RESULTS

RESULTS

Table (1) Shows mean values ± S.D. of clinical data in control non pregnant women, normal pregnant women, true preeclamptic patients, chronic hypertensive pregnant women, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC.). In control non pregnant women the mean value ± S.D.; of age (yrs), blood pressure (mmHg) and body mass index, was (21.9 ± 1.66), (117/77 ± 3.5/3.5), and (22.6 ± 1.94) respectively. While, in normal primigravidae, the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks) was, (22.2 ± 1.75), (115.5/76 ± 5.98/3.9), (22.96 ± 1.88), and (37.6 ± 1.26) respectively. In normal multigravidae the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks) was, (39 ± 3.29) (111.5/73.5 ± 7.47/4.74) (24.1 ± 1.66) and (38.2 ± 1.48) respectively.

In true preeclamptic patients, the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks), in mild preeclamptic patients was, (23 ± 1.944) (146/97.5 ± 8.4 / 4.86) (23.49 ± 1.76) and (37.4 ± 1.17) respectively, while in severe preeclamptic patients was (22.6 ± 2.07) (174.5/121 ± 4.97/8.76) (24.1 ± 1.42) and (32.4 ± 2.27) respectively.

In chronic hypertensive pregnant women, the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks), in mild group was (40.3 ± 8.2) (153.5/97.5 ± 7.8/4.9) (24.13 ± 1.67) (37.6 ± 1.58) respectively, while in severe group, the mean value ±

S.D. was (39.7 ± 3.4) (214/121.5 ± 11.7/6.69) (25 ± 2.56) and (35.8 ± 1.48) respectively.

In superimposed preeclamptic patients, the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks), in mild group was, (39.8 ± 3.2) (155.5/99.5 ± 7.98/4.38) (23.7 ± 1.1) and (37.6 ± 1.17) respectively, while in severe group it was (40.2 ± 3.22) (222.5/124.5 ± 13.59/8.96) (25.2 ± 1.01) and (32.6 ± 1.897) respectively.

In severe preeclamptic patients with disseminated intravascular coagulation (DIC), the mean value ± S.D. of age (yrs), blood pressure (mmHg), body mass index and gestational age (weeks) was, (29.1 ± 9.2) (197/123 ± 22.1/8.2) (25.4 ± 1.2) and (31.2 ± 1.398) respectively.

Table (2): Shows one way ANOVA test of biochemical parameters and platelet count in control non pregnant women, normal pregnant women, true preeclamptic patients, chronic hypertensive pregnant women, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). It shows significant difference ($p < 0.001$) between the different groups regarding uric acid, creatinine, SGPT, SGOT, glucose and platelet count.

Table (3): Shows the mean value ± S.D of the biochemical parameters and platelet count in control non pregnant women, normal pregnant women, true preeclamptic patients, superimposed preeclamptic and severe preeclamptic patients, As regard serum uric acid (mg/dl), it was significantly increased in severe true preeclamptic patients (8.27 ± 2.52) than mild preeclamptic patients (5.3 ± 1.29) ($p < 0.01$). Also, in severe

superimposed preeclamptic patients it was significantly increased (7.96 ± 1.95) than mild superimposed preeclamptic patients (5.6 ± 1.05) ($p < 0.01$). In severe preeclamptic patients with DIC, it was insignificantly increased (8.78 ± 0.77) than severe preeclamptic patients without DIC (8.115 ± 2.198).

As regard, SGPT (IU) and SGOT(IU), the mean value ± S.D in severe true preeclamptic patients was significantly increased (44.2 ± 12.5), (50.1 ± 8.95) respectively than mild true preeclamptic patients (25.6 ± 5.31) (36.5 ± 4.4) respectively ($p < 0.01$). Also, in severe superimposed preeclamptic patients, the mean value ± S.D were significantly increased (44.2 ± 8.7), (44.4 ± 6.8) respectively, than mild superimposed preeclamptic patients (35.2 ± 5.77), (36.3 ± 5.6) respectively ($p < 0.01$).

In severe preeclamptic patients with DIC, the mean value of SGPT (IU) and SGOT (IU) was significantly increased (55.4 ± 9.59) (59 ± 7.8) respectively than severe preeclamptic patients without DIC (44.2 ± 10.5) (47.3 ± 8.3) respectively ($p < 0.01$).

As regard platelet count, the mean value ± S.D was significantly decreased in severe true preeclamptic (192,300 ± 20,020) than in mild true preeclamptic patients (216,300 ± 26,960) ($p < 0.01$). Also, in severe superimposed preeclamptic patients, it was significantly decreased (191,400 ± 8,360) than mild superimposed preeclamptic patients (214,600 ± 45,340) ($p < 0.05$). In severe preeclamptic patients with DIC, it was significantly decreased (167,000 ± 10,4000) than severe preeclamptic patients without DIC (191,900 ± 10,400) ($p < 0.001$).

Table(1): Mean value ± S.D of clinical data in control non pregnant women (Group I), normal pregnant women (Group II), true preeclamptic (Group III), chronic hypertensive pregnant (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

Studied groups	Group I	Group II		Group III		Group IV		Group V		Group VI
clinical data		Primigravidae	Multigravidae	Mild	severe	Mild	severe	Mild	severe	
No.	10	10	10	10	10	10	10	10	10	10
Age (yrs)	21.9±1.66	22.2±1.75	39±3.29	23±1.944	22.6±2.07	40.3±8.2	39.7±3.4	39.8±3.2	40.2±3.22	29.1±9.2
Blood pressure (mmHg)	117/77 ±3.5/3.5	115.5/76 ± 5.98/3.9	111.5/73.5 ±7.47/4.74	146/97.5 ±8.4/4.86	174.5/121 ±4.97/8.76	153.5/97.5 ±7.8/4.9	214/121.5 ±11.7/6.69	155.5/99.5 ±7.98/4.38	222.5/124.5 ±13.59/8.96	197/123± 22.1/8.2
Body mass index (Ratio)	22.66± 1.94	22.96±1.88	24.1±1.66	23.49±1.76	24.1±1.42	24.13±1.67	25±2.56	23.7±1.1	25.2±1.01	25.4±1.2
Gestational age (weeks)		37.6±1.26	38.2±1.48	37.4±1.17	32.4±2.27	37.6±1.58	35.8±1.48	37.6±1.17	32.6±1.897	31.2±1.398

Table (2): One way ANOVA test of biochemical parameters and platelet count in control non pregnant women (Group I), normal pregnant women (Group II), true preeclamptic patients (Group III), chronic hypertensive pregnant women (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

Studied groups / Biochem.para.	Group 1	Group II		Group III		Group IV		Group V		Group IV
		Primi gravidae	Multi gravidae	Mild	Severe	Mild	Severe	Mild	Severe	
No.	10	10	10	10	10	10	10	10	10	10
S.uric acid (mg/dl) $\bar{X}$	3.8	4.19	5.27	5.3	8.27	5.44	5.53	5.6	7.96	8.78
F : 13.175 p < 0.001										
S. creatinine (mg/dl) $\bar{X}$	0.48	0.54	0.57	0.78	0.85	0.73	0.83	0.77	0.88	0.93
F : 11.922 p < 0.001										
SGPT (I.U) $\bar{X}$	19	22.5	24.5	25.6	44.2	29.2	31.8	35.2	44.2	55.4
F : 22.039 p < 0.001										
SGOT (I.U) $\bar{X}$	24.4	28.4	30.4	36.5	50.1	32.8	34.9	36.3	44.4	59
F : 32.525 p < 0.001										
S.Glucose (mg/dl) $\bar{X}$	96.17	102.56	105.8	112.7	131.4	117.46	117.68	121.8	123.7	126.4
F : 6.187 p < 0.001										
Platelet count (/cmm) $\bar{X}$	336,500	298,200	315,200	216,300	192,300	270,600	244,300	214,600	191,400	167,000
F : 34.964 p < 0.001										

$\bar{X}$: Mean value S: Serum

Table (3): Mean value ± S.D of biochemical parameters and platelet count in control non pregnant women (Group I), normal pregnant women (Group II), true preeclamptic patients (Group III), chronic hypertensive pregnant women (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients (Group VI).

Studied groups	Group I	Group II		Group III		Group IV		Group V		Group VI	
Biochem. paramters		primigravidae	Multigravidae	Mild	severe	Mild	severe	Mild	severe	without DIC	with DIC
No.	10	10	10	10	10	10	10	10	10	20	10
S.Uric acid (mg/dl)	3.8 ± 1.2	4.19±0.98	5.27±1.19	5.3 ±1.29	8.27±2.52 P1<0.01	5.44±1.19	5.53±1.89	5.6±1.05	7.96±1.95 P1<0.01	8.115±2.198	8.78±0.77 P2<0.01
S.Creatinine(mg/dl)	0.48±0.19	0.54±0.1	0.57±0.131	0.78±0.08	0.85±0.18	0.73±0.13	0.83±0.15	0.77±0.1	0.88±0.2	0.87±0.173	0.93±0.1
S.Glucose (mg/dl)	96.2±11.76	102.6±16	105.8±13.3	112.7±12.2	131.4±13.	117.5± 19.9	117.7± 17.2	121.8± 15.9	123.7± 12.3	127.6±12.96	126.4± 6.42
S.SGPT (I.U.)	19 ±5.16	22.5±10.07	24.5±4.8	25.6±5.31	44.2±12.5 P1<0.01	29.2±4.5	31.8±7.02	35.2±5.77	44.2±8.7 P1<0.01	44.2±10.5	55.4±9.59 P2<0.01
S.SGOT (I.U.)	24.4±4.09	28.4±4.99	30.4±4.57	36.5±4.4	50.1±8.95 P1<0.01	32.8±4.6	34.9±4.6	36.3±5.6	44.4±6.8 P1<0.01	47.3±8.3	59 ± 7.8 P2<0.01
Platelet count /cmm	336.500 ± 39.830	298.200 ±37.280	315.200 ±26.890	216.300 ±26.960	192.300 ±20.020 P1<0.01	270.600 ±38.400	244.300 ±45.340	214.600 ±28.600	191.400 ±18.360 P1<0.05	191.900 ±10.400	167.000 ±10.400 P2<0.001

DIC: Dissminated intravascular coagulation. P_1: Compared to mild preeclemptic patients.

P_2 : Compared to severe preeclamptic patients without DIC. S. : serum

Table (4): Shows one way ANOVA test of plasma fibronectin in control non-pregnant, normal pregnant women, true preeclamptic, chronic hypertensive pregnant,superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). It shows significant difference between the different groups ($p < 0.001$).

While, table (5) Fig. (1) show plasma fibronectin (μg/ml) pattern in control non pregnant, normal primigravid women and true preeclamptic patients. In normal primigravid women, the mean value of plasma fibronectin (309.5 ± 46.03 μg/ml) was significantly increased than control non pregnant (264.5 ± 32.95 μg/ml) ($p < 0.05$).

Also, in true preeclamptic patients, the mean value (483.25 ± 105.796 μg/ml) was significantly increased than normal primigravid women (309.5 ± 46.03 μg/ml) ($p < 0.0005$). Moreover, it was significantly increased in severe true preeclamptic (547.5 ± 102.286 μg/ml) than in mild true preeclamptic patients (419 ± 63.19 μg/ml) ($p < 0.01$).

Table (6): Fig. (2) show plasma fibronectin (μg/ml) pattern in normal multigravid women, chronic hypertensive pregnant and superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). In normal multigravidae, the mean value of plasma fibronectin (374 ± 49.598μg/ml) was significantly increased than normal primigravidae (309.5 ± 46.034μg/ml) ($p < 0.01$).

But, in chronic hypertension with pregnancy, it was insignificantly increased (386.25 ± 71.9 μg/ml) than in normal multigravidae. Also, there was insignificant difference between mild and severe chronic hypertension with pregnancy. However, in superimposed preeclamptic patients, the

mean value of plasma fibronectin (506 ± 101.5μg/ml) was significantly increased than chronic hypertensive pregnant patients ($p < 0.001$). Moreover, it was significantly increased in severe superimposed preeclamptic (566 ± 90.7μg/ml) than in mild superimposed preeclamptic patients (446 ± 74.34μg/ml) ($p < 0.01$).

