RESULTS

Table (1) shows fibronectin concentrations (mg/100 ml) in ascitic fluid in group I with range of 1.5 and 32, mean of 7.34 and standard deviation of ±8.83, group II that ranged between 1.5 and 18, mean of 6.33 and standard deviation of ±5.58 and group III which ranged between 1.5 and 57.5, mean of 19.44 and standard deviation of ±15.54. where the correlation between the three groups was significant ($P<0.05$).

Table (2) shows fibronectin concentration (mg/100 ml) in ascitic fluid in groups I+II (non-malignant) and group III (malignant) and the correlation was highly significant ($P<0.01$).

Table (3) demonstrates fibronectin concentrations (mg/100 ml) in ascitic fluid in group I and group III and the correlation between both was significant ($P<0.05$).

Table (4) shows fibronectin concentrations (mg/100 ml) in ascitic fluid in groups II and III. Where the correlation between both was highly significant ($P<0.01$).

Table (5) demonstrates cholesterol concentrations (mg/100 ml) in ascitic fluid in group I that ranged between 93.1 and 182.9, mean was 135.42 while the standard deviation was ±32.67, group II with range of 66.5-172.9, mean of 134.93 and standard deviation of ±36.59

and group III ranged between 53.2 and 385.7, mean was 191.43 while standard deviation was ±105.91. In this table the relations between the three groups were non significant (P>0.05).

Table (6) illustrates cholesterol concentrations (mg/100 ml) in ascitic fluid in groups I+II and III where there were correlation between both and significant (P<0.05).

Table (7) shows that cholesterol concentrations (mg/100 ml) in ascitic fluid in groups I and III are correlated and significant (P<0.05).

Table (8) demonstrates that the concentrations of cholesterol (mg/100 ml) in ascitic fluid in groups II and III were non-significant (P>0.05) in their correlation.

Table (9) illustrates total protein concentrations (gm/100 ml) in ascitic fluid in the three groups. Where in group I, the range was between 0.81 and 2.91, mean was 1.8 and the standard deviation was ±0.72. Group II had a range between 0.3 and 2.23, mean of 1.48 while the standard deviation was ±0.72. While group III had the range of 0.6-5.14, mean was 2.83 and standard deviation was ±1.55. The correlation between the three groups was significant (P<.05).

In table (10), it was found that the total protein concentrations (gm/100 ml) in ascitic fluid in groups I, II and III are correlated and highly significant (P<0.01).

Table (11) shows that the concentrations of total protein (gm/100 ml) in ascitic fluid in groups I and III were correlated and significant ($P<0.05$).

Table (12) demonstrates that total protein concentrations (gm/100 ml) in ascitic fluid in groups II and III were correlated and significant ($P<0.05$).

Table (13) shows the range, mean and standard deviation of fibronectin, cholesterol and total protein in different groups.

In Table (14), it was found that the correlation between cholesterol, fibronectin and total protein concentrations in ascitic fluid in different groups as following:

- Cholesterol-protein correlation was very highly significant in groups I+II, I and III ($P<0.001$) but non-significant in group II ($P>0.05$).
- Protein-fibronectin correlation was significant in groups I+II and III ($P<0.05$) and non-significant in groups I and II ($P>0.05$).
- Fibronectin-cholesterol was significant in their correlation in groups I+II, I and III ($P<0.05$) but non-significant in group II ($P>0.05$).

Table (15) shows the diagnostic efficiency of fibronectin, cholesterol and total protein in different groups.

Figure (1) shows the correlation between cholesterol and fibronectin concentrations in ascitic fluid in cirrhotics (group I) that is proved to be significant ($P<0.05$).

Figure (2) shows the correlation between protein and fibronectin concentrations in ascitic fluid in cirrhotics (group I) that is proved non-significant ($P>0.05$).

Figure (3) shows the correlation between cholesterol and protein concentrations in ascitic fluid in cirrhotics (group I) that is proved to be very highly significant ($P<0.001$).

Figure (4) shows the correlation between cholesterol and protein concentrations in ascitic fluid in non-cirrhotics non-malignant (group II) that is proved to be non-significant ($P>0.05$).

Figure (5) shows the correlation between cholesterol and fibronectin concentrations in ascitic fluid in non-cirrhotics non-malignant (group II) that is proved to be non-significant ($P>0.05$).

Figure (6) shows the correlation between protein and fibronectin concentrations in ascitic fluid in non-cirrhotics non-malignant (group II) that is proved to be non-significant ($P>0.05$).

Figure (7) shows the correlation between fibronectin and protein concentrations in ascitic fluid in malignant (group III) that is proved to be significant ($P<0.05$).

Figure (8) shows the correlation between cholesterol and fibronectin concentrations in ascitic fluid in malignant (group III) that is proved to be significant ($P<0.05$).

Figure (9) shows the correlation between cholesterol and protein concentrations in ascitic fluid in malignant (group III) that is proved to be very highly significant ($P<0.001$).

Table (1): Concentration of fibronectin (mg/100 ml) in ascitic fluid in group I (cirrhotics), group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group I	Group II	Group III
1	1.5	5.0	8.3
2	8.3	8.3	38.0
3	6.0	2.5	32.0
4	5.0	4.5	5.0
5	1.6	1.5	12.5
6	1.5	4.5	1.5
7	1.6	18.0	16.0
8	32.0		1.5
9	12.0		32.0
10	6.2		11.0
11	5.0		12.5
12			4.5
13			12.6
14			18.0
15			22.0
16			22.0
17			57.5
18			43.0
Range	1.5-32.0	1.5-18.0	1.5-57.5
Mean	7.34	6.33	19.44
±SD	8.83	5.58	15.54
F = 4.779		P<0.05	

Line significant

Table (2): Concentration of fibronectin (mg/100 ml) in ascitic fluid in group I+II (non-malignant) and group III (malignant)

Case No.	Group I+II	Group III
1	1.5	8.3
2	8.3	38.0
3	6.0	32.0
4	5.0	5.0
5	1.6	12.5
6	5.0	1.5
7	1.5	16.0
8	8.3	1.5
9	1.5	32.0
10	2.5	11.0
11	4.5	12.5
12	1.5	4.5
13	4.5	12.6
14	18.0	18.0
15	32.0	22.0
16	12.0	22.0
17	6.2	57.5
18	5.0	43.0
Range	1.5-32.0	1.5-57.5
Mean	6.94	19.44
±SD	7.56	15.54
t-test = 3.07*		P<0.01

