti–annexin A5 IgM antibodies and age, ACA IgM, TSH and PTT.

Table (6): Correlation between Anti–anx V antibodies and other parameters in control pregnant group:

Parameter	anti-AnxV IgG		anti-AnxV IgM	
	Correlation Coefficient (r)	P	Correlation Coefficient (r)	P
Age	0.133	0.715	-0.137	0.707
Toxo. IgG	0.582	0.077	0.591	0.072
Toxo. IgM	0.812 **	0.004	0.335	0.345
CMV IgG	-0.081	0.824	-0.262	0.465
CMV IgM	0.619	0.056	-0.008	0.983
ACA IgG	-0.269	0.453	0.040	0.914
ACA IgM	0.317	0.372	0.081	0.825
FT4	0.217	0.547	-0.390	0.265
TSH	-0.345	0.329	0.011	0.975
LA	0.213	0.554	0.002	0.995
Fibr.	-0.027	0.941	-0.225	0.532
PT	0.165	0.649	0.448	0.195
PTT	0.306	0.390	0.392	0.263

***. Correlation is significant at the 0.01 level (2-tailed)*

There is –ve correlation without statistical significant difference in control pregnant group between anti–annexin A5 IgG antibodies and CMV IgG, ACA IgG, TSH and Fibr. There is +ve statistically significant correlation between anti–annexin A5 IgG antibodies and Toxo. IgM.

In this group there is also –ve correlation without statistical significant difference between anti–annexin A5 IgM antibodies and age, CMV IgG and IgM, FT4 and fibr.

Table (7): Correlation between Anti–anx V antibodies and other parameters in control non pregnant group:

Parameter	anti-AnxV IgG		anti-AnxV IgM	
	Correlation Coefficient (r)	P	Correlation Coefficient (r)	P
Age	-0.455	0.186	0.396	0.257
Toxo. IgG	-0.328	0.354	-0.235	0.514
Toxo. IgM	0.479	0.161	-0.513	0.130
CMV IgG	0.447	0.196	-0.250	0.487
CMV IgM	0.265	0.460	0.167	0.646
ACA IgG	-0.756 *	0.011	-0.049	0.893
ACA IgM	0.416	0.231	-0.217	0.547
FT4	-0.468	0.173	-0.006	0.986
TSH	0.635 *	0.049	0.027	0.942
LA	0.579	0.079	0.131	0.719
Fibr.	0.326	0.359	-0.010	0.978
PT	0.173	0.633	-0.338	0.340
PTT	0.218	0.545	-0.120	0.742

**. Correlation is significant at the 0.05 level (2-tailed).*

There is –ve correlation without statistical significant difference in control non pregnant group between anti–annexin A5 IgG antibodies and age, Toxo IgG, and FT4 and there is -ve statistically significant correlation between it and ACA IgG and +ve statistically significant correlation between it and TSH.

There is also –ve correlation without statistical significant difference in control non pregnant group between anti–annexin A5 IgM antibodies and Toxo IgG and IgM, CMV IgG, ACA IgG and IgM, FT4, fibrinogen, PT and PTT.

Sensitivity of anti-annexin A5 IgG = % true positive = $\frac{TP}{TP+FN}$ X100 = $\frac{1}{1+29}$ = 3.3%

Sensitivity of anti-annexin A5 IgM = $\frac{3}{3+27}$ X100 =10%

Specificity of anti-annexin A5 IgG = % true negative = $\frac{TN}{TN+FP}$ X100 = $\frac{20}{20+0}$ X100 = 100%

Specificity of anti-annexin A5 IgM = $\frac{18}{18+2}$ X100 =90%

Positive predictive value (PPV) of anti-annexin A5 IgG = % patients with positive test having RM = $\frac{TP}{TP+FP}$ X100 = $\frac{1}{1+0}$ X 100 =100%

PPV of anti-annexin A5 IgM = $\frac{3}{3+2}$ X 100 =60%

Negative predictive value (NPV) of anti-annexin A5 IgG = % patients with negative test not having RM = $\frac{TN}{TN+FN}$ X100 = $\frac{20}{20+29}$ X 100 = 40.8%

NPV of anti-annexin A5 IgM = $\frac{18}{18+27}$ 18 X 100 = 40%

	Positive test	**Negative test**
RM present	True Positive (TP)	False Negative (FN)
RM absent	False Positive (FP)	True Negative (TN)

Table 8: Sensitivity, Specificity, PPV and NPV of anti-annexin A5 antibodies:

	Anti-annexin IgG	Anti-annexin IgM
Sensitivity	3.3%	10%
Specificity	100%	90%
PPV	100%	60%
NPV	40.8%	40%

Anti-annexin A5 antibodies are not considered as a sensitive test for RM but it is a highly specific one.

