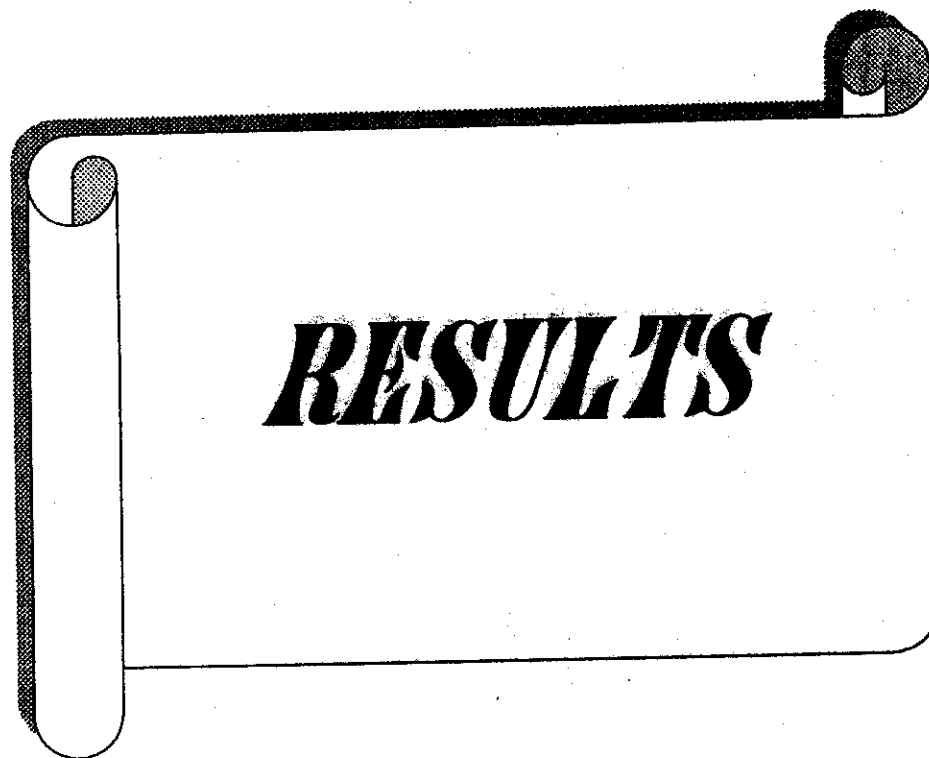




RESULTS

These are shown in tables 1-9 and figures 1-10:

Table (1) shows the clinico-epidemiological data of control and study cases. Both groups are comparable as regards age and gestational age but there is significant difference as regards systolic blood pressure ($P < 0.001$), diastolic blood pressure ($P < 0.001$) and placental weight ($p < 0.005$).

Table (2) shows serum insulin levels (mean $\pm$ SD) in study and control cases ($\mu\text{U/ml}$). Serum insulin is significantly higher in study cases compared with control cases ($P < 0.05$).

Table (3) Shows serum insulin levels (mean $\pm$ SD) in study and control cases at different age groups. There is no statistically significant change neither between study and control cases at different age groups nor between different age groups of study and control cases.

Table (1): Clinico-epidemiological data (mean $\pm$ SD).

Clinical criteria	Study (n = 40)	Control (n = 40)	P
Age (Mean $\pm$ S.D) (Years)	23.65 $\pm$ 3.774	22.25 $\pm$ 4.840	> 0.05
Systolic blood pressure (mm Hg)	155.75 $\pm$ 29.69	113.25 $\pm$ 9.167	< 0.001*
Diastolic blood pressure (mm Hg)	105.0 $\pm$ 11.767	72.5 $\pm$ 7.763	< 0.001*
Gestational age (weeks)	34.40 $\pm$ 4.247	35.025 $\pm$ 4.891	> 0.05
Placental weight (gm)	360.5 $\pm$ 103.17	491 $\pm$ 32.80	< 0.005*

* Significant change.

Table (2): Serum insulin levels (Mean $\pm$ SD) in study and control cases.

	Study (n = 39)	Control (n = 40)	t	P
Insulin μU/ml	28.90 $\pm$ 71.121	22.863 $\pm$ 62.271	2.825	< 0.05

P < 0.05 Significant change.

* One sample from the study cases was discarded due to hemolysis.