But, in severe preeclamptic patients with disseminated intravascular coagulation (DIC), the mean value of plasma fibronectin (415.6 ± 60.55 μg/ml) was significantly decreased than in severe preeclamptic patients alone (556.75 ± 94.567μg/ml) ($p < 0.0005$).

Table (4): One way ANOVA test of plasma fibronectin (FN) (μg/ml) in control non pregnant women (Group I), normal pregnant women (Group II), true preeclamptic (Group III), chronic hypertensive pregnant (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

	Group I	Group II		Group III		Group IV		Group V		GroupVI
		Primi gravidae	Multi. gravidae	Mild	Severe	Mild	Severe	Mild	Severe	
No.	10	10	10	10	10	10	10	10	10	10
$FN_{(\mu g/ml)}$ Mean value	264.5	309.5	374	419	547.5	387.5	385	446	566	415.6

F : 16.127 $p < 0.001$

Table (5): Mean value ± S.D of plasma fibronectin (μg/ml) in control non pregnant women, normal primigravidae and true preeclamptic patients.

Studied groups	Mean value ±S.D	"t" value	P
Control non pregnant (n=10)	264.5 ± 32.95		
Normal primigravidae (n=10)	309.5 ± 46.034	2.514	$p_1 < 0.05$
True preeclamptic group (n=20)	483.25 ± 105.796	6.255	$p_2 < 0.0005$
Mild true preelcmaptic (n=10)	419 ± 63.19	4.429	$p_2 < 0.0005$
Severe true preelcmaptic (n=10)	547.5 ± 102.286	6.7098	$p_2 < 0.0005$
		3.3798	$p_3 < 0.01$

P_1 : Compared with control non pregnant.

P_2 : Compared with normal primigravidae.

P_3 : Compared with mild true preeclamptic patients .

Fig. (1): Plasma fibronectin in control non pregnant, normal primigravidae and true pre-eclamptic group

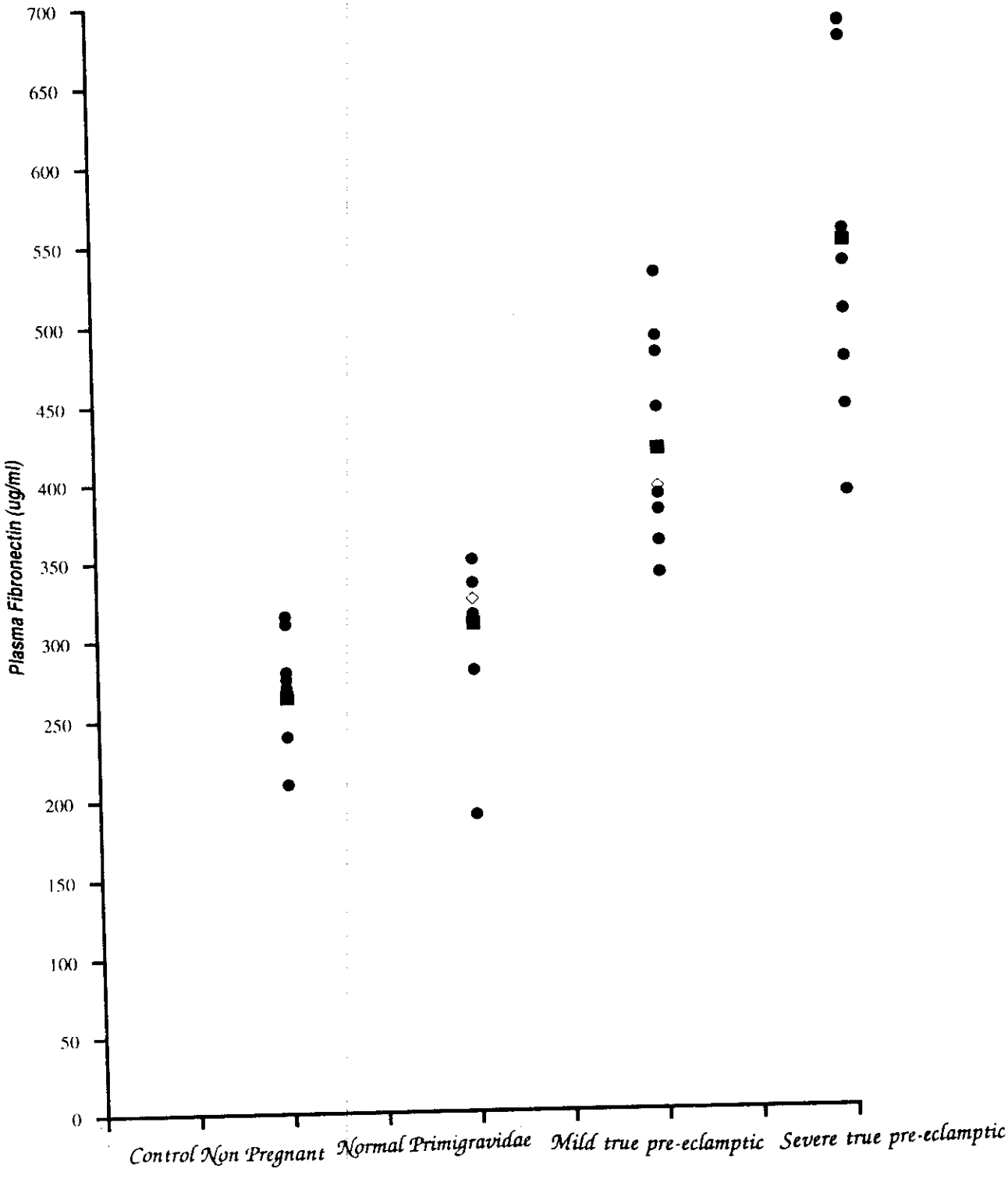


Table (6): Mean value ± S.D of plasma fibronectin (μg/ml) in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravasular coagulation (DIC).

Studied groups	Mean value ±S.D	"t" value	P
Normal multigravidae group (n=10)	374 ± 49.598	3.014	p_1 <0.01
Chronic hypertensive pregnant group (n=20)	386.25 ± 71.9	0.545	N.S.
Mild chronic hypertensive pregnant group (n=10)	387.5 ±61.835	0.538	N.S.
Severe chronic hypertensive pregnant group (n=10)	385 ± 84.195	0.076	N.S.
Superimposed preeclamptic (n=20)	506 ± 101.5	4.305	p_2<0.001
Mild superimposed preeclamptic group (n=10)	446 ± 74.34		
Severe superimposed preeclamptic (n=10)	566 ± 90.70	3.236	p_3<0.01
Severe preeclamptic (n=20)	556.75 ± 94.567		
Severe preeclamptic with DIC.	415.6 ± 60.549	4.947	p_4<0.0005

P_1 : Compared with normal primigravidae,

P_2 : Compared with chronic hypertensive pregnant women.

P_3 : Compared with mild superimposed preeclamptic patients.

P_4 : Compared with severe preeclamptic patients.

Fig. (2): Plasma fibronectin in normal multigravidae group, chronic hypertensive and superimposed pre-eclamptic group

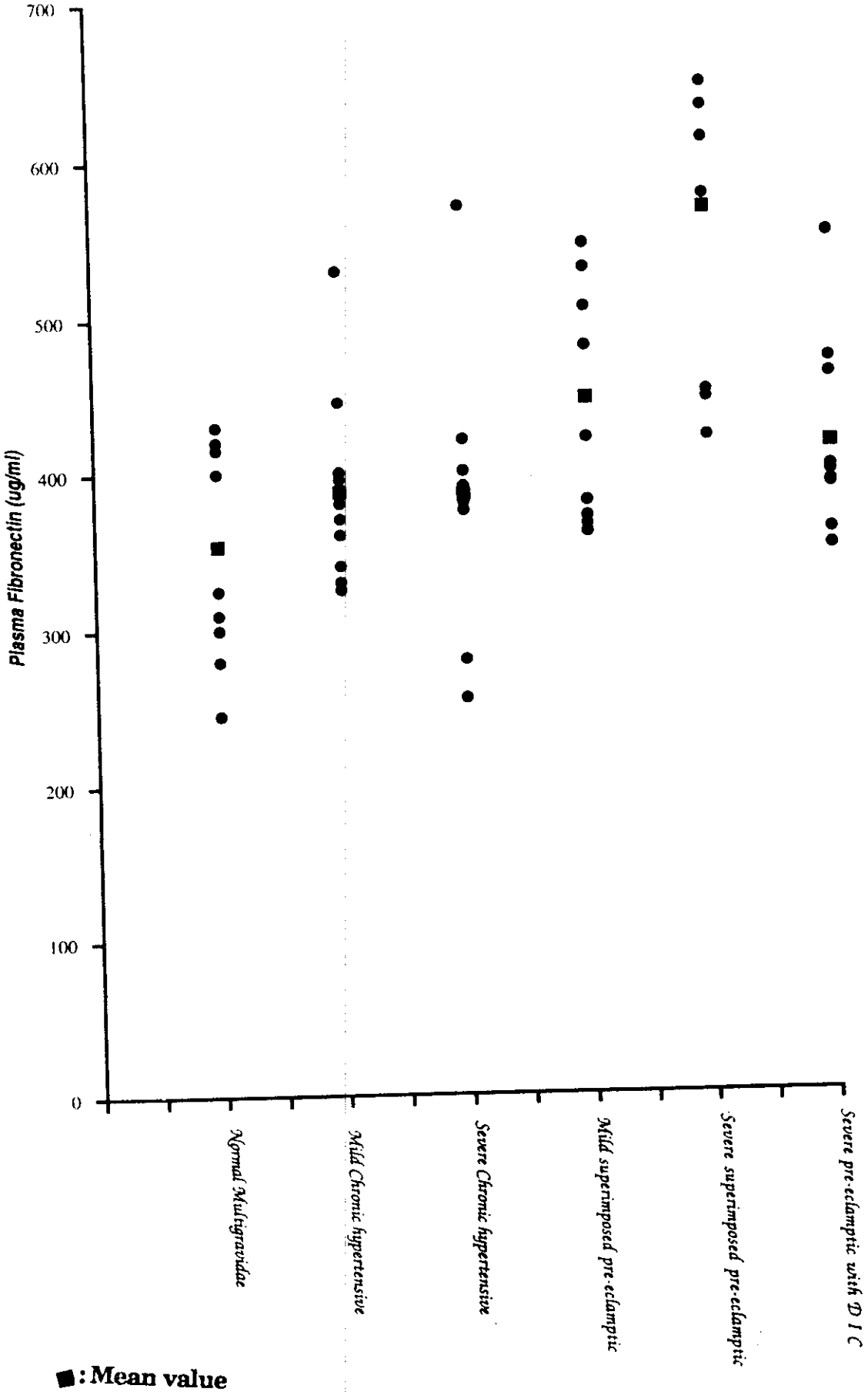


Table (7): Shows one way ANOVA test of plasma antithrombin III activity in control non pregnant, normal pregnant women, true preeclamptic, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). It shows significant difference regarding plasma antithrombin III activity between the different studied groups ($p < 0.001$).

Table (8): Fig. (3) show plasma antithrombin III activity pattern in control non pregnant women, normal primigravidae and true preeclamptic patients. In normal primigravidae the mean value of plasma antithrombin III activity (94.2 ± 11.507%) was insignificantly decreased than control non pregnant (96.5 ± 9.396%).

But, in true preeclamptic, the mean value of antithrombin III activity (83.55 ± 8.86%) was significantly decreased than normal primigravidae (94.2 ± 11.507%) ($p < 0.02$). But, it was insignificantly decreased in severe true preeclamptic than in mild true preeclamptic patients.

Table (9) : Fig. (4) show plasma antithrombin III activity pattern in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with (DIC). In normal multigravidae, the mean value of plasma antithrombin III activity (92.2 ± 8.38%) was insignificantly decreased than normal primigravidae (94.2 ± 11.507%).

