RESULTS

Group (1): (Tables 2&3) :

Their obstetric histories were :

- 8 cases (53.3%) with 3 recurrent abortions.
- 6 cases (40%) with 4 recurrent abortions.
- 1 case (6.67%) with 5 recurrent abortions.

Their laboratory investigations showed in (Table 2&3)

1) Hemoglobin concentration (HB) ranged from 9.00 – 11 gm/dl with a mean value of 10.55 ± 0.99 gm /dl.

2) Red cell count (R.B.Cs) ranged from 3.3 – 4.1 (x 10^{12} / 1) with a mean value of 3.87 ± 0.21 (x 10^{12} / 1).

3) Total leucocytic count (T.L.C) ranged from 4.5 – 9 (x 10^{9} / 1) with a mean value of 6.44 ± 1.259 (x 10^{9} / 1).

4) Fasting blood sugar (F.B.S) ranged from 70 – 110 mg/dl with a mean value of 95.33 ±14.45 mg/dl.

5) Low density lipoprotein-cholesterol (LDLc) ranged from 108 –164 mg/dl with a mean value of 127.4 ± 21.04 mg/dl .

6) The results for serum anticardiolipin antibody ;ACA-IgG assay ranged from 6.13 –28.99 GPL with a mean value

of 11.34 ± 6.87 GPL (Table 3) . While that ACA- IgM ranged from 3.46 – 24.23 MPL with a mean value of 6.86 ± 4.57 MPL (Table 3).ACA -IgG was high :more than 10 GPL (+ve) in 6 pregnant patients (40%) . ACA -IgM was high :more than 7 MPL (+ve) in 3 pregnant patients (20%).

Group (2): (Tables 4&5) :

Their obstetric histories were :

- 9 cases (60%) with 3 recurrent abortions.
- 5 cases (33.3%) with 4 recurrent abortions.
- 1 case (6.67%) with 5 recurrent abortions.

Their laboratory investigations showed in (Tables 4&5)

1)Hemoglobin concentration (HB) ranged from 9.5 –11.5 gm/dl with a mean value of 10.77 ±1.19 gm /dl.

2) Red cell count (R.B.Cs) ranged from 3.5 – 4.3 (x 10^{12} / 1) with a mean value of 3.97 ± 0.3 (x 10^{12} / 1).

3) Total leucocytic count (T.L.C) ranged from 4.45 - 11 (x 10^{9} / 1) with a mean value of 6.94 ±2.02 (x 10^{9} / 1).

4) Fasting blood sugar (F.B.S) ranged from 70 - 110 mg/dl with a mean value of 93 ± 13.34 mg/dl .

5) Low density lipoprotein (LDLc) ranged from 114 –140 mg/dl with a mean value of 124.93 ± 6.63 mg/dl.

6) The results for serum anticardiolipin antibody ;ACA-IgG ranged from 0.4 – 16.54 GPL with a mean value of 7.28 ± 4.54 GPL (Table 5) . While that ACA -IgM ranged from 0 – 9.6 MPL with a mean value of 4.12 ± 2.45 MPL (Table 5) .

ACA -IgG was high :more than 10 GPL (+ve) in 4 non pregnant patients (26.67%) . ACA -IgM was high :more than 7 MPL (+ve) in 1 non pregnant patient (6.67%).

Group (3): (Table 6) :

Their laboratory investigations showed (Table 6) :

1) Hemoglobin concentration (HB) ranged from 11 –13 gm/dl with a mean value of 11.87 ± 0.69 gm /dl.

2)Red cell count (R.B.Cs) ranged from 3.95 – 4.7 (x 10^{12} / 1) with a mean value of 4.27 ± 0.29 (x 10^{12} / 1) .

3)Total leucocytic count (T.L.C) ranged from 4.4 – 9 (x 10^{9} / 1) with a mean value of 5.94 ± 1.46 (x 10^{9} / 1).

4) Fasting blood sugar (F.B.S) ranged from 80 – 100 mg/dl with a mean value of 92.5 ± 9.2 mg/dl.