* Denotes statistical significance

Table (3): Concentration of fibronectin (mg/100 ml) in ascitic fluid in group I (cirrhotics) and group III (malignant)

Case No.	Group I	Group III
1	1.5	8.3
2	8.3	38.0
3	6.0	32.0
4	5.0	5.0
5	1.6	12.5
6	1.5	1.5
7	1.6	16.0
8	32.0	1.5
9	12	32.0
10	6.2	11.0
11	5.0	12.5
12		4.5
13		12.6
14		18.0
15		22.0
16		22.0
17		57.5
18		43.0
Range	1.5-32.0	1.5-57.5
Mean	7.34	19.44
±SD	8.83	15.54
t-test = 2.67*		P<0.05

* Denotes statistical significance

Table (4): Concentration of fibronectin (mg/100 ml) in ascitic fluid in group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group II	Group III
1	8.0	8.3
2	8.3	38.0
3	2.5	32.0
4	4.5	5.0
5	1.5	12.5
6	4.5	1.5
7	18.0	16.0
8		1.5
9		32.0
10		11.0
11		12.5
12		4.5
13		12.6
14		18.0
15		22.0
16		22.0
17		57.5
18		43.0
Range	1.5-18.0	1.5-57.5
Mean	6.33	19.44
±SD	5.58	15.54
t-test = 3.1*		P<0.01

* Denotes statistical significance

Table (5): Concentration of cholesterol (mg/100 ml) in ascitic fluid in group I (cirrhotics), group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group I	Group II	Group III
1	106.20	113.05	319.20
2	139.60	146.30	385.70
3	126.35	126.35	66.50
4	182.90	159.80	106.40
5	93.10	66.50	53.20
6	99.80	172.90	66.50
7	99.75	159.60	146.30
8	172.90		133.00
9	146.30		332.50
10	149.80		106.40
11	172.90		172.90
12			212.80
13			173.90
14			119.70
15			199.50
16			345.80
17			319.20
18			186.20
Range	93.1-182.9	66.5-172.9	53.2-385.7
Mean	135.42	134.93	191.43
±SD	32.67	36.59	105.91
F = 2.240		P<0.05	

Table (6): Concentration of cholesterol (mg/100 ml) in ascitic fluid in group I+II (non-malignant) and group III (malignant)

Case No.	Group I+II	Group III
1	106.20	319.20
2	139.60	385.70
3	126.35	66.50
4	182.90	106.40
5	93.10	53.20
6	113.05	66.50
7	99.80	146.30
8	146.30	133.00
9	99.75	332.50
10	126.35	106.40
11	159.80	172.90
12	66.50	212.80
13	172.90	173.90
14	159.60	119.70
15	172.90	199.50
16	146.30	345.80
17	144.80	319.20
18	172.90	186.20
Range	66.5-182.9	53.2-385.7
Mean	135.24	191.43
±SD	33.16	105.91
t-test = 2.15*		P<0.05

* Denotes statistical significance

Table (7): Concentration of cholesterol (mg/100 ml) in ascitic fluid in group I (cirrhotics) and group III (malignant)

Case No.	Group I	Group III
1	106.20	319.20
2	139.60	385.70
3	126.35	66.50
4	182.90	106.40
5	93.10	53.20
6	99.80	66.50
7	99.75	146.30
8	172.90	133.00
9	146.30	332.50
10	149.80	106.40
11	172.90	172.90
12		212.80
13		173.90
14		119.70
15		199.50
16		345.80
17		319.20
18		186.20
Range	93.1-182.9	53.2-385.7
Mean	135.42	191.43
±SD	32.67	105.91
t-test = 2.08*		P<0.05

* Denotes statistical significance

Table (8): Concentration of cholesterol (mg/100 ml) in ascitic fluid in group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group II	Group III
1	113.05	319.20
2	146.30	385.70
3	126.35	66.50
4	159.80	106.40
5	66.50	53.20
6	172.90	66.50
7	159.60	146.30
8		133.00
9		332.50
10		106.40
11		172.90
12		212.80
13		173.90
14		119.70
15		199.50
16		345.80
17		319.20
18		186.20
Range	66.5-172.9	53.2-385.7
Mean	134.93	191.43
±SD	36.59	105.91
t-test = 1.98		P>0.05

Table (9): Concentration of total protein (gm/100 ml) in ascitic fluid in group I (cirrhotics), group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group I	Group II	Group III
1	1.02	1.07	4.71
2	1.60	1.03	5.14
3	2.57	1.50	1.71
4	2.91	2.14	1.59
5	0.94	0.30	1.00
6	0.81	2.06	0.60
7	0.94	2.23	1.29
8	2.57		2.23
9	2.49		3.77
10	2.00		1.29
11	1.97		2.31
12			1.41
13			3.34
14			3.94
15			3.86
16			5.14
17			5.00
18			2.57
Range	0.81-2.91	0.3-2.23	0.6-5.14
Mean	1.80	1.48	2.83
±SD	0.78	0.72	1.55
F = 4.089		P<0.05	

Line significant

Table (10): Concentration of total protein (gm/100 ml) in ascitic fluid in group I+II (non-malignant) and group III (malignant)

Case No.	Group I+II	Group III
1	1.02	4.71
2	1.60	5.14
3	2.57	1.71
4	2.91	1.59
5	0.94	1.00
6	1.07	0.60
7	0.81	1.29
8	1.03	2.23
9	0.94	3.77
10	1.50	1.29
11	2.14	2.31
12	0.30	1.41
13	2.06	3.34
14	2.23	3.94
15	2.57	3.86
16	2.49	5.14
17	2.00	5.00
18	1.97	2.57
Range	0.3-2.91	0.6-5.14
Mean	1.68	2.83
±SD	0.75	1.55
t-test = 2.83*		P<0.01

* Denotes statistical significance

Table (11): Concentration of total protein (gm/100 ml) in ascitic fluid in group I (cirrhotics) and group III (malignant)

Case No.	Group I	Group III
1	1.02	4.71
2	1.60	5.14
3	2.57	1.71
4	2.91	1.59
5	0.94	1.00
6	0.81	0.60
7	0.94	1.29
8	2.57	2.23
9	2.49	3.77
10	2.00	1.29
11	1.97	2.31
12		1.41
13		3.34
14		3.94
15		3.86
16		5.14
17		5.00
18		2.57
Range	0.81-2.91	0.6-5.14
Mean	1.80	2.83
±SD	0.78	1.55
t-test = 2.43*		P<0.05