Also, in chronic hypertension with pregnancy it was insignificantly decreased (86.3 ± 11.85%) than normal multigravidae with insignificant difference between severe and mild chronic hypertension with pregnancy.

In superimposed preeclamptic patients, it was insignificantly different from chronic hypertensive pregnant patients, with insignificant difference between mild and severe superimposed preeclamptic patients.

However, in severe preeclamptic patients with disseminated intravascular coagulation (DIC) it was significantly decreased (55.5 ± 12.78%) than in severe preeclamptic patients alone (86.15 ± 10%) ($p<0.0005$).

Table (7): One way ANOVA test of plasma antithrombin III activity (%) in control non pregnant women (Group I), normal pregnant women (Group II), true preeclamptic (Group III), chronic hypertensive pregnant (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

	Group I	Group II		Group III		Group IV		Group V		Group VI
		Primi gravidae	Mult. gravidae	Mild	Severe	Mild	Severe	Mild	Severe	
No.	10	10	10	10	10	10	10	10	10	10
AT III% Mean value	96.5	94.2	92.2	85.9	81.2	90.9	81.7	92	91.1	55.5

F : 13.332 $p < 0.001$

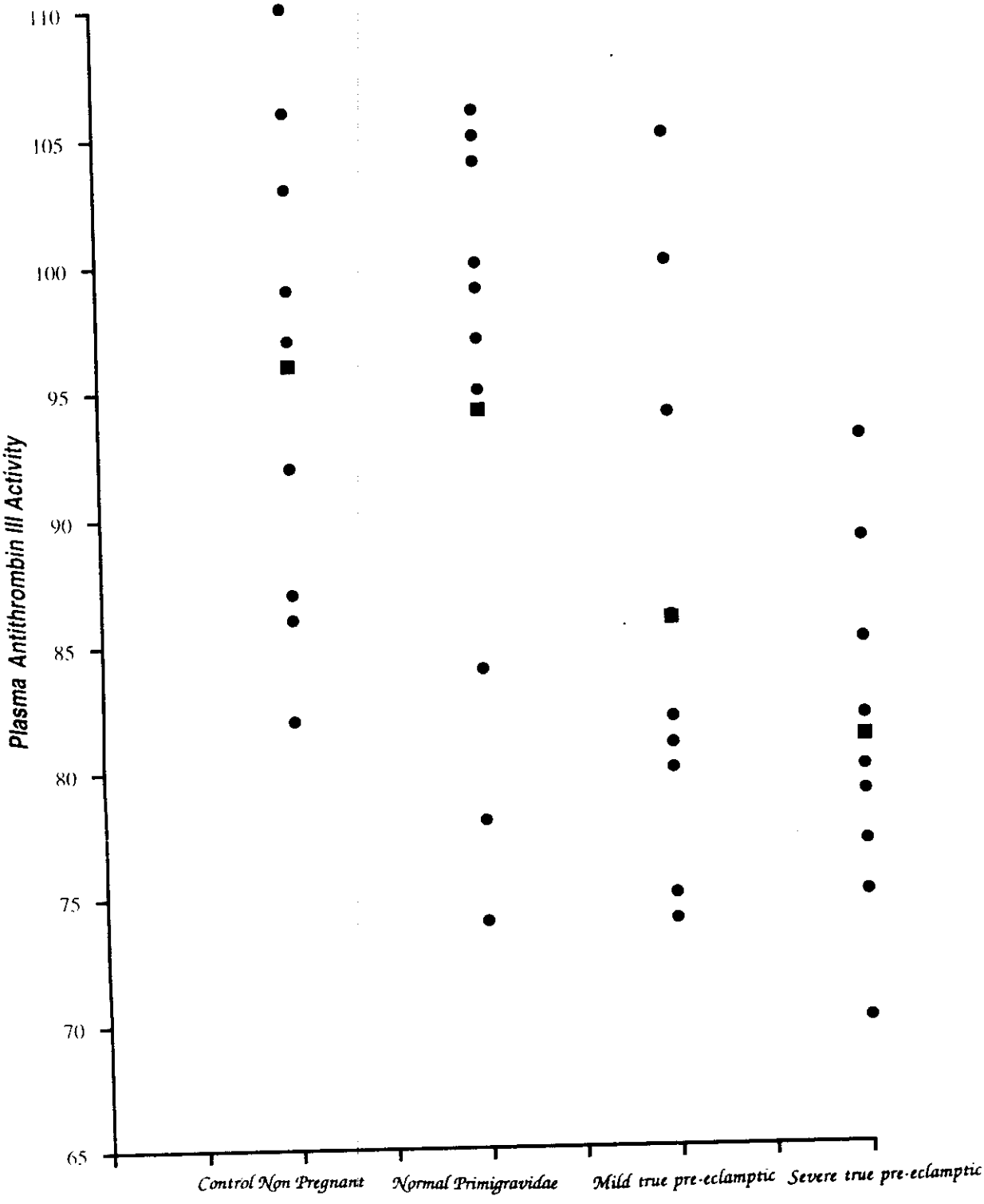
Table (8):Mean value ± S.D of plasma antithrombin III activity (%) in control non pregnant women, normal primigravidae and true preeclamptic patients.

Studied groups	Mean value ±S.D	"t" value	P
Control non pregnant (n=10)	96.5 ± 9.396		
Normal primigravidae (n=10)	94.2 ± 11.507	0.4895	N.S.
True preeclamptic group (n=20)	83.55 ± 8.86	2.571	p < 0.02
Mild true preelcmaptic (n=10)	85.9 ± 10.43		
Severe true preelcmaptic (n=10)	81.2 ± 6.697	1.199	N.S.

P : Compared with normal primigravidae.

N.S. non significant.

Fig. (3) *Plasma antithrombin III in control non pregnant, normal primigravidae and true pre-eclamptic group*



■ : **Mean value**

Table(9):Mean value ± S.D of plasma antithrombin III activity (%) in normal multigravidae group, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC).

Studied groups	Mean value ±S.D	"t" value	P
Normal multigravidae group (n=10)	92.2 ± 8.377	1.080	N.S.
Chronic hypertensive pregnant group (n=20)	86.3 ± 11.85	1.575	N.S.
Mild chronic hypertensive pregnant group (n=10)	90.9 ± 9.0117		
Severe chronic hypertensive pregnant group (n=10)	81.7 ± 12.96	1.843	N.S.
Superimposed preeclamptic (n=20)	91.55 ± 9.8	1.527	N.S.
Mild superimposed preeclamptic group (n=10)	92 ± 9.6		N.S.
Severe superimposed preeclamptic (n=10)	91.1 ± 10.598		N.S.
Severe preeclamptic (n=20)	86.15 ± 10		N.S.
Severe preeclamptic with DIC.	55.5 ± 12.78	6.636	p<0.0005

P : Compared with severe preeclamptic group

N.S. non significant. (P>0.05)

Fig.(4): *Plasma antithrombin III in normal multigravidae group, chronic hypertensive and superimposed pre-eclamptic group*

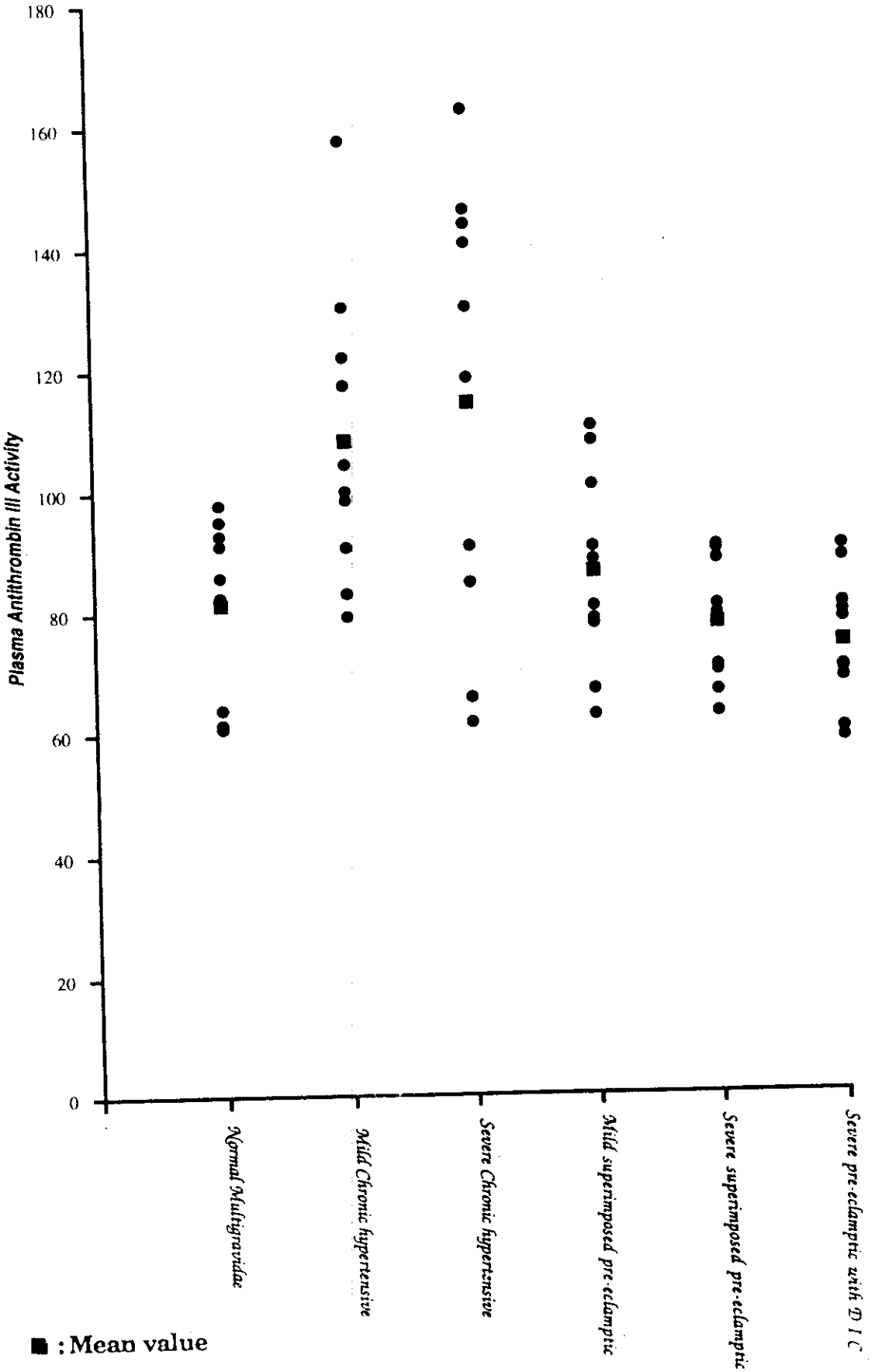


Table (10): Shows one way ANOVA test of plasma α_2-antiplasmin activity (%) pattern in control non pregnant, normal pregnant women, true preeclamptic, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). It was significantly different between different groups ($p < 0.001$).

Table (11): Fig.(5) show plasma α_2-antiplasmin activity pattern in control non pregnant, normal primigravidae and true preeclamptic patients. In normal primigravidae, it was insignificantly decreased than control non pregnant women.

However, in true preeclamptic patients, it was significantly decreased than normal primigravidae ($p < 0.001$). Also, it was significantly decreased in severe true preeclamptic than mild true preeclamptic patients ($p < 0.01$).

Table (12): Fig.(6) show plasma α_2-antiplasmin activity (%) pattern in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with (DIC). In normal multigravidae, it was significantly decreased (81.4 ± 14.25 %) than normal primgravidae (91.695 ± 7.141%) ($p < 0.05$).

But, in chronic hypertensive pregnant patients, it was significantly increased (111.398 ± 29.92 %) than normal multigravidae (81.4 ± 14.25 %) ($p<0.0005$), with insignificant difference between mild and severe chronic hypertensive pregnant patients.

