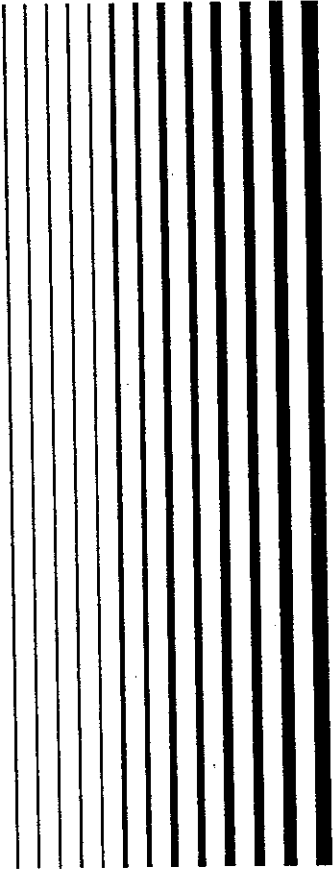
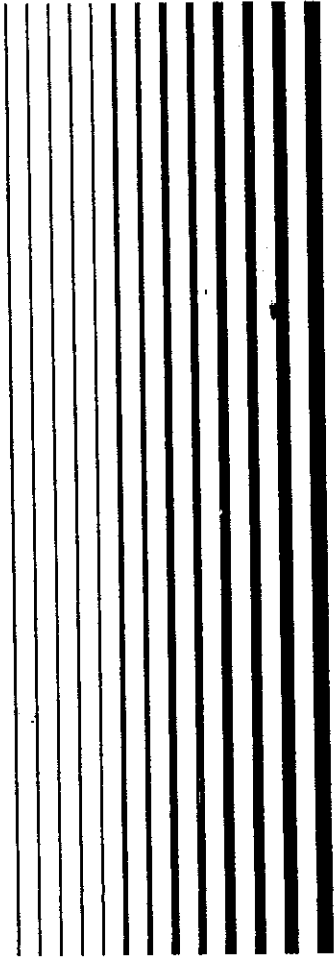




RESULTS



RESULTS

Table (1) Differences in sex among examined groups.

Groups	Control	P. Bilharzial	C.A.H	Cirrhosis	H.C.C
Males	12 (60%)	14 (73.37%)	14 (77.8%)	13(81.3%)	12(80%)
Females	8 (40%)	5 (26.3%)	4 (22.2%)	3(18.7%)	3 (20%)
Total	20	19	18	16	15

Chi. Square =2.879

P>0.05

Table (2): Age differences among examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (years)	43	40	43	45	43
S . D .	4.5	4.9	5.5	4.2	6.1

F (Analysis of variance) = 1.8404

P>0.05

Tables 1 and 2 showed the homogeneity of the examined patients and control groups; as the differences between them regarding age and sex were insignificant.

Table (3): Mean SGOT Measures among the examined groups.

<i>Groups</i>	<i>Control</i>	<i>P.Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>
Mean (U/L)	30.5	51.7	125.1	92.2	114.1
S.D.	12.8	19.3	58.0	46.3	40.7