* Denotes statistical significance

Table (12): Concentration of total protein (gm/100 ml) in ascitic fluid in group II (non-cirrhotic, non-malignant) and group III (malignant)

Case No.	Group II	Group III
1	1.07	4.71
2	1.03	5.14
3	1.50	1.71
4	2.14	1.59
5	0.30	1.00
6	2.06	0.60
7	2.23	1.29
8		2.23
9		3.77
10		1.29
11		2.31
12		1.41
13		3.34
14		3.94
15		3.86
16		5.14
17		5.00
18		2.57
Range	0.3-2.23	0.6-5.14
Mean	1.48	2.83
±SD	0.72	1.55
t-test = 2.72*		P<0.05

* Denotes statistical significance

Table (13): Ascitic fluid concentrations of fibronectin, cholesterol and total protein in group I+II (non-malignant), group I (cirrhotics), group II (non cirrhotic, non-malignant) and group III (malignant)

	Fibronectin (mg/100 ml)				Cholesterol (mg/100 ml)				Total protein (gm/100 ml)			
Group	I+II	I	II	III	I+II	I	II	III	I+II	I	II	III
Range	1.5-32.0	1.5-32.0	1.5-18.0	1.5-57.5	66.5-182.9	93.1-182.9	66.5-172.9	53.2-385.7	0.3-2.91	0.81-2.91	0.3-2.23	0.6-5.14
Mean ±SD	6.94 7.56	7.34 8.83	6.33 5.58	19.44 15.54	135.24 33.16	135.42 32.67	134.93 36.59	191.43 105.91	1.68 0.75	1.80 0.78	1.48 0.72	2.83 1.55

Table (14): Correlations of ascitic fluid concentrations of fibronectin, cholesterol and total protein in group I (cirrhotics), group II (non cirrhotic, non-malignant) and group III (malignant)

	Group I+II		Group I		Group II		Group III	
	r	P	r	P	r	P	r	P
Cholesterol-protein	0.84	<0.001	0.85	<0.001	0.40	>0.05	0.85	<0.001
Protein-fibronectin	0.53	<0.05	0.55	>0.05	0.40	>0.05	0.55	<0.05
Fibronectin-cholesterol	0.52	<0.05	0.56	<0.05	0.48	>0.05	0.50	<0.05
Significant correlation (r)	0.468		0.553		0.754		0.468	
No. of cases	18		11		7		18	

r = Correlation coefficient

P = Probability of untrue values

Table (15): Diagnostic efficiency of fibronectin, cholesterol and total protein in different groups

	Fibronectin (mg/100 ml)			Cholesterol (mg/100 ml)			Total protein (gm/100 ml)		
Group	I+II, III	I, III	II, III	I+II, III	I, III	II, III	I+II, III	I, III	II, III
Sensitivity (%)	73%	72%	72%	100%	100%	100%	50%	50%	50%
Specificity (%)	83%	82%	86%	Zero	Zero	Zero	83%	64%	100%
Positive predictivity (%)	81%	87%	93%	50%	62%	72%	75%	69%	100%
Negative predictivity (%)	75%	64%	55%	Zero	Zero	Zero	63%	44%	44%
Efficiency (%)	78%	76%	76%	50%	62%	72%	67%	55%	64%

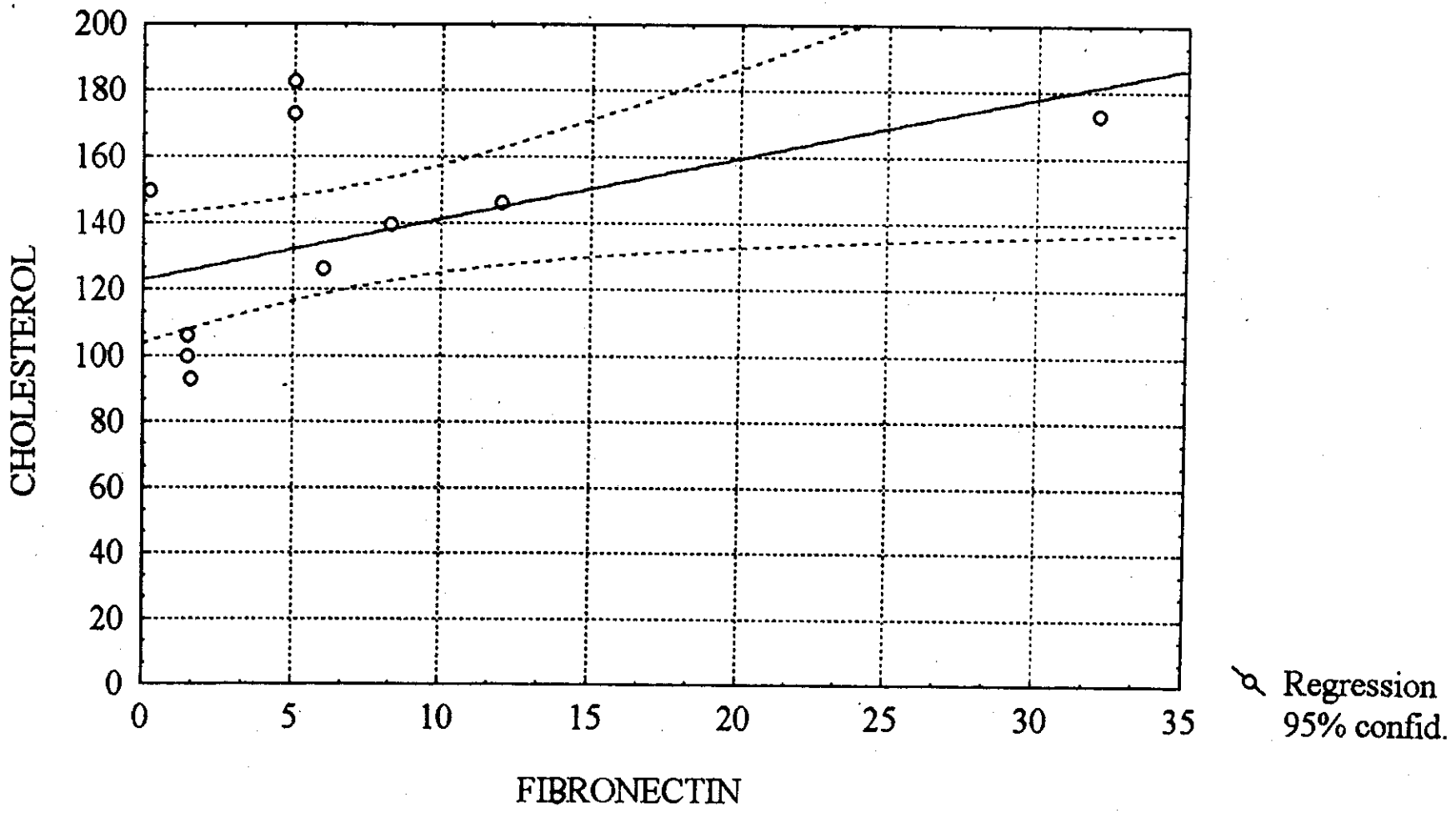

Fig. (1): Correlation between fibronectin and cholesterol in group I (cirrhotics)