However, in superimposed preeclamptic patients, the mean value of α_2-antiplasmin activity (82.013 ± 13.88%) was significantly decreased than chronic hypertensive pregnant patients (111.398 ± 29.92%) ($p < 0.0005$) with insignificant difference between severe and mild superimposed preeclamptic patients.

Also, in severe preeclamptic patients, with disseminated intravascular coagulation (DIC),it was insignificantly decreased than severe preeclamptic patients alone, but, it was significantly decreased than chronic hypertensive pregnant patients ($p < 0.001$).

Table (10): One way ANOVA test of plasma α_2- antiplasmin activity (%) in control non pregnant (Group I), normal pregnant women (Group II), true preeclamptic patients (Group III), chronic hypertensive pregnant (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

	GroupI	Group II		Group III		Group IV		Group V		GroupVI
		Primi gravidae	Multi. gravidae	Mild	Severe	Mild	Severe	Mild	Severe	
No.	10	10	10	10	10	10	10	10	10	10
α_2-PI(%) Mean value	96.36	91.7	81.4	84.706	79.2	108.38	114.415	86.4	77.58	74.33

F : 6.609 $p < 0.001$

α_2- PI: α_2- plasmin inhibitor

Table (11): Mean value ± S.D of plasma α_2- antiplasmin activity (%) in control non pregnant women, normal primigravidae and true preecalmptic patients.

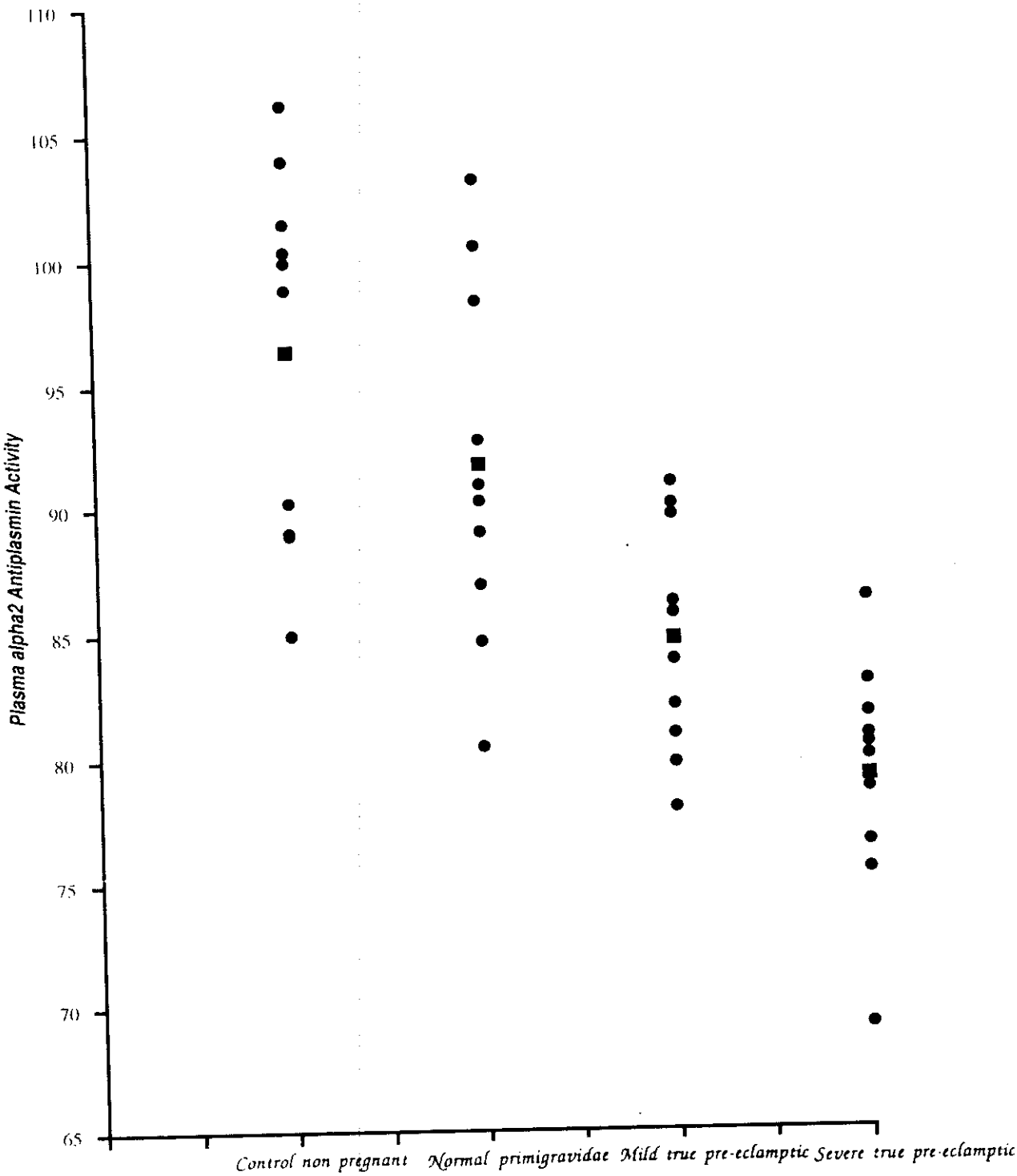
Studied groups	Mean value ±S.D	"t" value	P
Control non pregnant (n=10)	96.36 ± 7.376		
Normal primigravidae (n=10)	91.695± 7.141	1.543	N.S
True preeclamptic (n=20)	81.95 ± 5.31	3.822	p<0.001
Mild true preeclamptic (n=10)	84.71 ± 4.54		
Severe true preeclamptic (n=10)	79.187± 4.687	2.677	p_1<0.01

P : Compared with normal primigravidae.

P_1 : Compared with mild true preeclamptic patients.

N.S non significant P>0.05

Fig. (5) : Plasma alpha 2 antiplasmin in control non pregnant, normal primigravidae and true pre-eclamptic group



■ : **Mean value**

Table (12) : Mean value ± S.D of plasma α_2-antiplasmin activity (%) in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coauglation (DIC).

Studied groups	Mean value ±S.D	"t" value	P
Normal multigravidae (n=10)	81.4 ± 14.25	2.043	$p < 0.05$
Chronic hypertensive pregnant (n=20)	111.398±29.92	3.719	$p_1<0.0005$
Mild chronic hypertensive (n=10)	108.38 ±23.88		
Severe chronic hypertensive (n =10)	114.41 ±36.03	0.441	N.S
Superimposed preeclamptic (n=20)	82.013±13.88	3.982	$p_2<0.0005$
Mild superimposed preeclamptic (n=10)	86.44 ± 16.25		
Severe superimposed preeclamptic (n=10)	77.58 ± 9.95	1.471	N.S
Severe preeclamptic (n=20)	78.386± 7.6		
Severe preeclamptic with DIC.	74.33 ±10.77	1.067	N.S
			$p_2<0.001$

P : Compared with normal primigravidae

P_1 : Compared with normal multigravidae.

P_2 : Compared with chronic hypertensive pregnant women.

N.S : non significant. P>0.05

Fig. (6) : Plasma alpha 2 antiplasmin in normal multigravidae group, chronic hypertensive and superimposed pre-eclamptic group

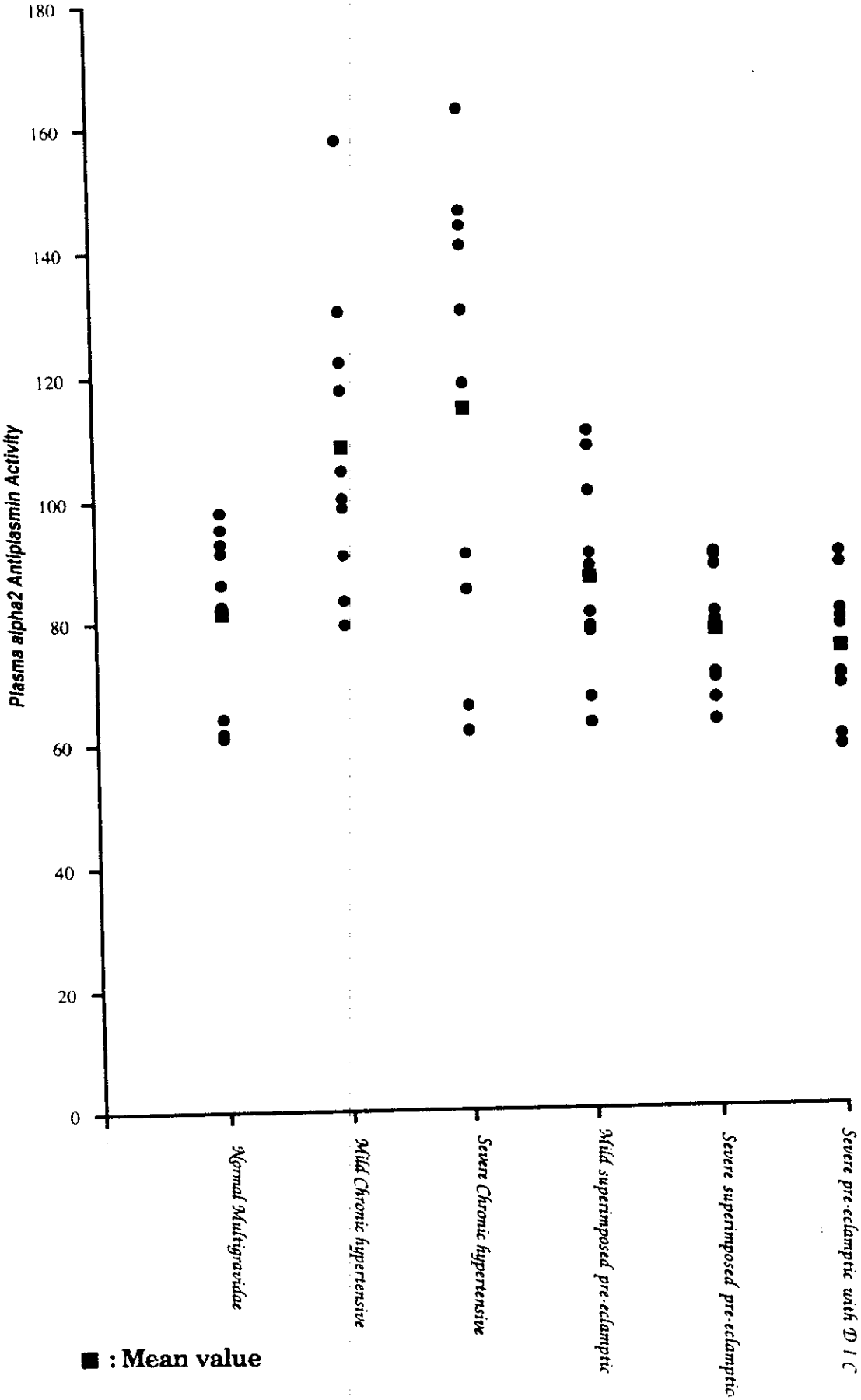


Table (13): Shows mean value ± S.D of plasma fibronectin (μg/ml), antithrombin III activity and α_2-antiplasmin activity in control non pregnant women, normal primigravidae and true preeclamptic patients. In normal primigravidae, the mean value ± S.D of fibronectin (309.5 ± 46.034μg/ml) was significantly increased than control non pregnant women (264.5 ± 32.95μg/ml) ($p < 0.05$). In true preeclamptic patients, the mean value ± S.D of plasma fibronectin, (483.25 ± 105.8μg/ml) was significantly increased than normal primigravidae (309.5 ± 46.034 μg/ml) ($p < 0.0005$). But, the mean value ± S.D. of antithrombin III and α_2-antiplasmin (83.55 ± 8.86%), (81.95 ± 5.3%1) respectively were significantly decreased than normal primigravidae (94.2 ± 11.507 %), (91.695 ± 7.141%) respectively, ($p < 0.01$) ($p < 0.001$) respectively.