F= 20.2157

P< 0.001

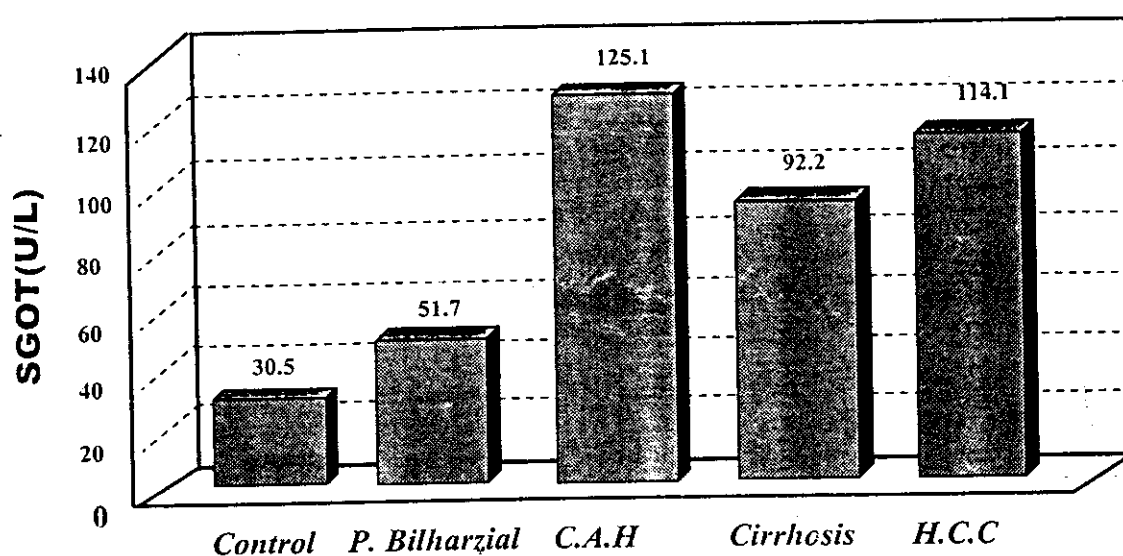


Fig . (1) MEAN MEASURES OF SGOT AMONG THE EXAMINED GROUPS

Table 3 and Fig. 1 showed the significant difference present among the examined groups regarding SGOT measures. CAH group had the highest mean value of SGOT.

Table (5): Mean total bilirubin measures among the examined groups.

<i>Groups</i>	<i>Control</i>	<i>P.Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>
Mean (mg /dl)	0.67	1.19	2.40	2.02	2.42
S.D.	0.22	0.35	0.92	0.87	0.92

F= 22.3767

P< 0.001

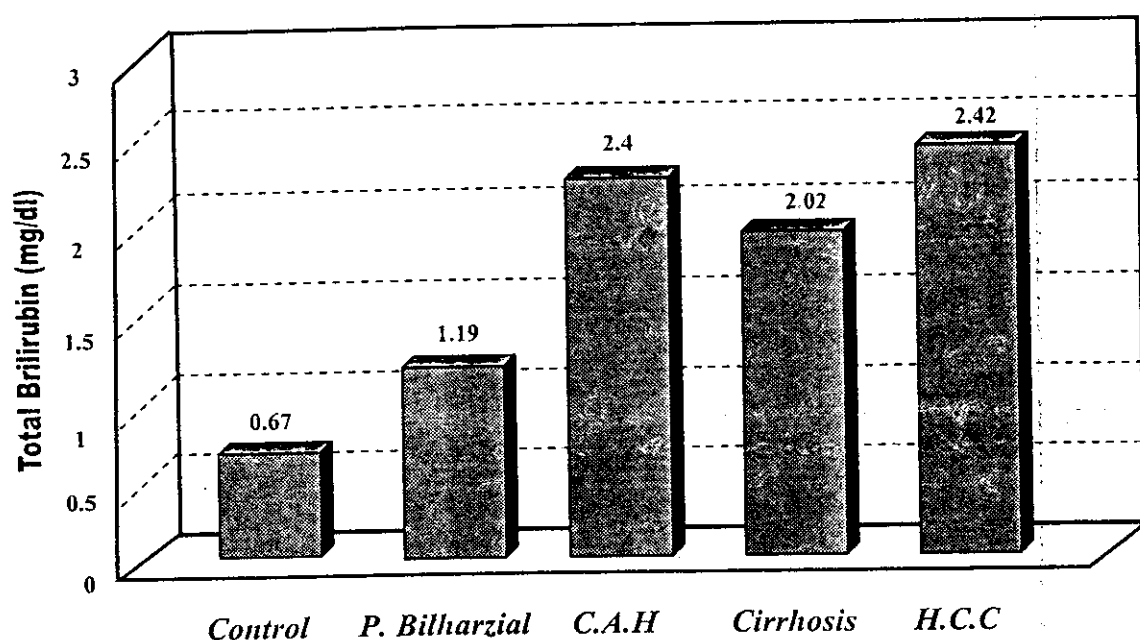


Fig. (3) MEAN MEASURES OF THE TOTAL BILIRUBIN AMONG THE EXAMINED GROUPS

Table 5 and Fig. 3 showed the significant difference found among the examined groups regarding total bilirubin measures. Patients with hepatocellular carcinoma were having the heighest values of total bilirubin.