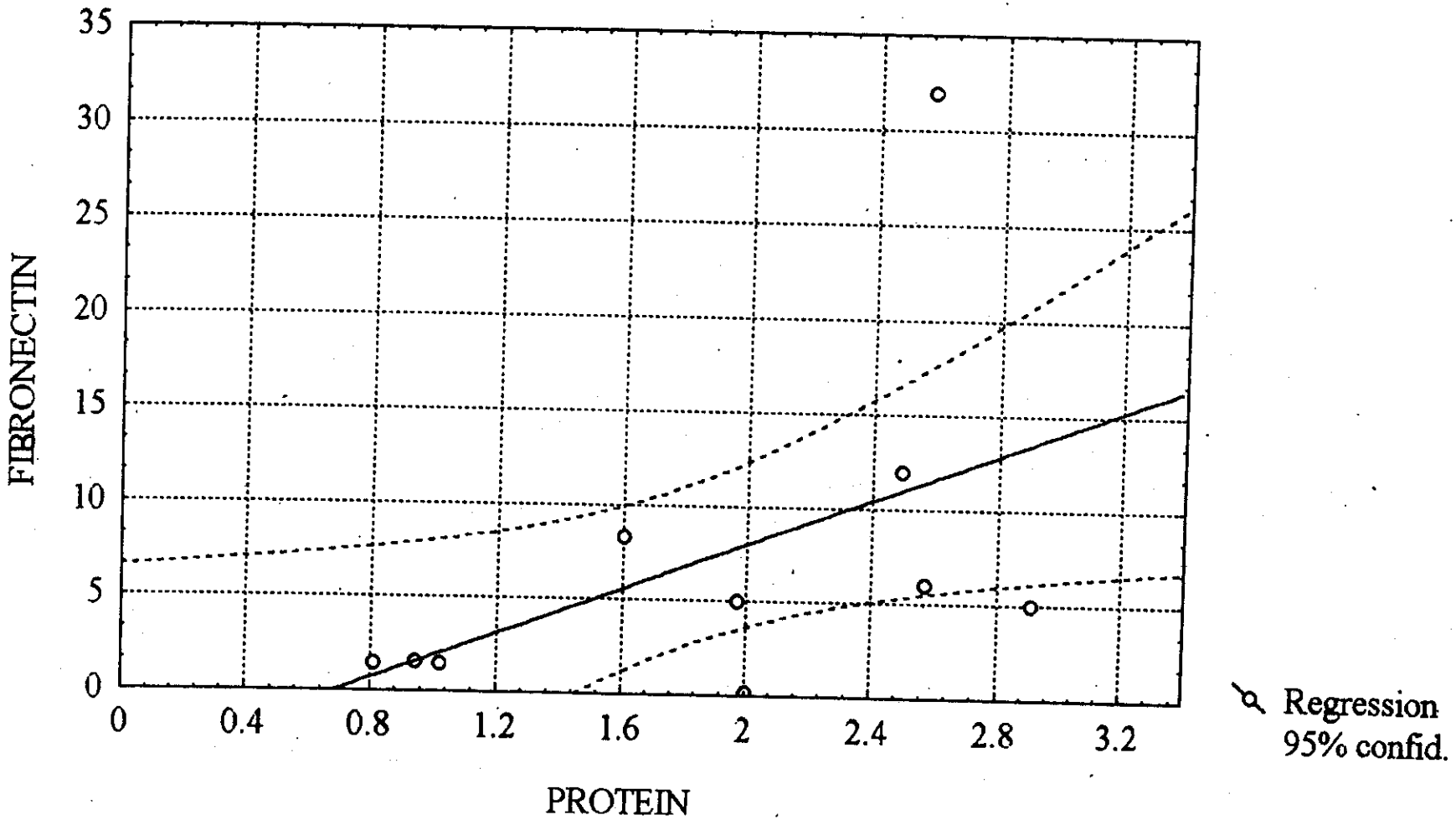

Fig. (2): Correlation between protein and fibronectin in group I (cirrhotics)