5) Low density lipoprotein (LDLc) ranged from 108 - 118 mg/dl with a mean value of 112.6 ± 3.78 mg/dl.

6) The results for serum anticardiolipin antibody :ACA-IgG ranged from 0.99 –6.36 GPL with a mean value of 2.74 ± 1.51 GPL (Table 6) . While that ACA -IgM ranged from 0 – 7.81 MPL with a mean value of 4.14 ± 2.85 MPL.

All the healthy pregnant women had negative ACA- IgG while ACA -IgM was high :more than 7 MPL (+ve) in 2 healthy pregnant women (13.33%).

Group (4): (Table 7)

Their routine investigations showed (Table 7):

1) Hemoglobin concentration (HB) ranged from 11.5 - 14 gm/dl with a mean value of 12.53 ± 0.84 gm /dl.

3)Red cell count (R.B.Cs) ranged from 4.00– 5.00 (x 10^{12} / 1) with a mean value of 4.5 ± 0.3 (x 10^{12} / 1)

3) Total leucocytic count (T.L.C) ranged from 4 - 6.8 (x 10^{9} / 1) with a mean value of 5.28 ± 0.85 (x 10^{9} / 1).

4) Fasting blood sugar (F.B.S) ranged from 80 – 100 mg/dl with a mean value of 90.5 ± 8.64 mg/dl.

5) Low density lipoprotein (LDLc) ranged from 110 - 130 mg/dl with a mean value of 120.4 ±5.56 mg/dl.

6) The tests for serum anticardiolipin antibody ;ACA- IgG ranged from 0.88 – 13.83 GPL with a mean value of 6.55 ± 4.19 GPL (Table 7) . While that ACA -IgM ranged from 1.02 – 9.72 MPL with a mean value of 4.2 ± 2.75 MPL.

ACA-IgG was high :more than 10 GPL (+ve) in 2 healthy non pregnant women (13.33%). ACA -IgM was high :more than 7 MPL (+ve) in 2 healthy non pregnant women (13.33%).

Comparitive studies:-

Comparison between pregnant patients with history of habitual abortion; group(1) and control (healthy pregnant) women; group (3) (Table 8) revealed a higher incidence of positive ACA-IgG in 6 patients (40%) , and the difference was statistically highly significant as $t = 2.89$, $P < 0.01$. While that for ACA-IgM the results revealed that it was +ve in 3 patients (20%) and +ve in 2 control women (20%). The difference was statistically non significant as $t = 1.48$.

For the same groups LDLc was estimated (Table 8). The data revealed +ve results (high LDLc) in 4 patients (26.67%) . The difference between the two previous groups was statistically significant as $t = 2.76$, $P < 0.05$.

Comparison between non pregnant patients with history of habitual abortion; group (2) and control (healthy non pregnant) women; group (4) (Table 9) revealed positive ACA-IgG in 4 patients (26.67 %) , and in 2 control women (20%) . The difference was statistically non significant as $t = 0.08$. While that for ACA-IgM the results revealed that it was +ve in 1 patient (6.67%) and +ve in 2

control women (20%) . The difference was statistically non significant as t = 1.67 .

For the same groups LDLc was estimated (Table 9). The data revealed +ve results in 1 patient (6.67%) higher than control . The difference between the two previous groups was statistically non significant as t =1.93 .

Comparison between pregnant; group (1) and non pregnant patients ; group (2) with history of habitual abortion (Table 10) revealed positive ACA-IgG in 6 pregnant patients (40 %) , and +ve in 4 non pregnant patients (26.67 %) . The difference was statistically non significant as t =1.53 . While that for ACA-IgM the results revealed that it was +ve in 3 pregnant patients (20 %) and +ve in 1 non pregnant patient (6.67 %) . The difference between the two groups was statistically non significant as t = 1.08 .

For the same groups LDL was estimated (Table 10). The data revealed +ve results in 4 pregnant patients (26.67 %) and +ve in 1 non pregnant patient . The difference between the two previous groups was statistically non significant as t = 0.45 .