Table (3): Serum insulin levels (mean $\pm$ SD) in study and control cases at different age groups

Age \ Insulin μ U/ml	Study (n = 39)	Control (n = 40)	t	P
Group 1 ≤ 20 years	7.517 $\pm$ 3.068 (n = 5)	22.05 $\pm$ 40.06 (n = 4)	0.724	> 0.05
Group 2 21-25 years	31.29 $\pm$ 54.517 (n = 20)	10.937 $\pm$ 16.68 (n = 26)	1.645	> 0.05
Group 3 > 25 years	36.621 $\pm$ 102.358 (n = 14)	17.9 $\pm$ 20.914 (n = 10)	0.665	> 0.05
F	0.6844	1.2741	-	-
P	> 0.05	> 0.05	-	-

P > 0.05 Non significant change.

Table (4) Shows serum insulin levels (mean $\pm$ SD) in study and control cases at different gestational age groups.

There is no statistically significant change neither between study and control cases at different gestational age groups nor between different gestational age groups of study and control cases, ($P > 0.05$).

Table (5) Shows serum TNF- α levels (mean $\pm$ SD) in study and control cases (pg/ml). Serum TNF- α is significantly higher in study cases compared with control cases ($P < 0.001$).

Table (6) Shows serum TNF- α levels (mean $\pm$ SD) at different age groups. Serum TNF- α is significantly elevated in age groups 1 & 2 ($P < 0.05$) of study cases compared with control cases.

There is no statistically significant change between different age groups neither in study nor in control cases ($P > 0.05$).

Table (4): Serum insulin levels (mean $\pm$ SD) in study and control cases at different gestational age groups.

Insulin μU/ml Gestational Age	Study (n = 39)	Control (n = 40)	t	P
Group 1 ≤ 30 weeks	8.757 $\pm$ 16.449 (n = 7)	4.471 $\pm$ 3.506 (n = 7)	0.647	> 0
Group 2 31-35 weeks	10.908 $\pm$ 25.667 (n = 13)	7.21 $\pm$ 7.304 (n = 11)	0.496	> 0
Group 3 > 35 weeks	45.62 $\pm$ 96.09 (n = 19)	19.641 $\pm$ 25.642 (n = 22)	1.172	> 0
F	2.1587	1.2370	-	
P	> 0.05	> 0.05	-	

P > 0.05 Non significant change.

Table (5): Serum TNF- α levels (mean $\pm$ SD) in study and control cases.

	Study n=40	Control n=40	t	P
TNF - α (pg/ml)	78.59 $\pm$ 3.64	76.07 $\pm$ 2.85	3.31	0.001*

* Significant change.

Table (6): Serum TNF- α levels (mean $\pm$ SD) in study and control cases at different age groups.

Age \ TNF- α Pg/ml	Study (n = 40)	Control (n = 40)	t	P
Group 1 ≤ 20 years	76.901 $\pm$ 3.663 (n = 6)	75.769 $\pm$ 2.505 (n = 4)	2.058	< 0.05
Group 2 21-25 years	75.849 $\pm$ 3.760 (n = 20)	74.321 $\pm$ 2.780 (n = 26)	2.853	< 0.05
Group 3 > 25 years	75.633 $\pm$ 3.536 (n = 14)	74.514 $\pm$ 623 (n = 10)	0.237	> 0.05
F	0.3582	0.3327	-	-
P	> 0.05	> 0.05	-	-

* P < 0.05 Significant change.

Table (7) Shows serum TNF- α levels (mean $\pm$ SD) at different gestational age groups. Serum TNF- α values are significantly elevated in study cases at gestational age ≥ 31 weeks compared with control cases ($P < 0.05$).

No statistically significant change is detected between different gestational age groups of study or control cases ($P > 0.05$).

Table (8) Shows the correlation between serum insulin, TNF- α levels and blood pressure. There is no correlation between serum insulin level and systolic, diastolic blood pressure or TNF- α level.

There is no correlation between serum TNF- α level and systolic or diastolic blood pressure.

Table (7): Serum TNF- α levels (mean $\pm$ SD) in study and control cases at different gestational age groups.

Gestational Age \ TNF- α Pg/ml	Study (n = 40)	Control (n = 40)	t	P
Group 1 ≤ 30 weeks	77.533 $\pm$ 3.516 (n = 7)	75.621 $\pm$ 3.42 (n = 7)	1.730	> 0.05
Group 2 31-35 weeks	78.928 $\pm$ 3.571 (n = 13)	76.236 $\pm$ 2.155 (n = 11)	2.742	< 0.05*
Group 3 > 35 weeks	78.681 $\pm$ 4.874 (n = 20)	76.423 $\pm$ 4.827 (n = 22)	2.533	< 0.05
F	0.0357	0.0273	-	-
P	> 0.05	> 0.05	-	-

* P < 0.05 Significant change.