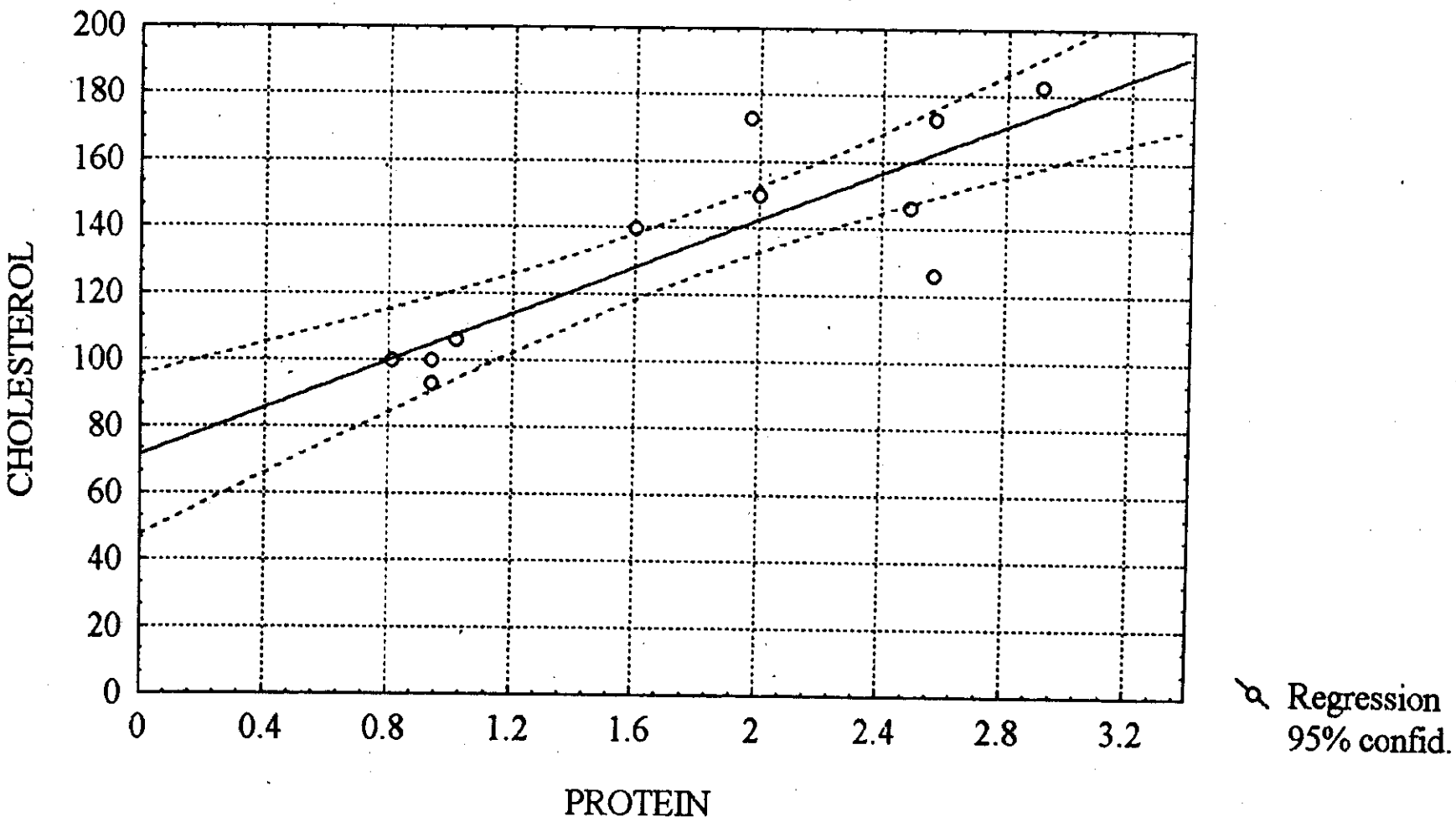

Fig. (3): Correlation between protein and cholesterol in group I (cirrhotics)

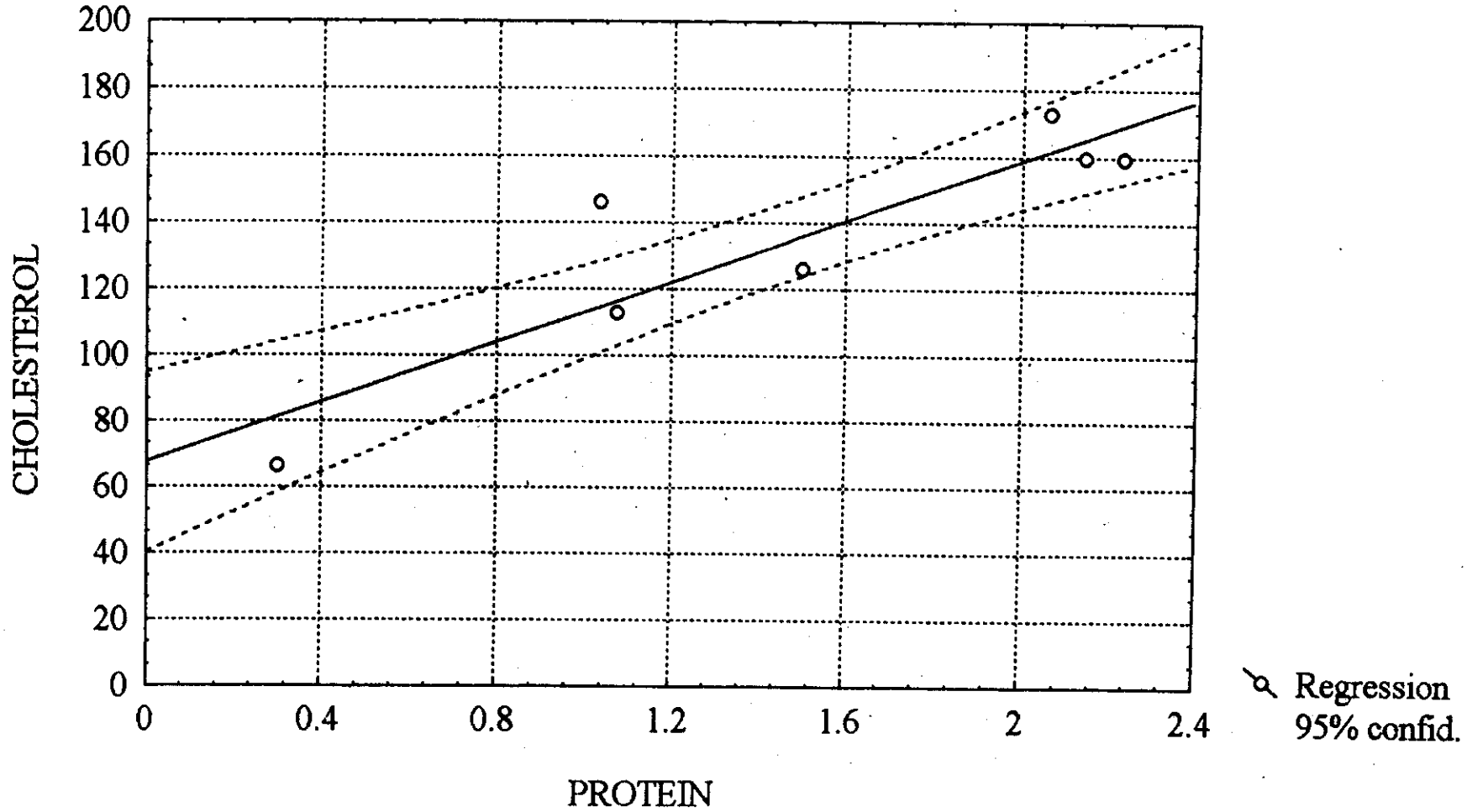

Fig. (4): Correlation between protein and cholesterol in group II (non-cirrhotic, non-malignant)