Comparison was done between pregnant and non pregnant women ;Both control groups (Table 11) revealed positive ACA-IgG only in 2 non pregnant control (20 %) higher than pregnant control , which were all negative for ACA-IgG . The difference was statistically non significant as t =1.82 . While that for ACA-IgM the results revealed that there were 2 +ve pregnant control (20 %) and also +ve in 2 non pregnant control (20%) . The difference was statistically non significant as t =0.07.

Also LDLc was estimated between the previous two control groups (Table 11). The data showed that all the control women were – ve . The difference was statistically highly significant as $t = 3.87$, $P < 0.01$.

Table 2 : Pregnant patient with history of habitual abortion.

case no.	age	no. of ab.	HB. gm/dl	R.B.Cs. x 10^{12} / 1	T.L.C x 10^{9} / 1	F.bl. S. mg/dl
1	20	3	11	4.09	6.2	100
2	25	4	11	4.05	4.5	110
3	37	3	10.8	4.01	6.8	70
4	31	4	10.6	3.85	5.6	95
5	35	3	11	4.01	4.5	110
6	20	3	10	3.68	6.5	100
7	35	3	10.6	3.9	5.6	80
8	42	4	10.2	3.75	6.3	105
9	40	5	9.5	3.5	6	105
10	20	4	9.7	3.64	5.8	100
11	23	4	11	3.9	7.2	105
12	25	3	11	4.1	7	110
13	31	3	11	3.88	9	95
14	22	4	10	3.75	8.6	70
15	24	3	10.8	4	7	75
mean	28.67	3.53333	10.55	3.874	6.44	95.33
S.D	7.641	0.63994	0.993	0.214	1.259	14.45

no. of ab. = Number of abortions.
HB. = Haemoglobin gm / dl
RBCs = Red blood cell count x 10^{12} / 1
TLC = Total leucocytic count x 10^{9} / 1
F.bl. S = Fasting blood sugar (mg / dl)

Table 3 : Tests for serum anticardiolipin antibody (IgG & IgM) and low density lipoprotein-cholesterol for pregnant patients with history of habitual abortion.

case no.	ACA / GPL	ACA / MPL	LDLc mg/dl
1	28.99	24.23	160
2	7.88	3.53	130
3	8.16	5.69	110
4	25.98	3.46	150
5	6.13	5.38	106
6	7.39	4.51	112
7	11.9	7.67	164
8	10.22	6.56	120
9	6.45	3.9	108
10	6.93	5.65	108
11	10.78	6.64	124
12	8.1	4.03	122
13	9.75	6.6	126
14	13.11	9.08	161
15	8.27	6	110
mean	11.336	6.862	127.4
S.D	6.874	4.571	21.04349

ACLA = Anticardiolipin antibodies
GPL = One GPL unit is the cardiolipin binding activity of 1 mcg/ml of affinity purified IgG-ACA from a sandard serum.
MPL = One MPL unit is the cardiolipin binding activity of 0.5 mcg/ml of affinity purified IgM-ACA from a sandard serum.
LDLc = Low density lipoprotein - cholesterol (mg/dl).

Table 4 :Non pregnant patient with history of habitual abortion.

case no.	age	no. of ab.	HB gm/dl	R.B.Cs. x 10^{12} / 1	T.L.C x 10^{9} / 1	F.bl. S. mg/dl
1	28	3	11	3.98	4.45	110
2	31	4	9.8	3.65	6.4	110
3	35	4	10.4	3.9	9	95
4	22	3	11.5	4.3	5.6	90
5	30	5	9.5	3.5	11	110
6	26	3	11.5	4.3	4.5	95
7	27	3	11	4	5.9	100
8	22	3	11.5	4.3	6.5	70
9	24	3	11.2	4	6.8	75
10	25	4	11	3.96	5.4	90
11	32	4	10	3.7	4.8	100
12	33	4	9.8	3.6	8.6	105
13	32	3	11	3.94	10	80
14	24	3	11	4.25	8.2	75
15	26	3	11.3	4.2	7	90
mean	27.8	3.46667	10.77	3.972	6.943	93
S.D	4.144	0.63994	1.187	0.304	2.016	13.34

no. of ab. = Number of abortions.
HB. = Haemoglobin gm / dl
RBCs = Red blood cell count x 10^{12} / 1
TLC = Total leucocytic count x 10^{9} / 1
F.bl. S = Fasting blood sugar (mg / dl)