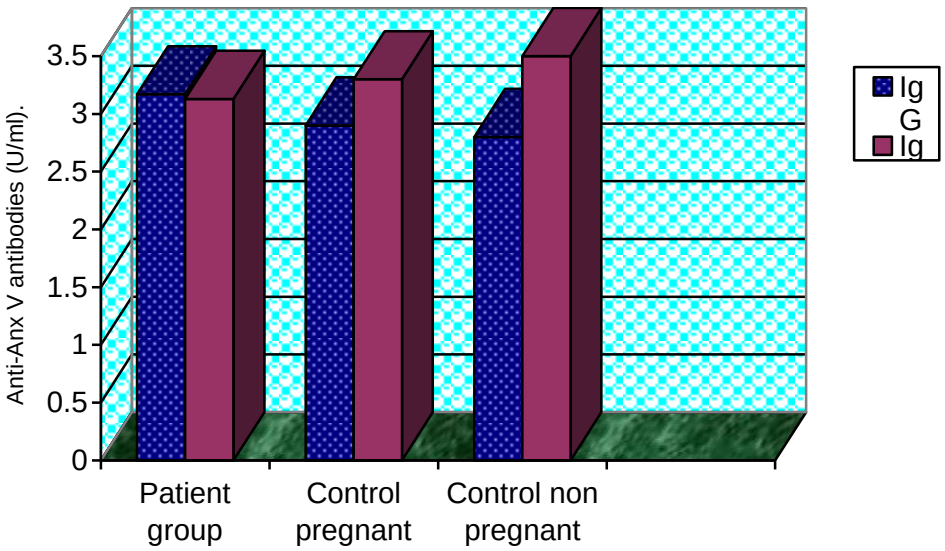


Figure (I): Mean anti-Anx V antibodies IgG and IgM (U/ml) in all groups.

The mean antibody concentrations of anti-annexin A5 were in GI 3.17±1.12 U/mL for IgG and 3.13±2.58 U/mL for IgM , in GII 2.9± 0.57 U/mL for IgG and 3.3±2.11 U/mL for IgM and in GIII 2.8± 0.79 U/mL for IgG and 3.5+-3.14 U/mL for IgM.

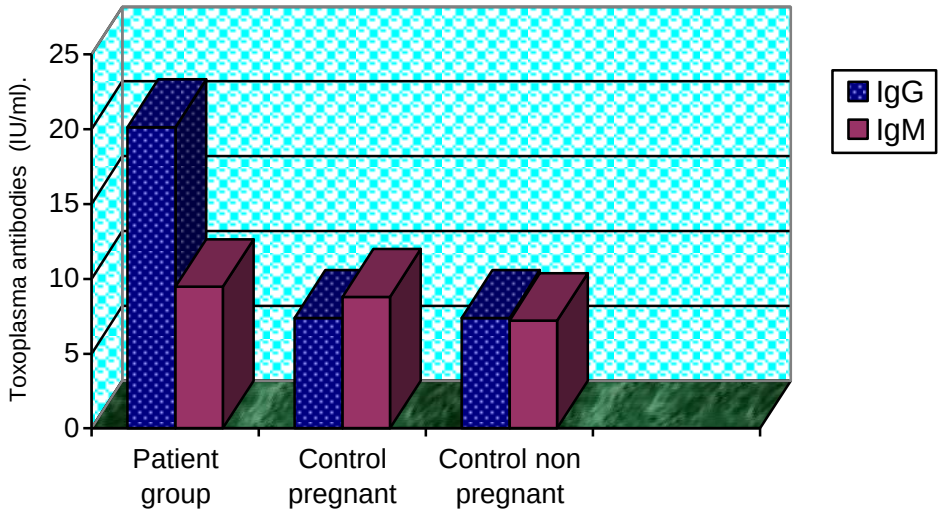


Figure (II): Mean Toxopl-asma antibodies IgG and IgM (IU/ml) in all groups.

The mean Toxoplasma IgG antibody concentrations were 20.13±18.32 IU/mL for (GI), 7.4 ± 4.17 IU /mL for (GII) and 7.4+-4.37 IU /mL for (GIII), and as regard the mean IgM antibody concentrations were 9.47±6.85 IU/mL for (GI), 8.8±3.08 IU /mL for (GII) and 7.2±3.93 IU /mL for (GIII).