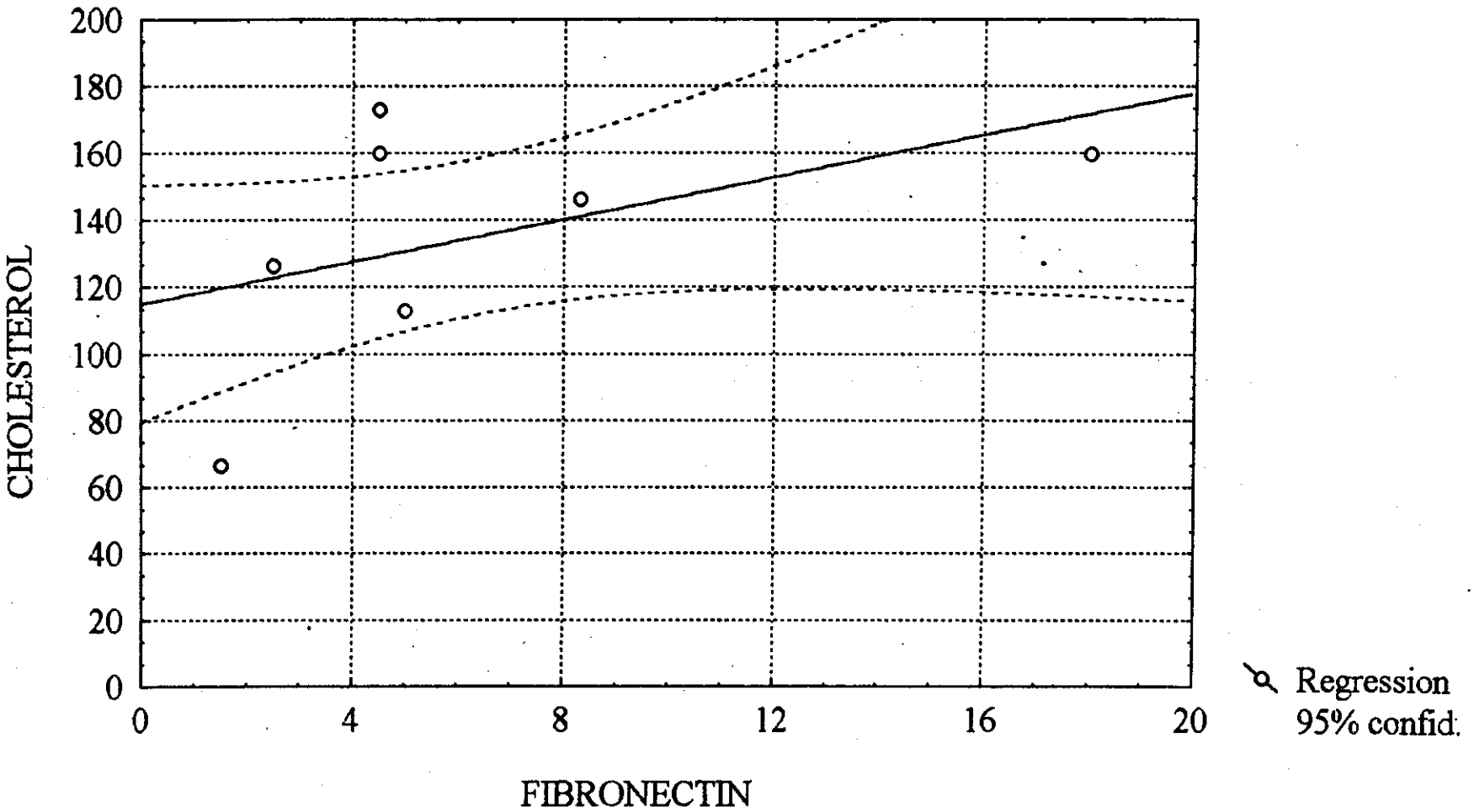

Fig. (5): Correlation between fibronectin and cholesterol in group II (non-cirrhotic, non-malignant)