In severe true preeclamptic patients, the mean value of plasma fibronectin (547.5 ± 102.286μg/ml) was significantly increased than mild true preeclamptic patients (419 ± 63.19 μg/ml) ($p < 0.01$). But, α_2-antiplasmin activity (79.187± 4.687%) was significantly decreased than mild true preeclamptic patients (84.71 ± 4.54%) ($p < 0.01$).

Table (13): Mean value ± S.D of plasma fibronectin (μg/ml), antithrombin III and α_2-antiplasmin activity (%) in control non pregnant women, normal primigravidae and true preeclamptic patients.

Studied parameters / Studied groups	Fibronectin (μg/ml)	Antithrombin III activity (%)	α_2-antiplasmin activity (%)
Control non pregnant (n=10)	264.5 ± 32.95	96.5 ± 9.396	96.36 ± 7.376
Normal primigravidae (n=10)	309.5 ± 46.034 p_1 <0.05	94.2 ± 11.507	91.695± 7.141
True preeclamptic (n=20)	483.25±105.8 p_2 < 0.0005	83.55 ± 8.86 p_2 < 0.01	81.95 ± 5.31 p_2 < 0.001
Mild true preeclamptic (n=10)	419 ± 63.19 p_2 < 0.0005	85.9 ±10.43	84.71 ± 4.54
Severe true preeclamptic (n=10)	547.5 ±102.286 p_2 < 0.0005 p_3 < 0.01	81.2 ± 6.697	79.187± 4.687 p_3 < 0.01

P_1 : Compared with control non pregnant.

P_2 : Compared with normal primigravidae.

P_3 : Compared with mild true preeclamptic group.

Table (14): Shows mean value ± S.D of plasma fibronectin (μg/ml), antithrombin III activity (%) and α_2-antiplasmin activity (%) in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC). In normal multigravidae, the plasma fibronectin (374 ± 49.598μg/ml) was significantly increased than normal primigravidae (309.5 ± 46.034 μg/ml) ($p < 0.01$). But, plasma α_2-antiplasmin (81.4 ± 14.25 %) was significantly decreased than normal primigravidae (91.695 ± 7.141%) ($p < 0.05$).

In chronic hypertensive pregnant patients, α_2-antiplasmin (111.398 ± 29.92%) was significantly increased than normal multigravidae (81.4 ± 14.25%) ($p < 0.005$). In superimposed preeclamptic patients, plasma fibronectin (506 ± 101.5μg/ml) was significantly increased than chronic hypertensive pregnant patients (386.5 ± 61.835μg/ml) ($p < 0.0001$). But, α_2-antiplasmin (82.013 ± 13.88%) was significantly decreased than chronic hypertensive pregnant patients (111.398 ± 29.92%) ($p < 0.0005$). In severe superimposed preeclamptic patients, plasma fibronectin (566±90.7 μg/ml) was significantly increased than mild one (446 ± 74.34μg/ml) ($p < 0.01$).

In severe preeclamptic patients with DIC, plasma fibronectin (415.6 ± 60.549μg/ml) was significantly decreased than severe preeclamptic patients without DIC. (556.75 ± 94.567μg/ml) ($p < 0.0001$). Also, antithrombin III activity (55.5 ± 12.78%) was significantly decreased than severe preeclamptic patients without DIC (86.15 ± 10%) ($p < 0.0005$).

Table (14): Mean value ± S.D of plasma fibronectin (μg/ml), antithrombin III activity(%) and α_2-antiplasmin activity (%) in normal multigravidae, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (DIC).

Studied parameters / Studied groups	Fibronectin (μg/ml)	Antithrombin activity (%)	α_2-antiplasmin activity (%)
Normal multigravidae (n=10)	374 ± 49.598	92.2 ± 8.377	81.4 ± 14.25
	$p < 0.01$		P<0.05
Chronic hypertensive pregnant (n=20)	386.25 ± 71.9	86.3 ± 11.85	111.398 ± 29.92
			P1<0.0005
Mild chronic hypertensive (n=10)	387.5 ± 61.835	90.9 ± 9.0117	108.38 ± 23.88
Severe chronic hypertensive (n =10)	385 ± 84.195	81.7 ± 12.96	114.41 ± 36.03
Superimposed preeclamptic (n=20)	506 ± 101.5	91.55 ± 9.8	82.013 ± 13.88
	$p_2 < 0.0001$		P2<0.0005
Mild superimposed preeclamptic (n=10)	446 ± 74.34	92 ± 9.6	86.44 ± 16.25
Severe superimposed preeclamptic (n=10)	566 ± 90.7	91.1 ± 10.598	77.58 ± 9.95
	$p_3 < 0.01$		
Severe preeclamptic (n=20)	556.75 ± 94.567	86.15 ± 10	78.386 ± 7.6
Severe preeclamptic with DIC.	415.6 ± 60.549	55.5 ± 12.78	74.33 ± 10.77
	$p_4 < 0.0001$	$p_4 < 0.0005$	P_2<0.001

P : Compared with normal primigravidae.

P_1 : Compared with normal multigravidae.

P_2 : Compared with chronic hypertensive group.

P_3 : Compared with mild superimposed preeclamptic patients.

P_4 : Compared with severe preeclamptic group.

Table (15): Shows one way ANOVA test of placental weight and foetal parameters in normal pregnant women , true preeclamptic, chronic hypertensive pregnant,superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (D.I.C). It shows significant difference ($p < 0.001$) between the different groups regarding placental weight, foetal weight and Apgar score at 5 minutes.

Table (16): Shows the mean value ± S.D of placental weight (gm) and foetal parameters in normal pregnant women, true preeclamptic patients, chronic hypertensive pregnant, superimposed preeclamptic and severe preeclamptic patients with disseminated intravascular coagulation (D.I.C). In normal pregnancy, there was insignificant difference between primipara and multipara group regarding placental, foetal weight and Apgar score at (5 min.).

But, in true preeclamptic patients, there was significant decrease in mild true preeclamptic than normal primipara and in severe preeclamptic than mild as regard placental, foetal weight and Apgar score ($p < 0.001$, < 0.01, < 0.05 and $p < 0.001$) respectively.

Also, in chronic hypertensive pregnant patients, there was significant decrease in placental weight in mild group than normal multipara ($p < 0.01$) and insignificant difference as regard foetal weight and Apgar score. In severe hypertensive pregnant patients, there was significant decrease in placental, foetal weight and Apgar score than mild group ($p < 0.001$, < 0.01, and < 0.001) respectively.

In superimposed preeclamptic patients, there was significant decrease in placental, foetal weight and Apgar score in mild group than normal multipara and in severe than mild ($p < 0.01, < 0.05, < 0.01$ and $p < 0.001$) respectively.

In severe preeclamptic patients with D.I.C., there was significant decrease in placental, foetal weight and Apgar score than in severe preeclamptic patients alone ($p < 0.05, < 0.001$ and < 0.025) respectively.

Table (15): One way ANOVA test of placental weight and foetal parameters in normal pregnant women (Group II), true preeclamptic patients (Group III), chronic hypertensive pregnant (Group IV), superimposed preeclamptic (Group V) and severe preeclamptic patients with disseminated intravascular coagulation (DIC) (Group VI).

Studied groups / Studied parameters		Group II		Group III		Group IV		Group V		Group VI
		Primi. Para	Multi. Para	Mild	Severe	Mild	Severe	Mild	Severe	
Placental weight (gm)	No.	10	10	10	10	10	10	10	10	10
	Mean value	554	553	502	384.5	509	427	450	404	379
F : 412.676 p < 0.001										
Foetal weight (kg)	Mean value	3.39	3.34	2.97	1.77	3.04	2.55	2.78	1.965	1.525
F : 172.000 p < 0.001										
Apgar score at (5 min)	Mean value	9.4	9.2	7.2	3.6	8.8	6.4	7.4	4.2	2.1
F : 75.134 p < 0.001										

Table (16):Mean value ± S.D of placental weight (gm) and foetal parameters in normal pregnant women (Group II), true preeclamptic (Group III), chronic hypertensive (Group IV) superimposed preeclamptic (Group V) and severe preeclamptic patients (Group VI).

	Group II		Group III		Group IV		Group V		Group VI	
	Primi. Para	Multi. Para	Mild	Severe	Mild	Severe	Mild	Severe	Without D.I.C.	with D.I.C.
No.	10	10	10	10	10	10	10	10	20	10
Placental weight (gm)	554 ± 15.05	553 ± 9.46	502 ± 11.35	384.5 ±16.06	509 ± 11.005	427 ± 14.9	450 ± 42.4	404 ± 15.78	394 ± 18.4	379 ±17.9
P. value		N.S	p<0.001	p_2<0.001	p_1<0.01	p_2<0.001	p<0.01	p_2<0.001		p_3<0.05
Foetal weight (kg)	3.4 ± 0.07	3.34 ± 0.07	2.97 ± 0.2	1.77 ± 0.36	3.04 ± 0.11	2.55 ± 0.19	2.78 ± 0.15	1.97 ± 0.25	1.89 ± 0.32	1.53 ± 0.16
P value			p<0.01	p_2<0.001	N.S	p_2<0.01	p<0.05	p_2<0.001		p_3<0.001
Apgar score at (5 min.)	9.4 ± 0.966	9.2 ± 0.84	7.2 ± 1.32	3.6 ± 1.5	8.8 ± 1.03	6.4 ± 1.26	7.4 ± 1.35	4.2 ± 1.03	3.6 ± 1.29	2.1 ± 1.97
P value		N.S	p<0.05	p_2<0.001	N.S	p_2<0.001	p<0.01	p_2<0.001		p_2<0.025

DIC : Disseminated intravascular coagulation.

P : Compared to normal primigravidae.

P_1 : Compared to normal multigravidae.

P_2 : Compared to mild group.

P_3 : Compared to severe preeclamptic patients without (DIC).

N.S: Non significant P>0.05

Table (17): Fig. (7, 8) show in normal pregnancy, there was significant positive correlation between plasma fibronectin and parity ($r = 0.652$ and $p < 0.01$). Also, there was significant positive correlation between fibronectin and age ($r = 0.569$ and $p < 0.01$).

Furthermore, there was insignificant negative correlation between α_2-antiplasmin activity and parity ($r = -0.433$ and $p > 0.05$). Also, there was insignificant negative correlation between α_2-antiplasmin and age ($r = -0.395$ and $p > 0.05$).

Table (17): Correlation coefficient "r" between plasma fibronectin (μg/ml), α_2-antiplasmin activity (%) and parity, and age in normal pregnancy.