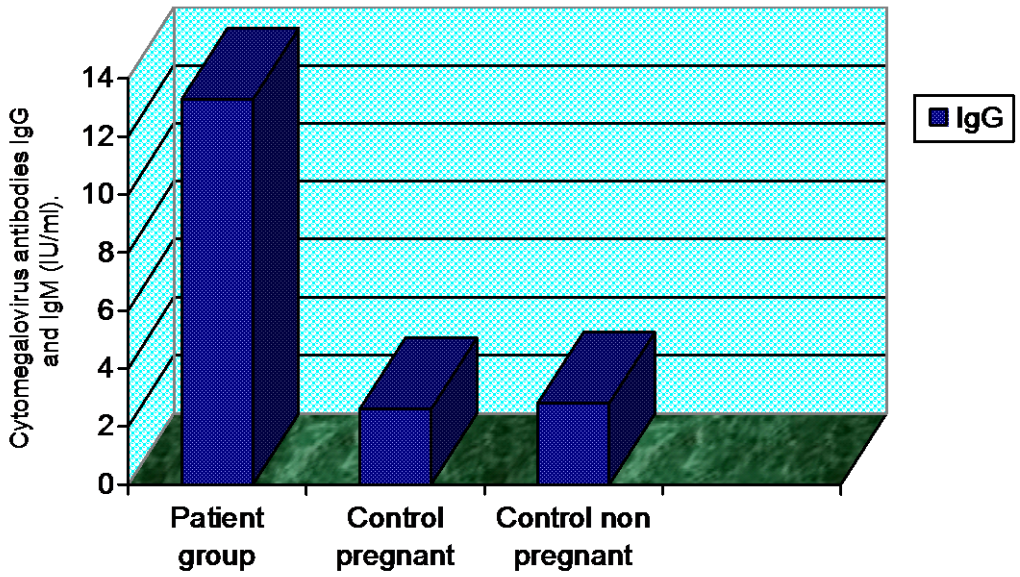


Figure (III): Mean Cytomegalovirus antibodies IgG and IgM (IU/ml) in all groups.

The mean antibody concentrations of CMV IgG are 13.27±13.69 IU/ml for (GI), 2.6±0.97 IU/ml for (GII) and 2.8±1.14 IU/ml for (GIII).

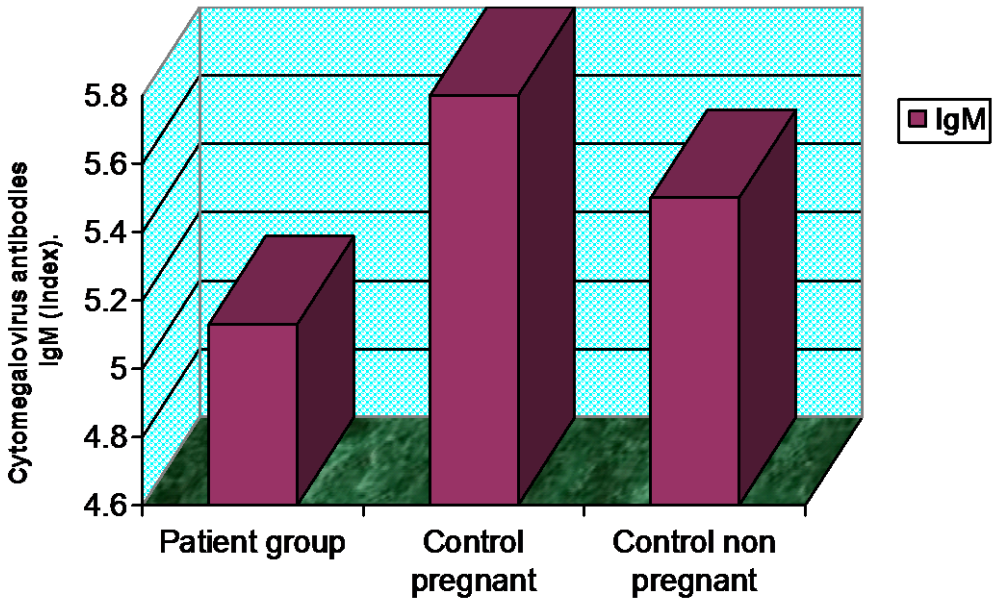


Figure (IV): Mean Cytomegalovirus antibodies IgM (Index) in all groups.