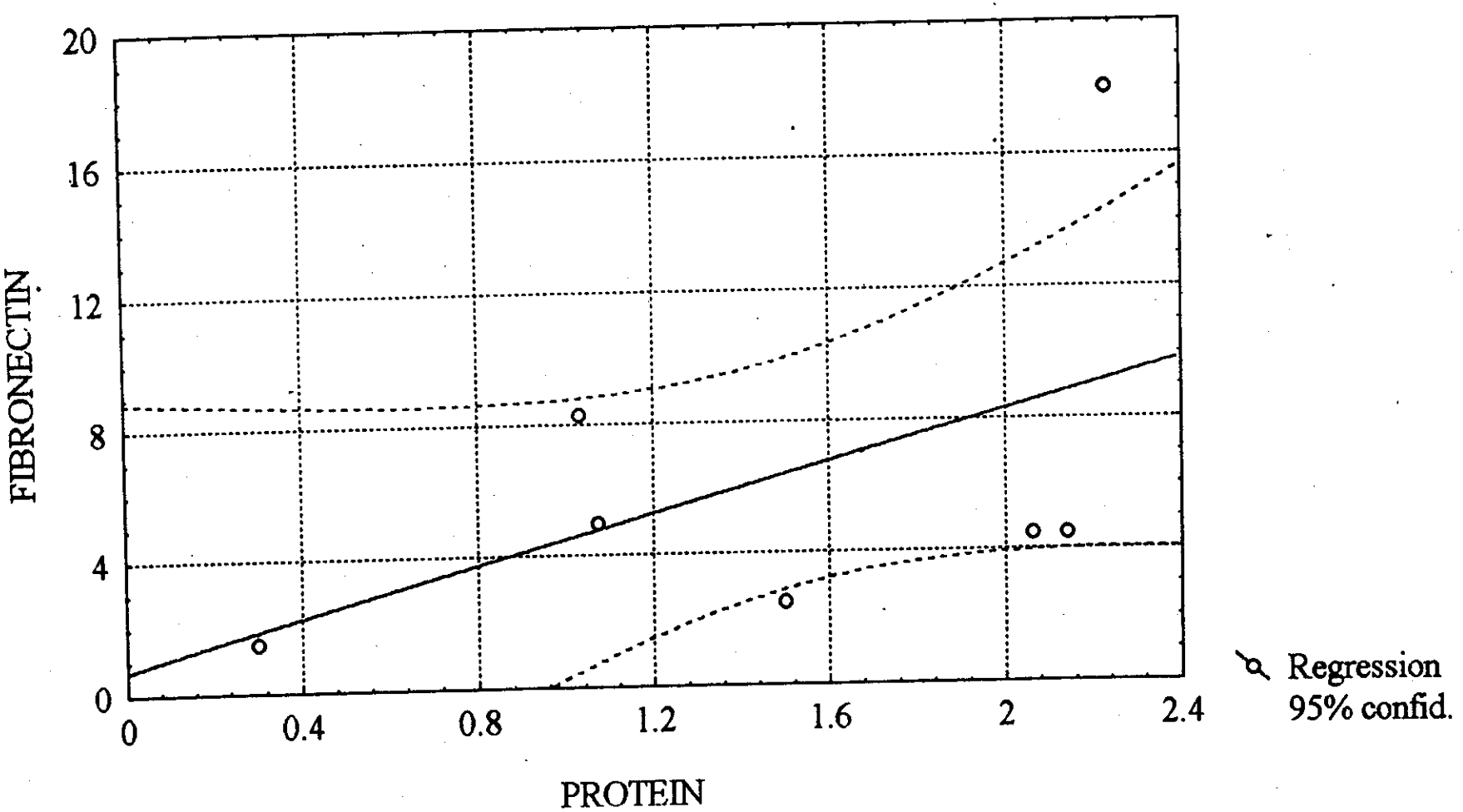

Fig. (6): Correlation between protein and fibronectin in group II (non-cirrhotic, non-malignant)

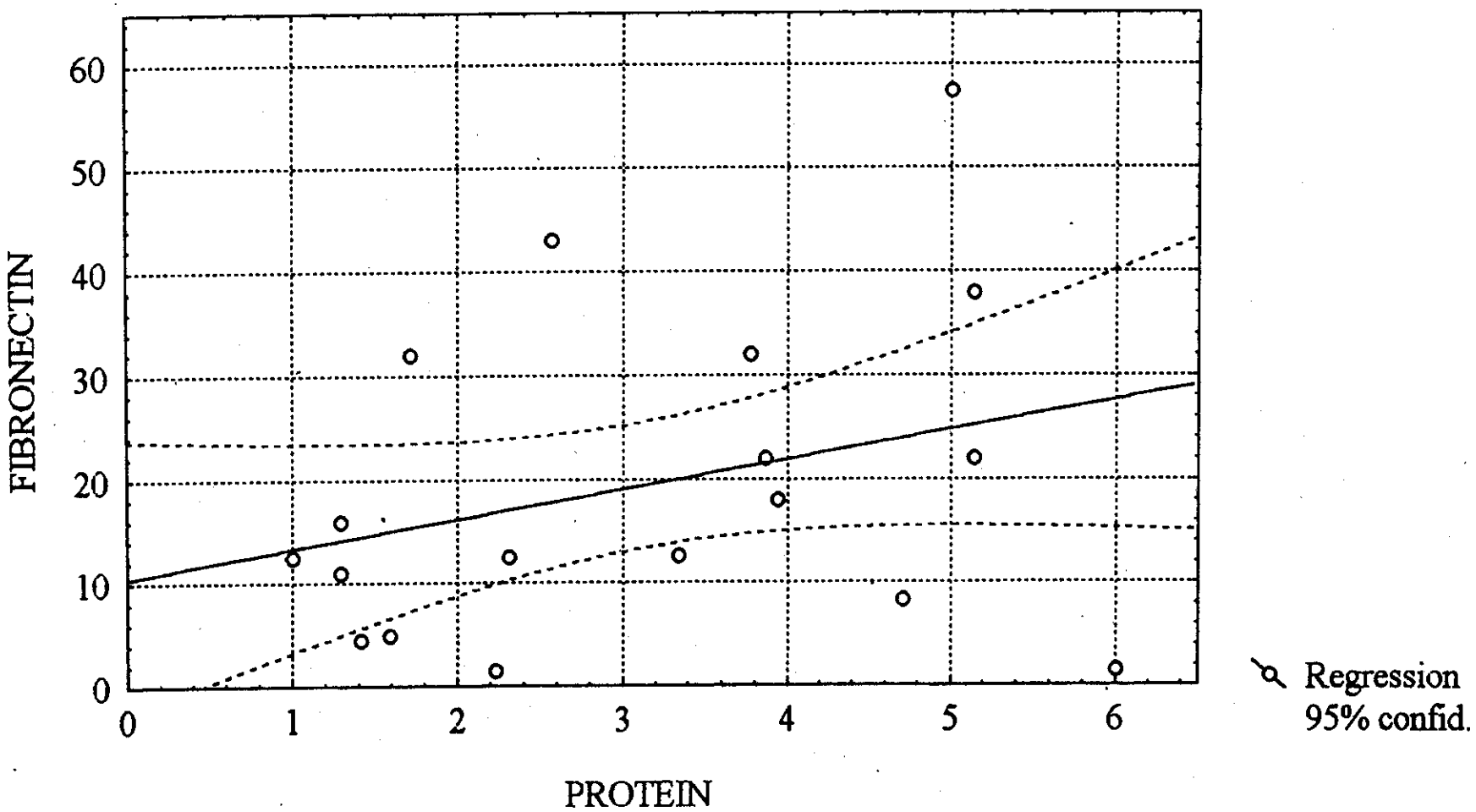

Fig. (7): Correlation between fibronectin and cholesterol in group III (malignant)