Biochemical parameters	Parity	Age (yrs)
Fibronectin (μg/ml)	r = 0.652 p < 0.01	r = 0.569 p < 0.01
α_2-antiplasmin (%) activity	r = - 0.433 p > 0.05	r = - 0.395 p > 0.05

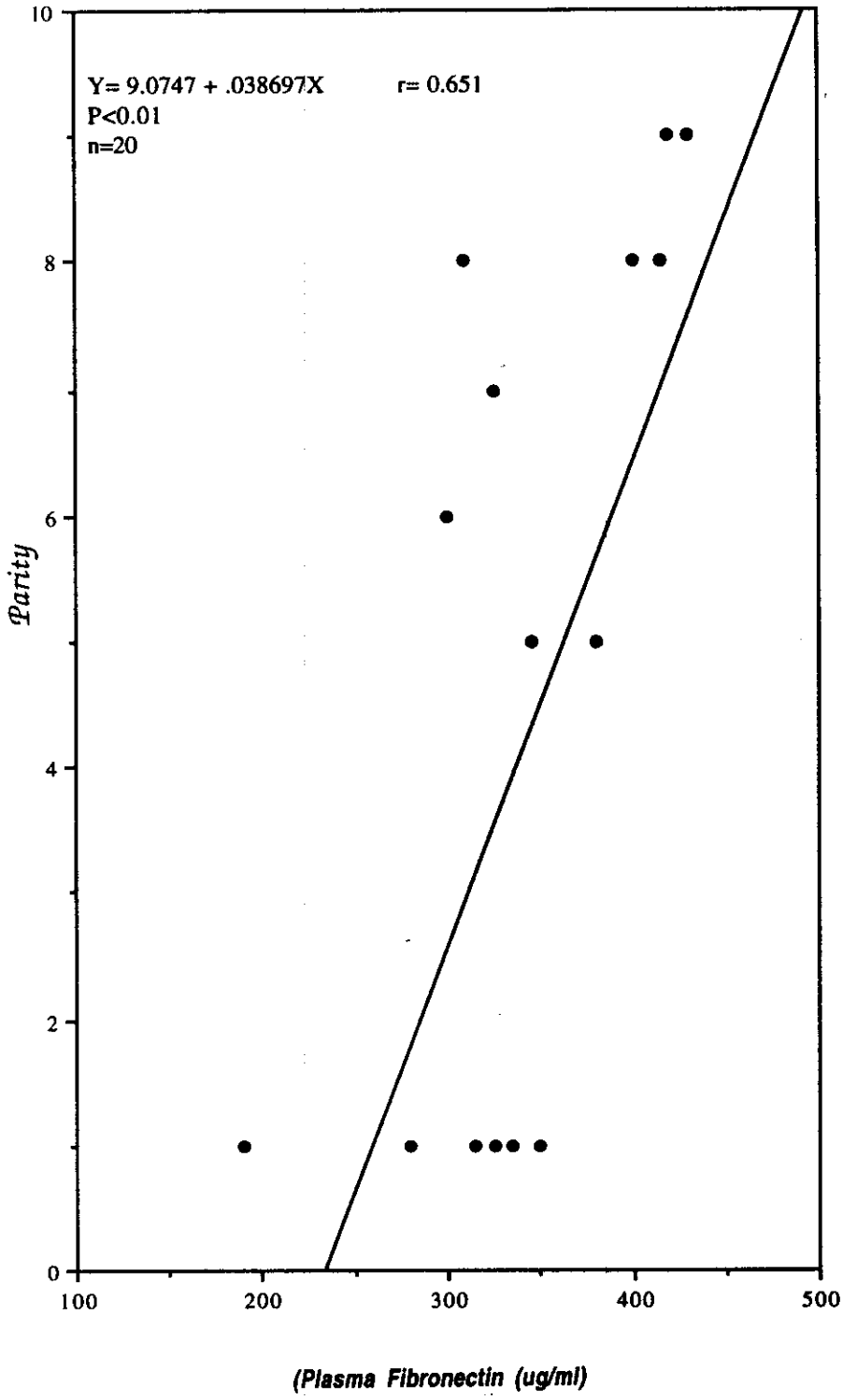


Fig. (7): *Correlation* Coefficient *"r" value between fibronectin and parity in normal pregnancy*

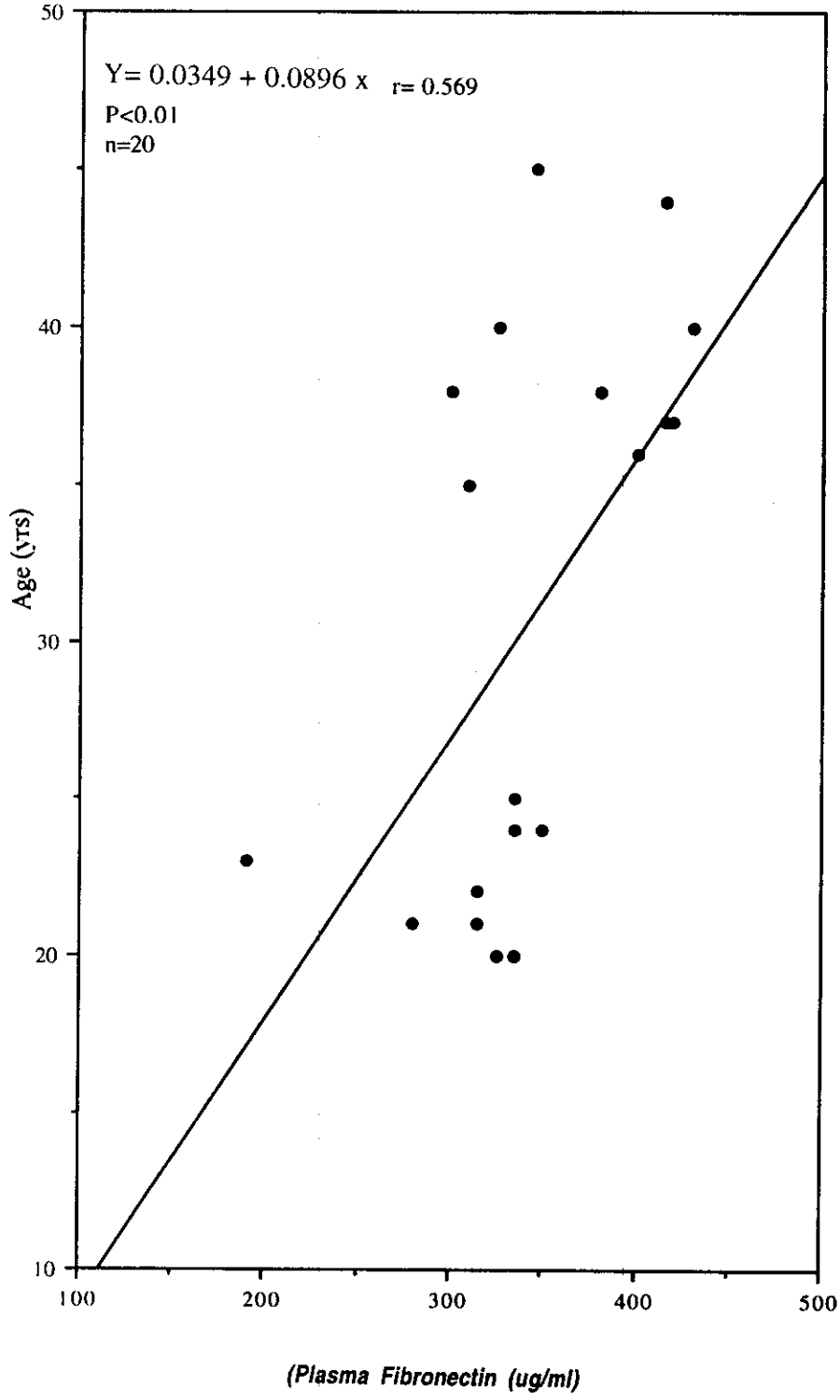


Fig. (8) : Correlation Coefficient *"r" value between fibronectin and age in normal pregnancy*

Table (18): Fig. (9, 10, 11, 12 & 13) show in true preeclamptic patients, there was significant negative correlation between plasma fibronectin and platelet count, placental and, foetal weight ($r = -0.544$ and $p < 0.02$, $r = -0.676$ and $p < 0.01$, $r = -0.772$ and $p < 0.001$) respectively. But, there was insignificant negative correlation between plasma fibronectin and Apgar score at (5min).

However, there was significant positive correlation between α_2-antiplasmin and placental and, foetal weight ($r = 0.570$ and $p < 0.01$, $r = 0.478$ and $p < 0.05$) respectively. But, there was insignificant correlation between plasma α_2-antiplasmin and platelet count andApgar score.

Table (18): Correlation coefficient "r" between plasma fibronectin (μg/ml), plasma α_2-antiplasmin activity (%) and platelet count, placental and foetal weight and Apgar score in true preeclamptic patients.

Biochemical parameters	Platelet count	Placental weight	Foetal weight	Apgar score at (5 min)
Fibronectin (μg/ml)	r = -0.544 p < 0.02	r = -0.676 p < 0.01	r = - 0.772 p < 0.001	r = - 0.421 p > 0.05
α_2-antiplasmin activity (%)	r = 0.399 p > 0.05	r = 0.570 p < 0.01	r = 0.478 p < 0.05	r = 0.386 p > 0.05

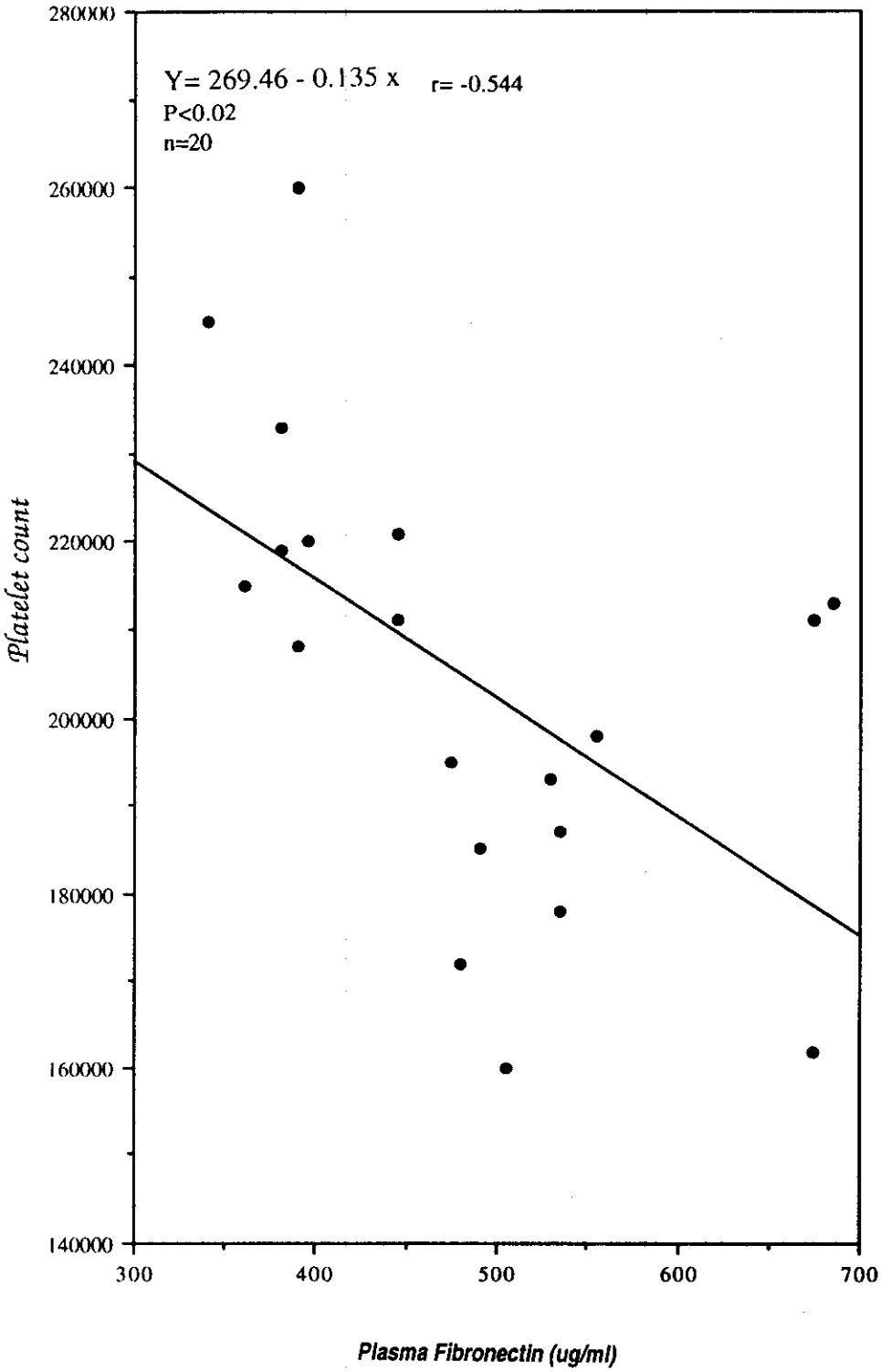


Fig. (9): Correlation Coefficient *"r" value between fibronectin* and platelet *count in true pre-eclampsia*