Table (6): Mean direct bilirubin measures among the examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (mg /dl)	0.13	0.43	1.641	1.20	1.59
S.D.	0.09	0.09	0.88	0.82	0.82

F = 20.478

P < 0.001

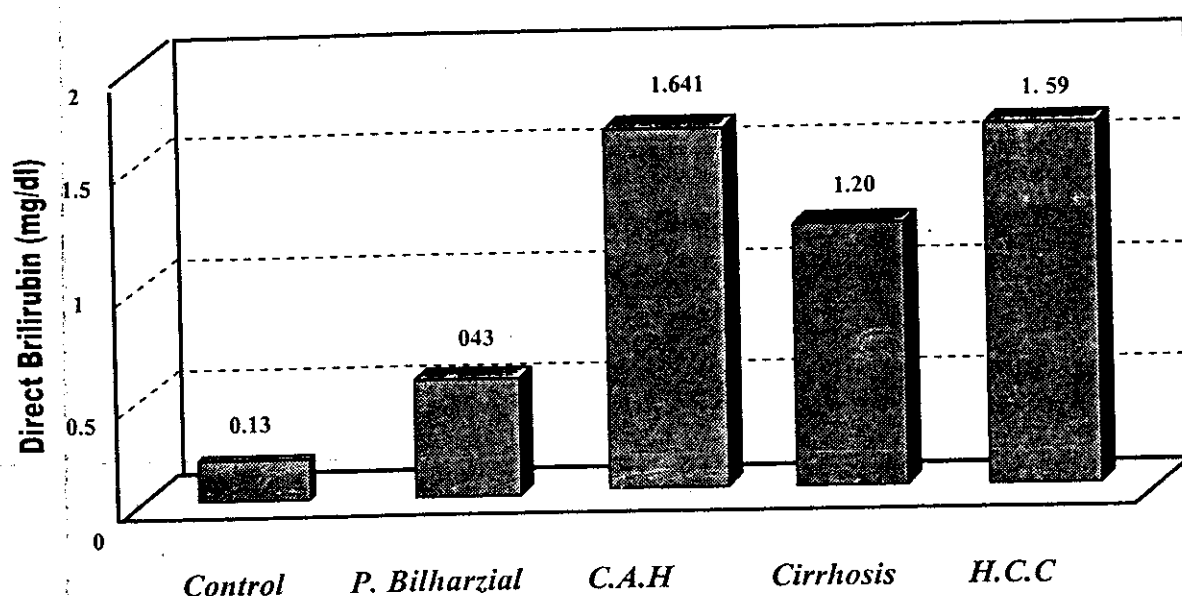


Fig. (4) MEAN MEASURES OF THE DIRECT BILIRUBIN AMONG THE EXAMINED GROUPS

Direct bilirubin measures also showed significant difference among studied groups (table 6 and Fig. 4). CAH group showed the heighest mean value of these measures.

Table (7): Mean total protein measures of the examined groups.

<i>Groups</i>	<i>Control</i>	<i>P.Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>
Mean (g/dl)	7.5	6.9	6.5	5.9	6.1
S.D.	0.4	0.5	0.4	0.3	0.7