The mean CMV IgM antibody concentrations are 0.53±0.22 Index for (GI), 0.58±0.28 Index for (GII) and 0.41±0.22 Index for (GIII).

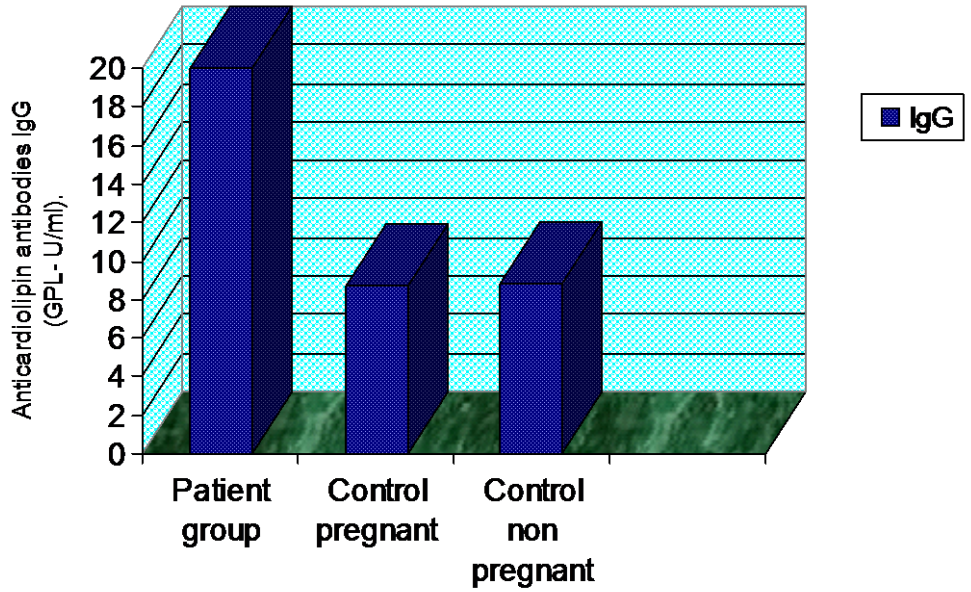


Figure (V): Mean Anticardiolipin antibodies IgG (GPL-U/ml) in all groups.

The mean antibody concentrations of ACA IgG is 8.7±3.86 GPL- U/ml in GI, 8.7±3.86 GPL-U/ml in GII and 8.8±3.61 GPL-U/ml in GIII.

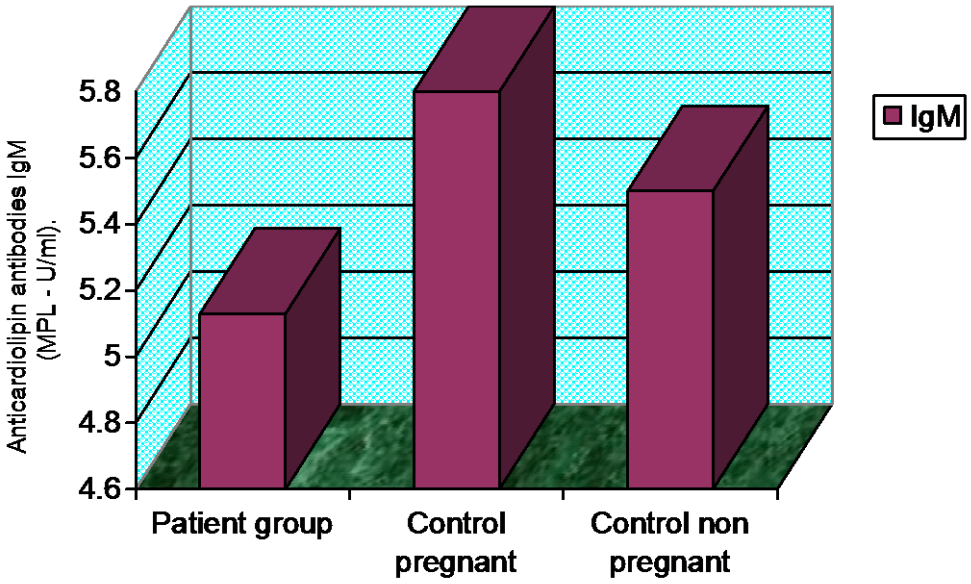


Figure (VI): Mean Anticardiolipin antibodies IgM (MPL - U/ml) in all groups.

The mean antibody concentrations of ACA IgM is 5.13±2.1 MPL-U/ml in GI, 5.8±2.34 MPL-U/ml and in GII and 5.5±2.37 MPL-U/ml in GIII.