Table (8): Correlation coefficients between serum insulin, serum TNF- α and blood pressure in study cases.

Variables	Insulin	TNF - α
Systolic blood pressure	r 0.1552 P 0.339	r 0.0947 P 0.566
Diastolic blood pressure	r 0.1480 P 0.362	r 0.0724 P 0.662
Insulin	-	r 0.1493 P 0.364

P > 0.05 non significant change.

Table (9) shows placental necked eye and histopathological changes in study and control cases.

The necked eye pathological changes showed that recent, old infarcts and reteroplacental haematoma are more significantly prevalent in study versus control cases ($P < 0.05$).

Histopathological examination showed that recent and old infarcts are more significantly prevalent in the study versus control cases ($P < 0.05$).

Atherosclerosis is more significantly prevalent in study versus control cases ($P < 0.05$). Chorangioma is more significantly prevalent in study versus control cases ($P < 0.05$). Degenerative changes of syncytial trophoblast are more significantly prevalent in study versus control cases ($P < 0.05$). Endarteritis obliterans is more significantly prevalent in study versus control cases ($P < 0.05$).

Fibrinoid necrosis of the fetal stem arteries is more significantly prevalent in study versus control cases ($P < 0.05$). Calcification is more significantly prevalent in study versus control cases ($P < 0.05$). Thickening of basement membrane is more significantly prevalent in study versus control cases ($P < 0.05$). Vasculitis is more prevalent in study versus control cases ($P < 0.05$).

Table (9): Placental pathological changes in study and control cases.

cases.

Pathology	Group	Study n=40		Control n=40		$\bar{\chi}^2$	P
		n	%	n	%		
<u>Necked eye:</u>							
Recent infarction		16	40	0	0	14.12	< 0.05
Old infarction		40	100	8	20	59.13	< 0.05
Reteroplacental hematoma		8	20	0	0	6.49	<0.05
<u>Microscopic:</u>							
Recent infarction		12	30	0	0	14.12	< 0.05
Old infarction		40	100	12	30	50.61	< 0.05
Atherosis		30	75	0	0	43.08	< 0.05
Chorangiosis		40	100	0	0	80	< 0.05
Degenerative changes of syncy		40	100	9	20	53.33	< 0.05
-teal trophoblasts							
End arteritis obliterans		34	85	2	5	51.72	< 0.05
Fibronoid necrosis of fetal stem		6	15	0	0	4.21	< 0.05
arteries							
Fibrinoid entrapment of villil		40	100	4	10	72.38	< 0.05
Calcification		40	100	10	25	48	< 0.05
Thickening of basement memb.		40	100	4	10	65.45	< 0.05
Vasculitis		28	70	0	0	38.52	< 0.05

P < 0.05 Significant change.



Figure (1) Recent infarction.
(H & E stain X 63)