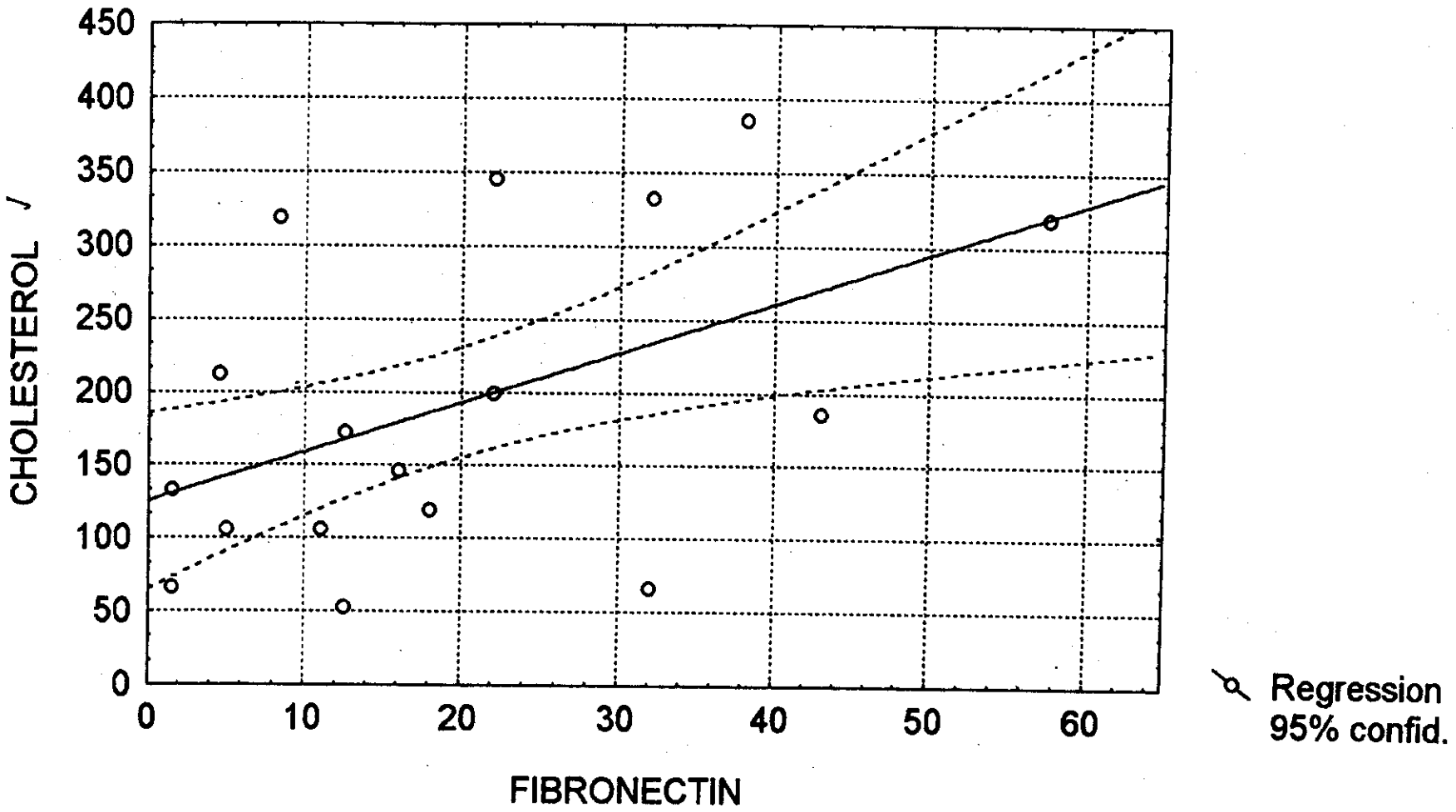

Fig. (8): Correlation between cholesterol and fibronectin in group III (malignant)

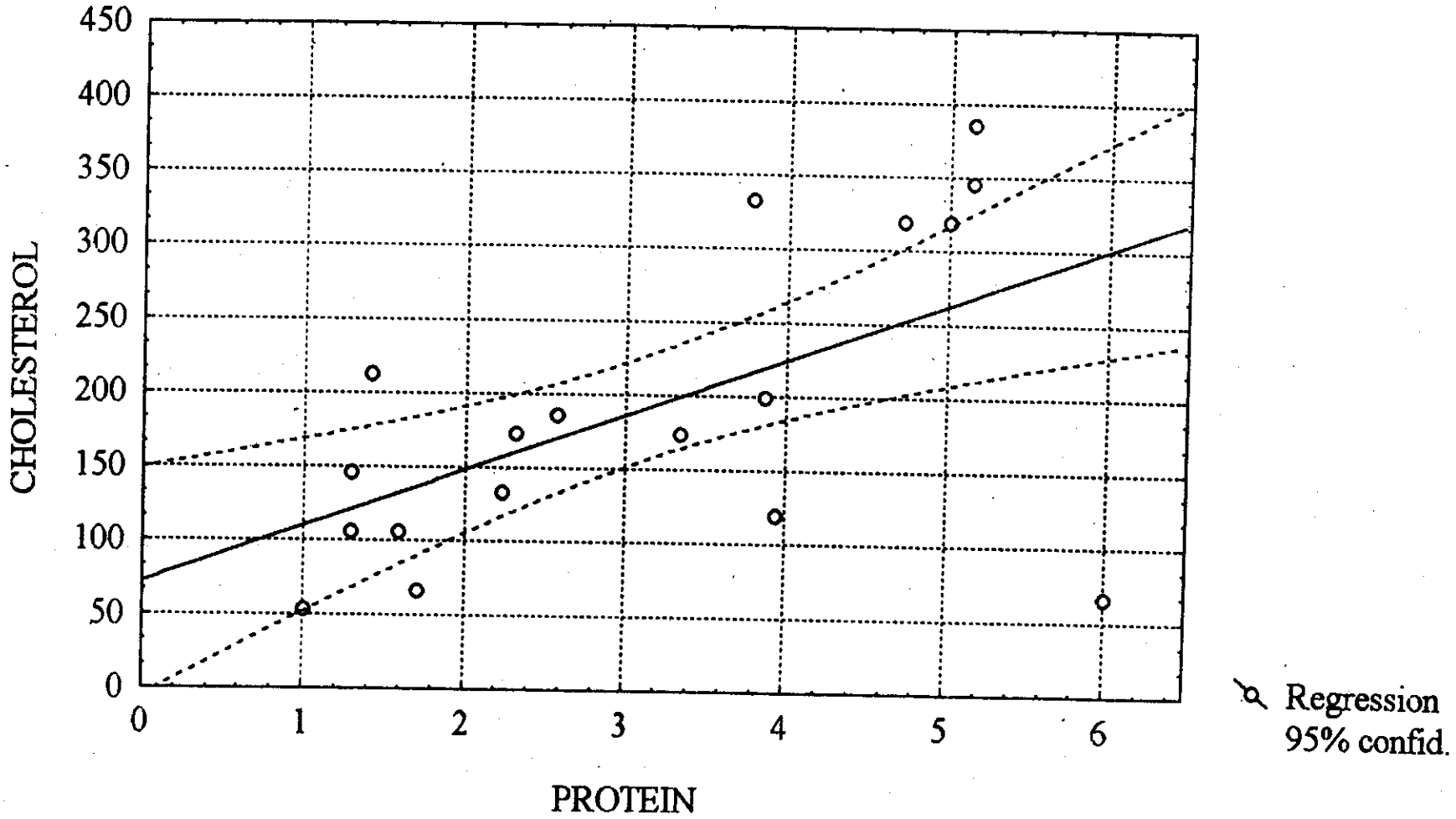

Fig. (9): Correlation between protein and cholesterol in group III (malignant)