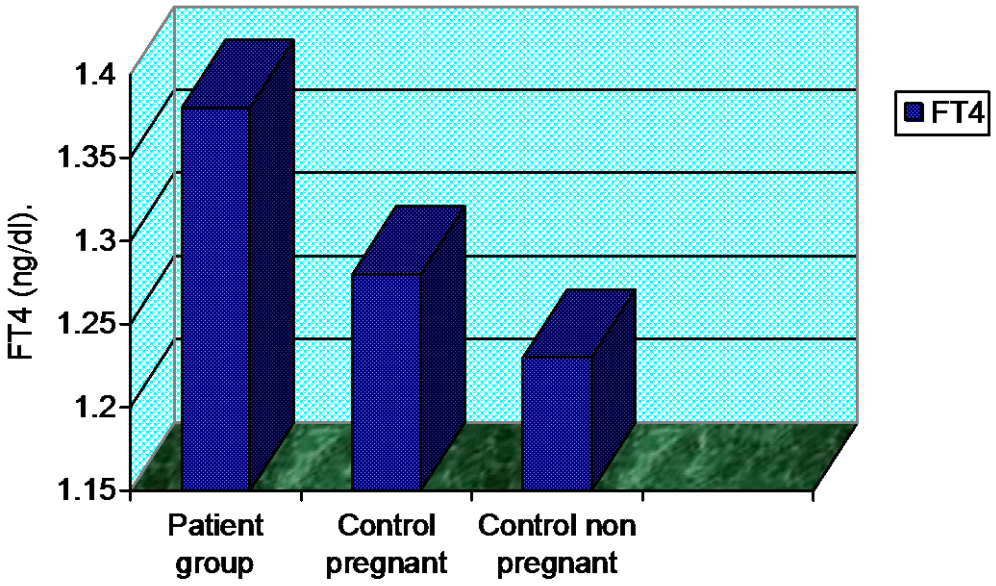
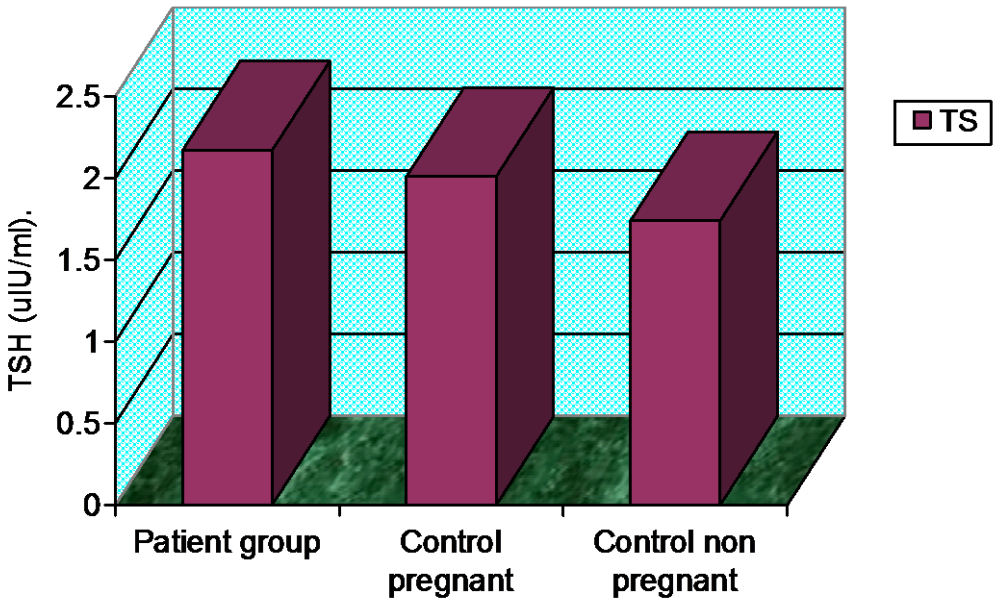


Figure (VII): Mean free thyroxine level (ng/dl) in all groups.

The mean level of FT4 is 1.38 ± 0.45 ng/dl for (GI), 1.28 ± 0.34 ng/dl for (GII) and 1.23 ± 0.28 ng/dl for (GIII).



Diagrm (VIII):Mean Thyroid stimulating hormone level (ulU/ml).

The mean level of TSH is 2.17 ± 0.91 µIU/ml for (GI), 2.01± 0.79 µIU/ml for (GII) and 1.74 ± 0.93 µIU/ml for (GIII).