Table 5 : **Tests for serum anticardiolipin antibody (IgG & IgM) and low density lipoprotein - cholesterol for non pregnant patients with history of habitual abortion.**

case no.	ACA / GPL	ACA / MPL	LDLc mg/dl
1	2.66	4.85	130
2	6.45	4.22	120
3	2.56	4.69	140
4	5.68	1.77	120
5	3.05	0.79	118
6	0.4	0	114
7	11.9	4.34	118
8	7.5	5.73	124
9	8.07	4.69	130
10	16.54	9.6	128
11	6.16	3.96	122
12	13.02	4.79	130
13	7.22	1.38	124
14	12.74	6.14	126
15	5.2	6.26	130
mean	7.276666667	4.214	124.9333
S.D	4.53720283	2.448891294	6.627504

ACLA = Anticardiolipin antibodies
GPL = One GPL unit is the cardiolipin binding activity of 1 mcg/ml of affinity purified IgG-ACA from a sandard serum.
MPL = One MPL unit is the cardiolipin binding activity of 0.5 mcg/ml of affinity purified IgM-ACA from a sandard serum.
LDLc = Low density lipoprotein - cholesterol.

Table 6 : Control group (pregnant females)

case no.	age	HB. gm/dl	R.B.Cs. x 10^{12} / 1	T.L.C x 10^{9} / 1	F.bl. S. mg/dl	ACA / GPL	ACA / MPL	LDLc mg/dl
1	20	12.3	4.6	4.6	80	2.17	2.95	108
2	22	12.8	4.68	7	90	0.99	4.95	110
3	21	12	4.16	5.1	80	2.47	0	118
4	25	11	4	7.1	80	4.03	7.81	112
5	35	11.8	4.22	5.2	100	4.03	5	108
6	28	11.3	4	6.4	100	3.05	7.43	116
7	30	11	3.95	4.6	100	5	6.22	114
8	32	11.5	4.08	9	100	3.25	1.37	118
9	25	12	4.3	6	95	4	2	110
10	42	13	4.7	4.4	100	6.36	0.48	112
mean	28	11.87	4.269	5.94	92.5	2.738	4.142	112.6
S.D	4.1218	0.6945	0.29092	1.46303	9.20447	1.51379	2.85193	3.77712

HB. = Haemoglobin gm / dl
RBCs = Red blood cell count x 10^{12} / 1
TLC = Total leucocytic count x 10^{9} / 1
F.bl. S = Fasting blood sugar (mg / dl)
ACA = Anticardiolipin antibodies
GPL = One GPL unit is the cardiolipin binding activity of 1 mcg/ml of affinity purified IgG-ACA from a sandard serum.
MPL = One MPL unit is the cardiolipin binding activity of 0.5 mcg/ml of affinity purified IgM-ACA from a sandard serum.
LDLc = Low density lipoprotein - cholesterol.

Table 7 : Control group (non pregnant females)

case no.	age	HB. gm/dl	R.B.Cs. x 10^{12} / 1	T.L.C x 10^{9} / 1	F.bl. S. mg/dl	ACA / GPL	ACA / MPL	LDLc mg/dl
1	22	13.5	4.8	5	80	2.85	1.42	130
2	35	12.8	4.55	4	80	0.88	9.72	120
3	25	12.9	4.6	6.2	100	8.46	5	122
4	28	12	4.3	4.4	95	13.83	1.46	110
5	30	11.5	4	4.8	85	3.63	1.02	118
6	32	11.5	4.2	5.2	80	3.54	7.01	124
7	31	13	4.68	5.4	100	7.17	4.7	126
8	29	12.6	4.5	6	100	6.41	4	116
9	28	11.5	4.4	6.8	95	12.63	5.14	118
10	26	14	5	5	90	6.07	2.53	120
mean	28.6	12.53	4.503	5.28	90.5	6.547	4.2	120.4
S.D	4.0277	0.83958	0.29746	0.84958	8.6442	4.18559	2.75514	5.56177