F= 33.3161 P< 0.001

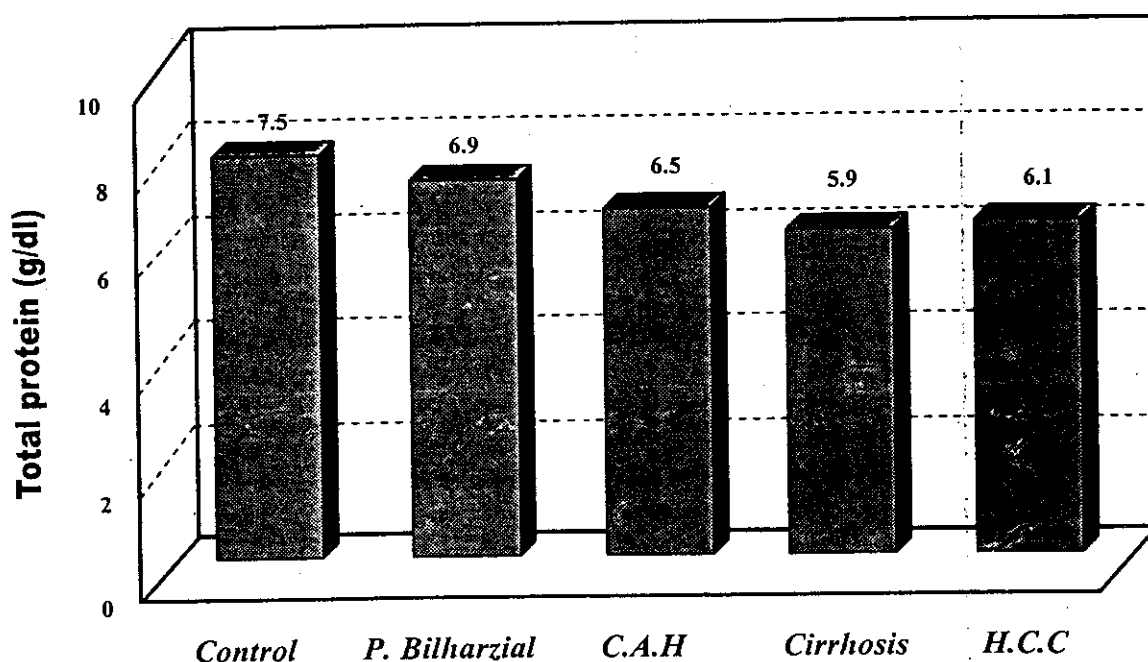


Fig. (5) MEAN TOTAL PROTEIN MEASURES AMONG THE EXAMINED GROUPS

Table 7 and Fig. 5 showed that even total protein measures showed significant difference among the examined groups.

Table (8): Mean serum albumin measures among the examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (g / dl)	4.6	3.8	3.3	2.7	3.0
S.D.	0.4	0.7	0.5	0.4	0.6