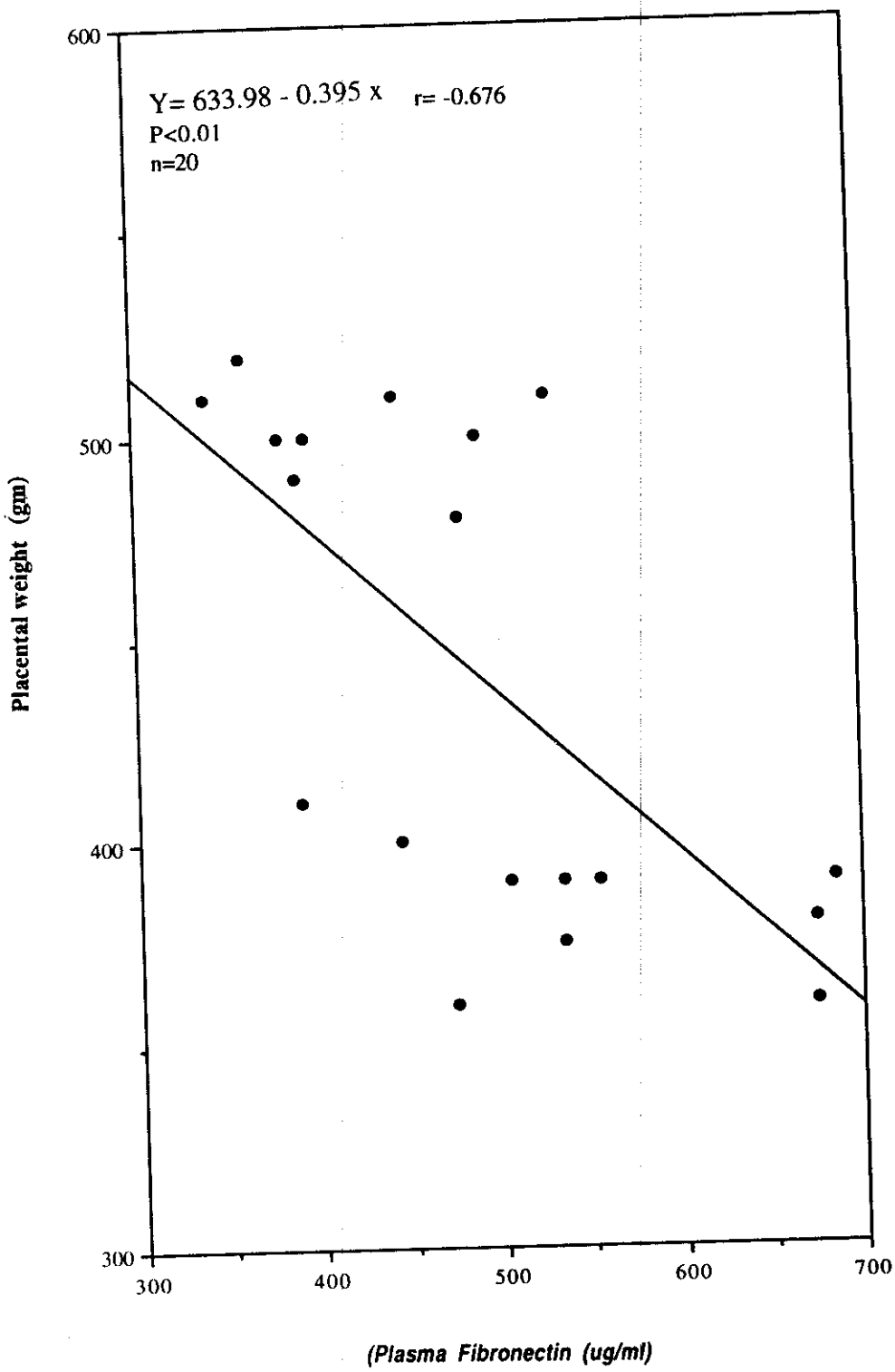


Fig.(10): Correlation Coefficient *"r" value between fibronectin and placental weight in true pre-eclampsia*

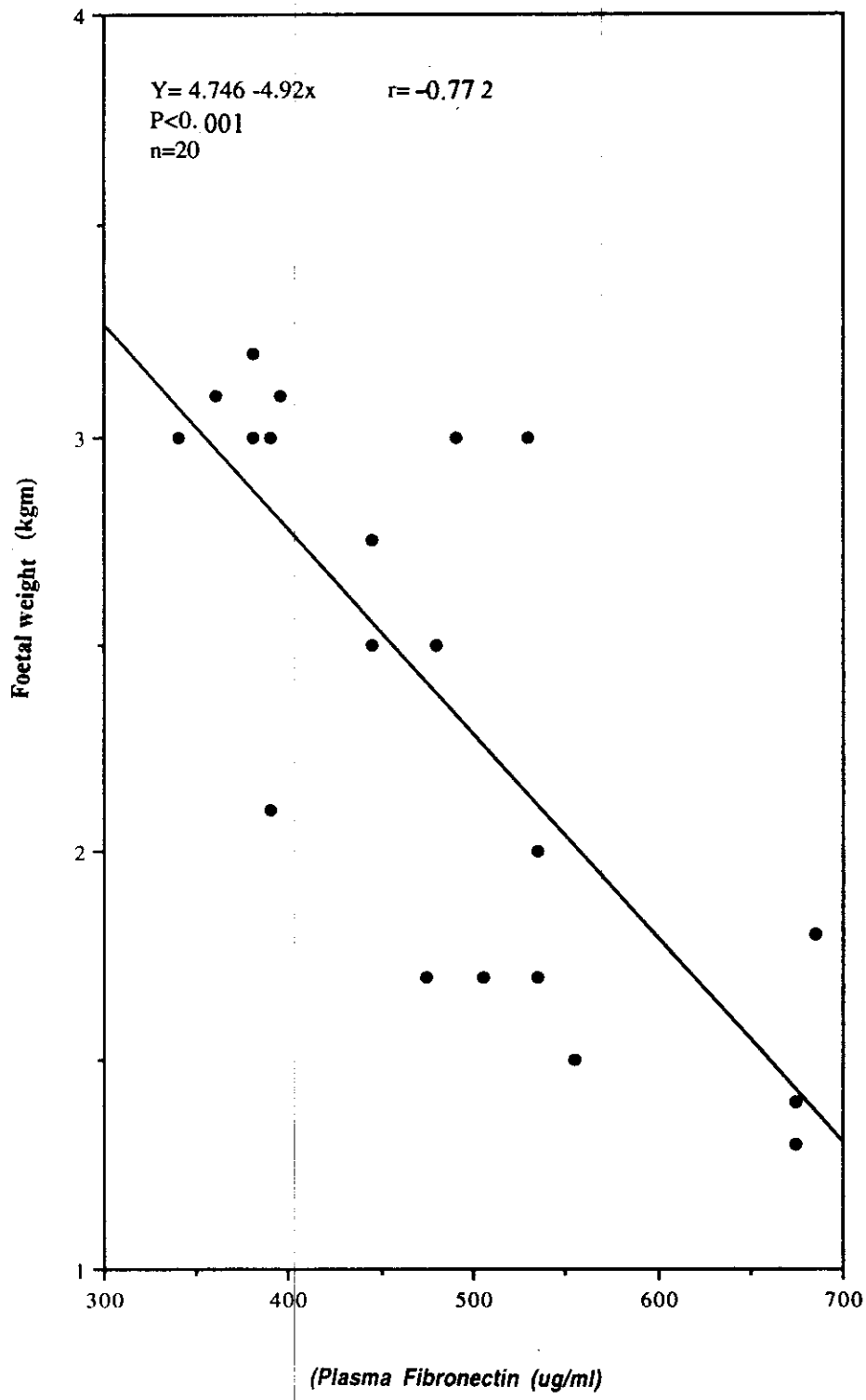
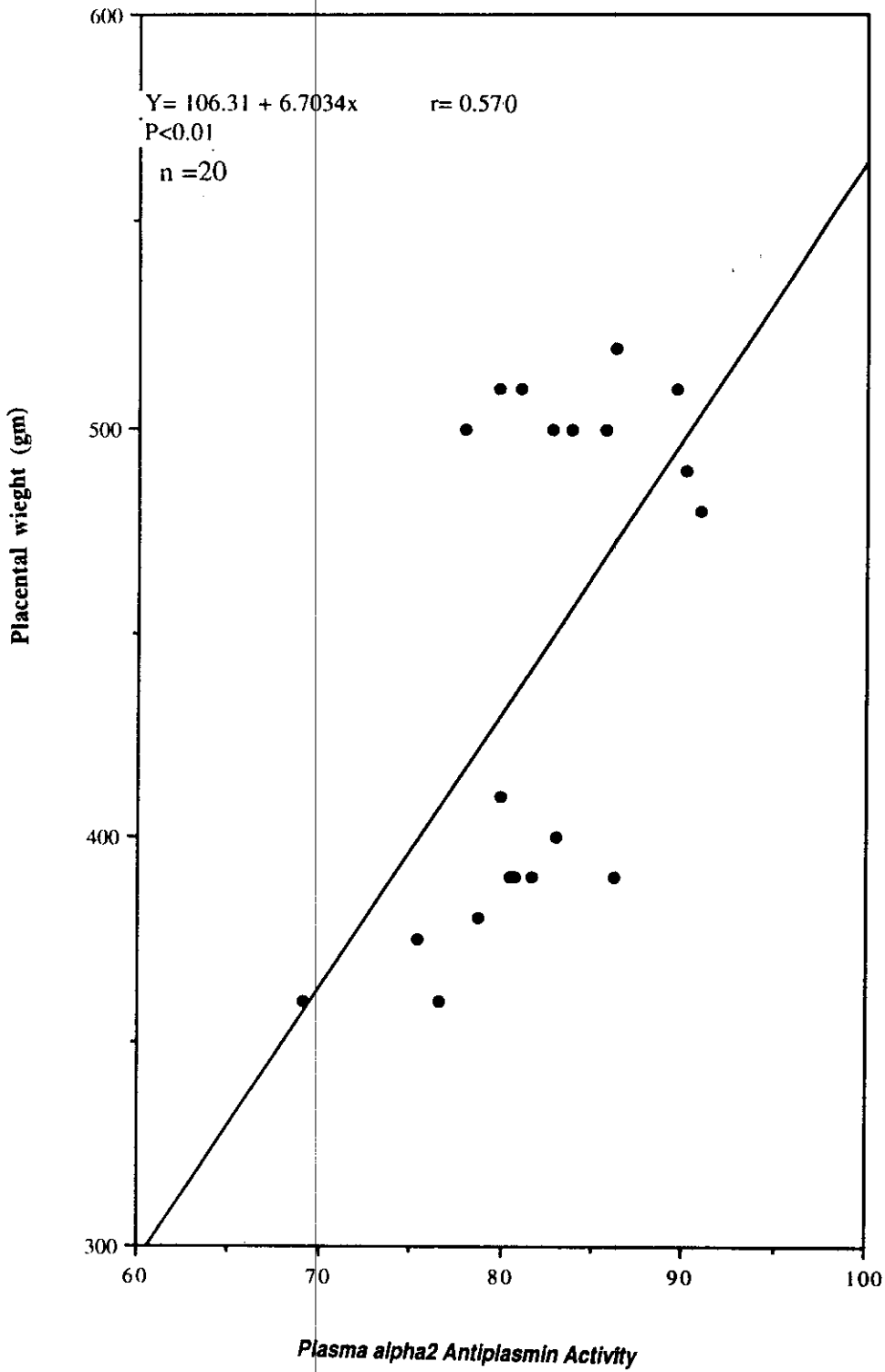


Fig. (11): *Correlation* Coefficient *"r" value between fibronectin and foetal weight in true pre-eclampsia*



3·(12): *Correlation* Coefficient *"r" value between alpha 2 antiplasmin and placental weight in true* pre-eclampsia