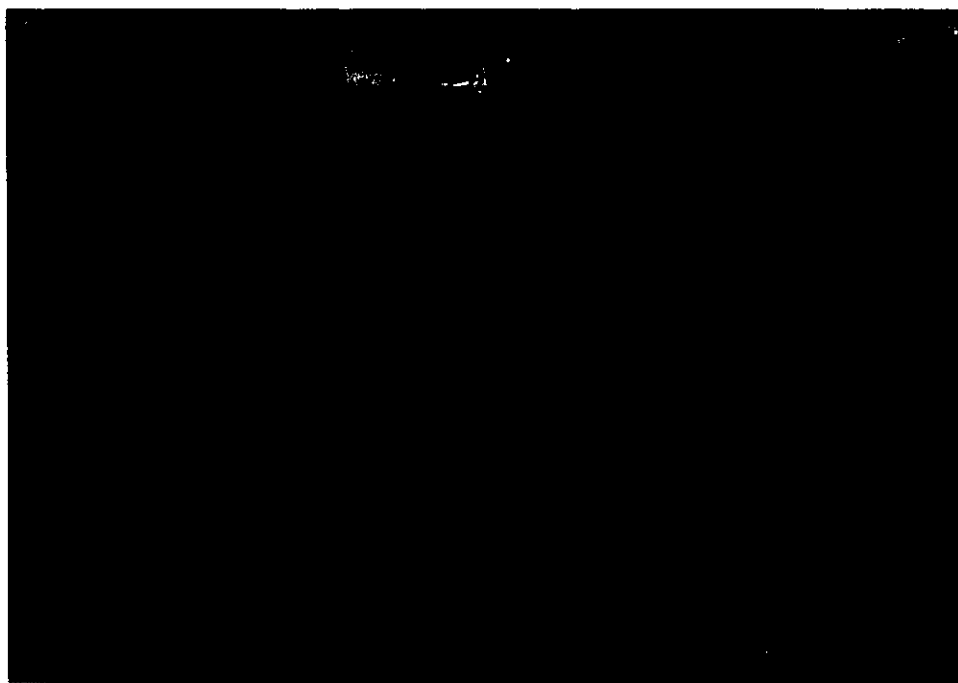


Figure (2) : Old infarction.
(H & E stain X 63)

**Figure (3): Atherosclerosis surrounded by old infarction
(V.V.G stain X 160)**



Figure (4) : Chorangiosis
(Trichrome stain X 63)

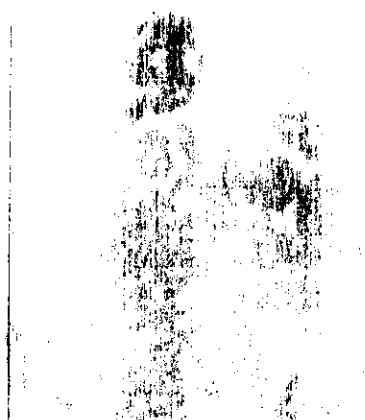
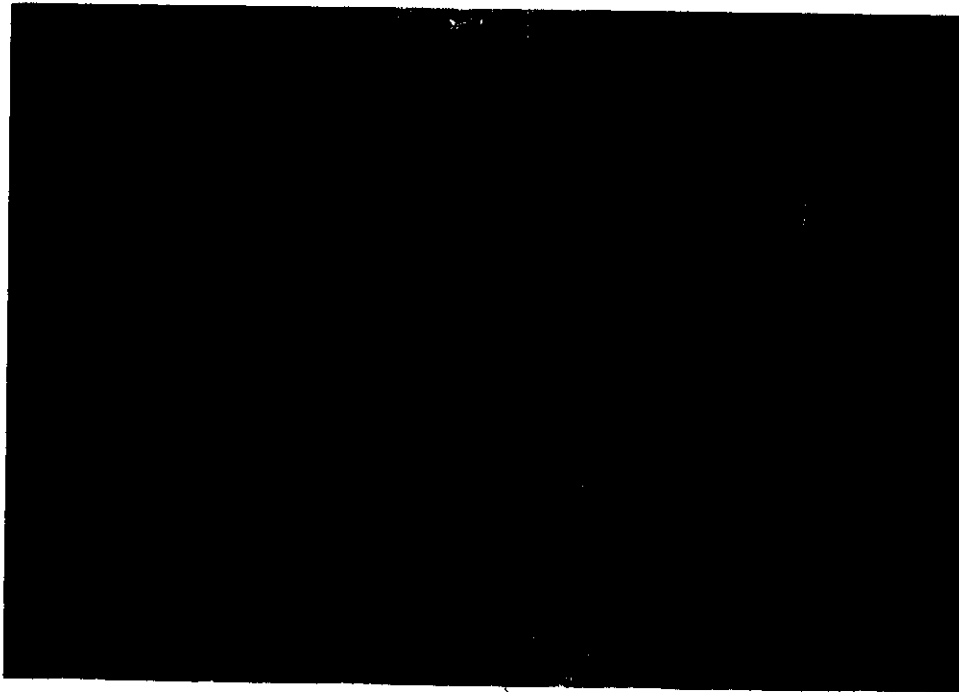


Figure (5): Chorangiosis
(V.V.G stain X 63)



**Figure (6): Degeneration of syncytial trophoblast and
proliferation of cytotrophoblast
(H & E stain X 160)**



**Figure (7): End arteritis obliterans and recent infarction.
(V.V.G. stain X 160)**

**Figure (8): Fibrinoid entrapment of villi.
(Trichrome stain X 63)**



**Figure (9): Dystrophic Calcification
(H & E stain X 63)**

**Figure (10) : Thickening in basement membrane of villous
blood vessels and fibrinoid necrosis
(P.A.S stain X 400)**