HB. = Haemoglobin gm / dl
RBCs = Red blood cell count x 10^{12} / 1
TLC = Total leucocytic count x 10^{9} / 1
F.bl. S = Fasting blood sugar (mg / dl)
ACA = Anticardiolipin antibodies
GPL = One GPL unit is the cardiolipin binding activity of 1 mcg/ml of affinity purified IgG-ACA from a sandard serum.
MPL = One MPL unit is the cardiolipin binding activity of 0.5 mcg/ml of affinity purified IgM-ACA from a sandard serum.
LDLc = Low density lipoprotein - cholesterol.

Table 8 : Comparison between pregnant patients with history of habitual abortion and control (healthy pregnant) women as regard anticardiolipin antibody(ACA) and low density lipoprotein (LDLc).

Group	No. Total	+ve cases	%	Mean	S.D	t - value	sign.
IgG							
Patient	15	6	40%	11.34	6.87		
control	10	—	—	2.74	1.51	2.89	***
IgM							
Patient	15	3	20%	6.86	4.57		
control	10	2	20.00%	4.14	2.85	1.48	*
LDLc							
Patient	15	4	26.67%	127.4	21.04		
control	10	—	—	112.6	3.78	2.76	**

Table 9: Comparison between non pregnant patients with history of habitual abortion and control (healthy non pregnant) women as regard anticardiolipin antibody(ACA) and low density lipoprotein (LDLc).

Group	No. Total	+ve cases	%	Mean	S.D	t - value	sign.
IgG							
Patient	15	4	26.67%	7.28	4.54		
control	10	2	20.00%	6.55	4.18	0.08	*
IgM							
Patient	15	1	6.67%	4.21	2.45		
control	10	2	20.00%	4.2	2.75	1.67	*
LDLc							
Patient	15	1	6.67%	124.93	6.63		
control	10	—	—	120.4	5.56	1.93	*

*** = Highly significant result as $P < 0.01$

** = Significant result as $P < 0.05$

* = Non significant result as $P > 0.05$

Table 10 : Comparison between pregnant and non pregnant patients with history of habitual abortion as regard anticardiolipin antibody(ACA) and low density lipoprotein (LDLc).

Group	No. Total	+ve cases	%	Mean	S.D	t - value	sign.
IgG							
Pregnant patient	15	6	40%	11.34	6.87		
Non pregnant patient	15	4	26.67%	7.28	4.54	1.53	*
IgM							
Pregnant patient	15	3	20%	6.86	4.57		
Non pregnant patient	15	1	6.67%	4.12	2.5	1.08	*
LDLc							
Pregnant patient	15	4	26.67%	127.4	21.04		
Non pregnant patient	15	1	6.67	124.93	6.63	0.45	*

Table 11 : Comparison between pregnant and non pregnant women (control) as regard anticardiolipin antibody(ACA) and low density lipoprotein (LDLc).

Group	No. Total	+ve cases	%	Mean	S.D	t' - value	sign.
IgG							
Pregnant control	10	—	—	2.74	1.51		
Non pregnant control	10	2	20.00%	6.55	4.18	1.82	*
IgM							
Pregnant control	10	2	20.00%	4.14	2.85		
Non pregnant control	10	2	20.00%	4.2	2.75	0.07	*
LDLc							
Pregnant control	10			112.6	3.78		
Non pregnant control	10	—	—	120.4	5.56	3.87	***

*** = Highly significant result as $P < 0.01$

** = Significant result as $P < 0.05$

* = Non significant result as $P > 0.05$