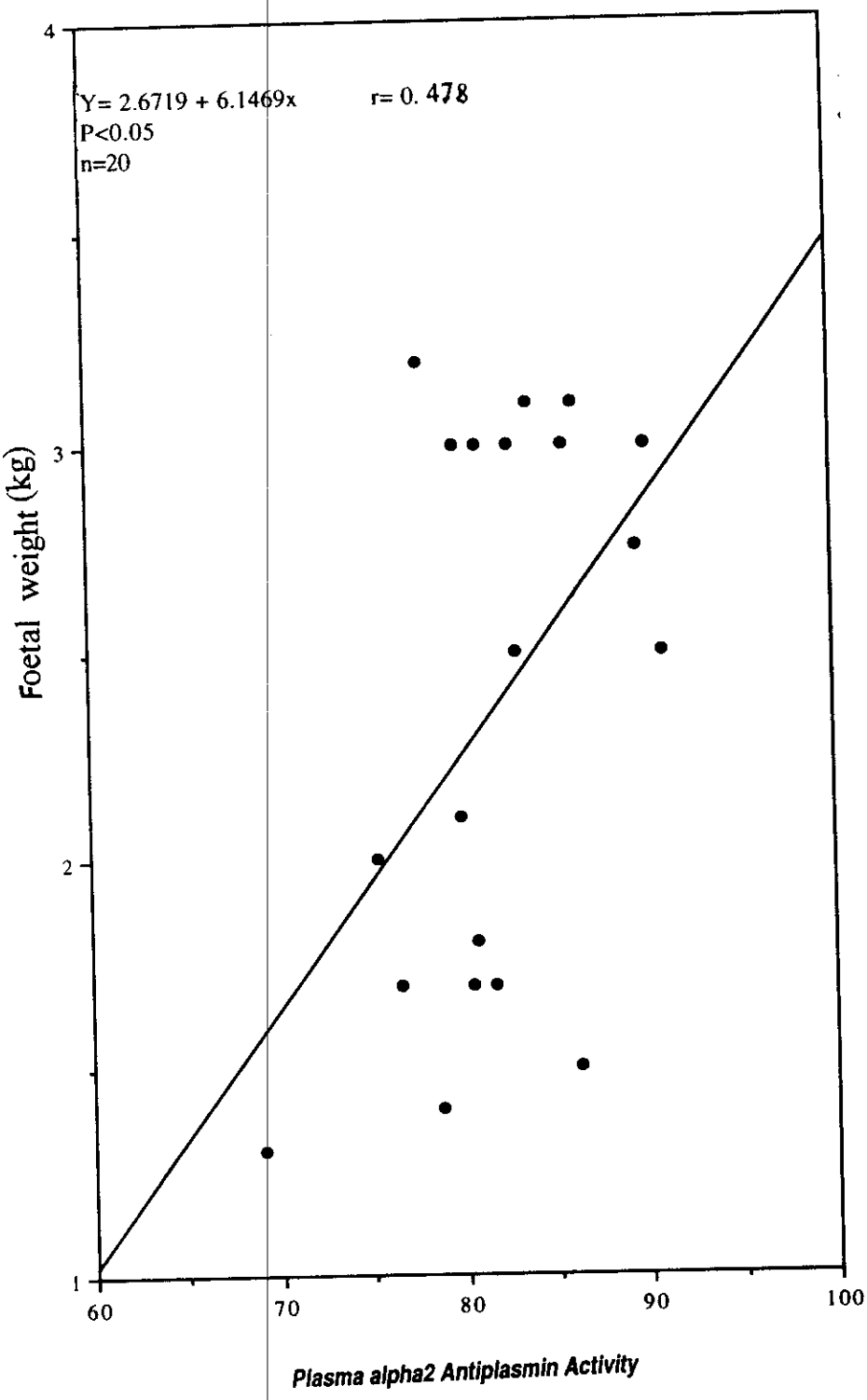


Fig.(13): *Correlation* Coefficient *"r" value between alpha 2 antiplasmin and foetal weight in true pre-eclampsia*

Table (19): Figs. (14 & 15) show in superimposed preeclamptic patients, there was significant negative correlation between plasma fibronectin and foetal weight, and Apgar score ($r = -0.472$ and $p < 0.05$, $r = -0.456$ and $p < 0.05$) respectively.

Table (19): Correlation coefficient "r" between plasma fibronectin (μg/ml) and foetal weight and Apgar score in superimposed preeclamptic patients.

Biochemical parameters	Foetal weight	Apgar score
Fibronectin (μg/ml)	r = - 0.472 p < 0.05	r = -0.456 p < 0.05

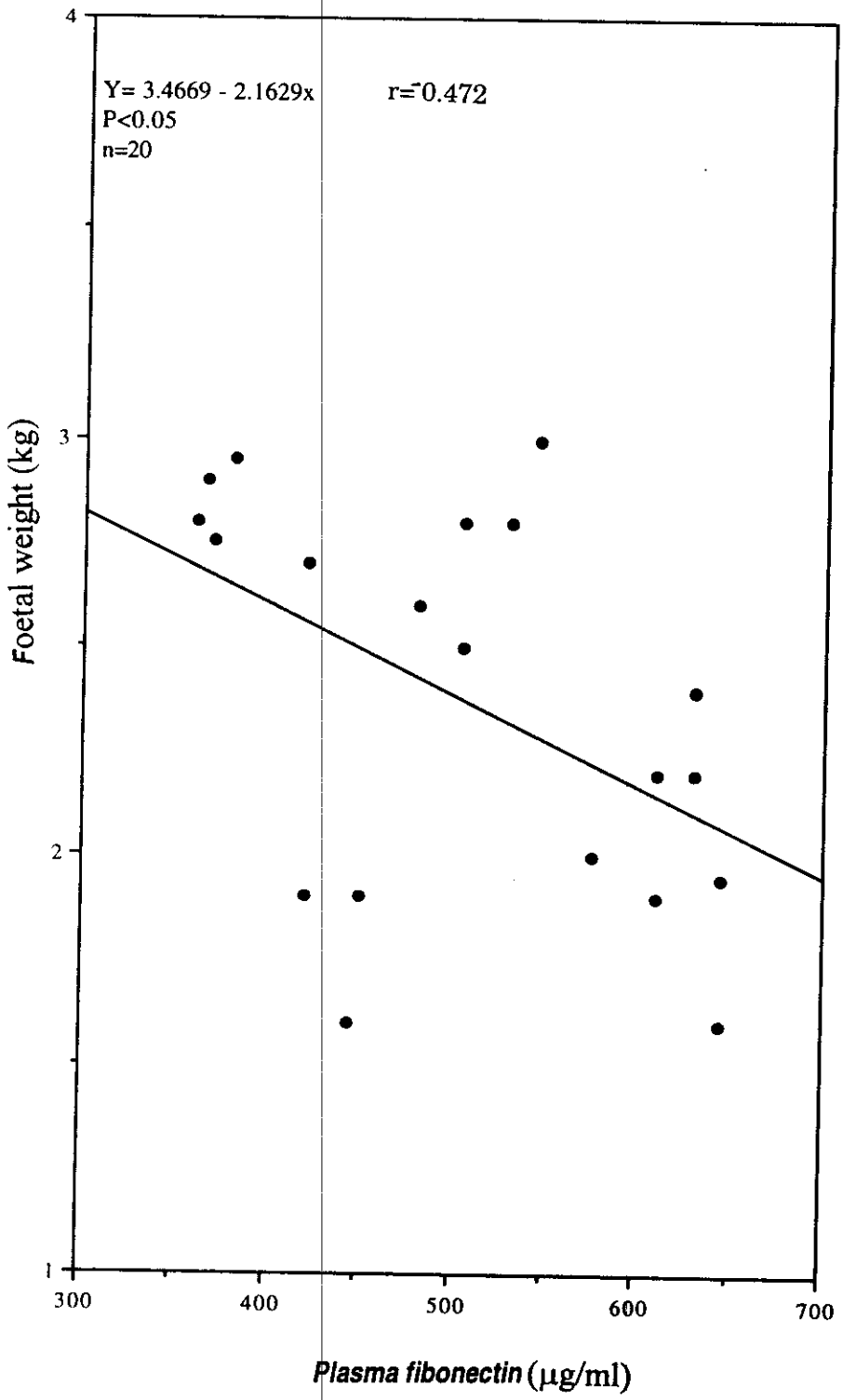
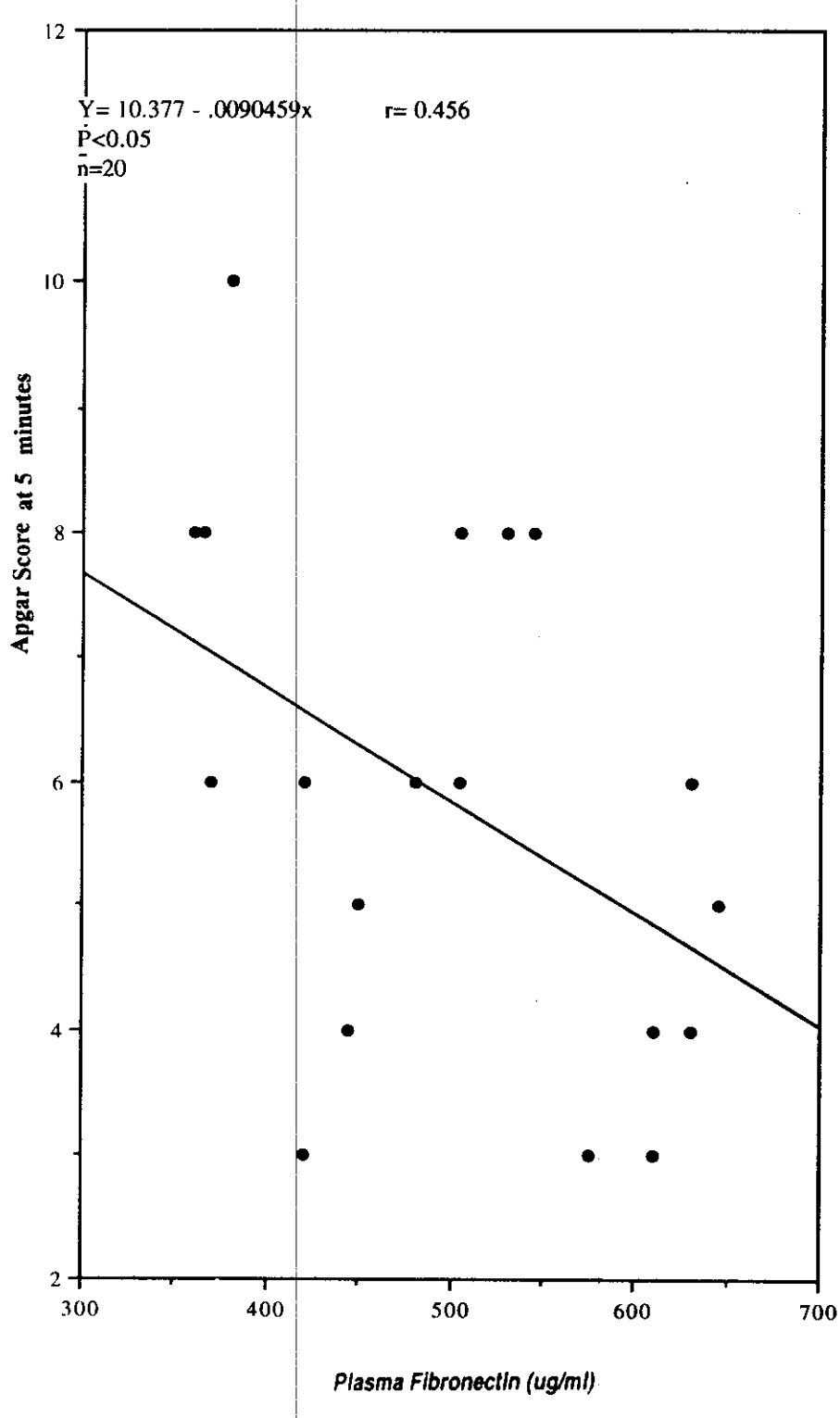


Fig (14): *Correlation* Coefficient *"r" value between fibronection and foetal weight in superimposed* pre-eclampsia



ig. (15): *Correlation* Coefficient *"r" value between fibronection and* Apgar *score in superimposed* pre-eclampsia