F=35.3633 P< 0.001

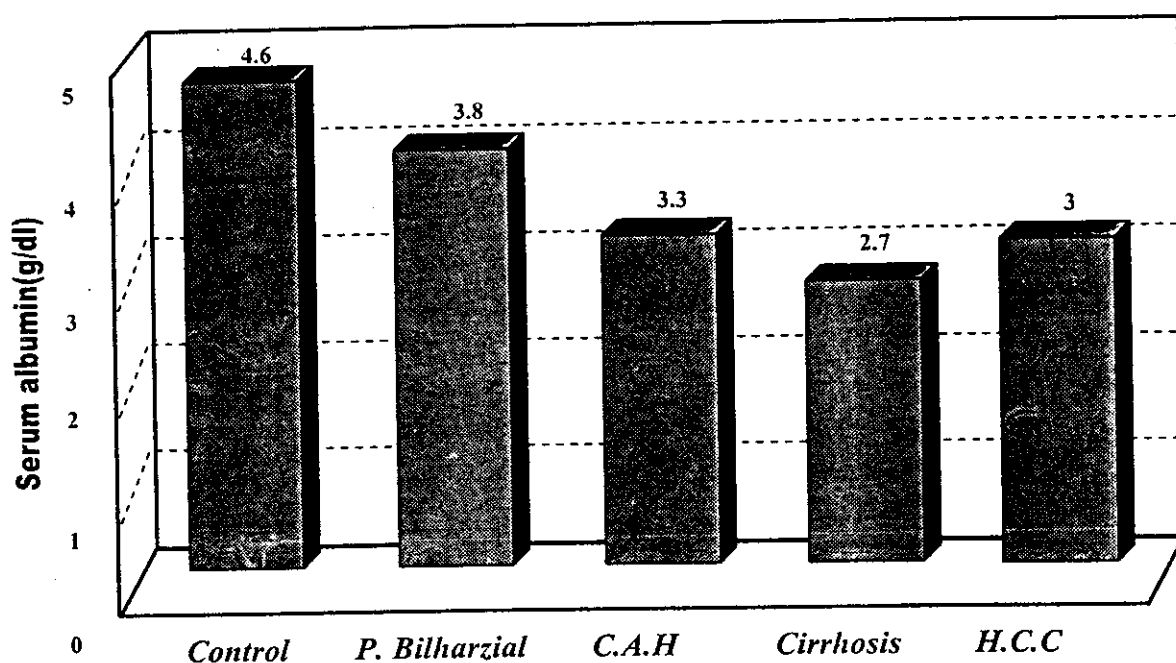


Fig. (6) MEAN SERUM ALBUMIN MEASURES AMONG THE EXAMINED GROUPS

Again a significant difference was detected among the studied groups regarding their albumin levels (table 8 and Fig. 6).

Table (9): Mean Alkaline phosphatase measures among the examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (K.K. units)	6.4	9.3	15.3	10.3	18.5
S.D.	1.8	4.2	2.8	3.5	3.2

F = 40.0479

P < 0.001

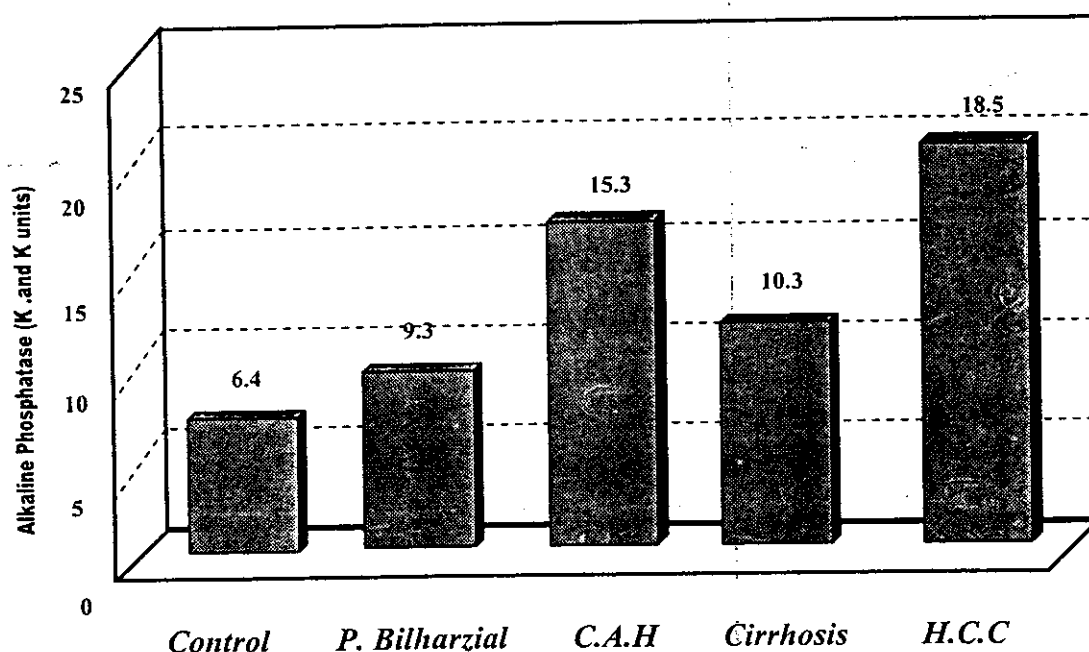


Fig. (7) MEAN ALKALINE PHOSPHA TASE MEASURES AMONG THE EXAMINED GROUPS

Table 9 and Fig. 7 showed the significant difference observed among the examined groups regarding their alkaline phosphatase measures.

Table (10): Mean Prothrombin concentrations among the studied groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrrosi	H.C.C
Mean	91.1	72.3	59.8	47.3	57.0
S.D.	7.5	10.9	13.0	8.9	14.2

F= 42.7877

P< 0.001

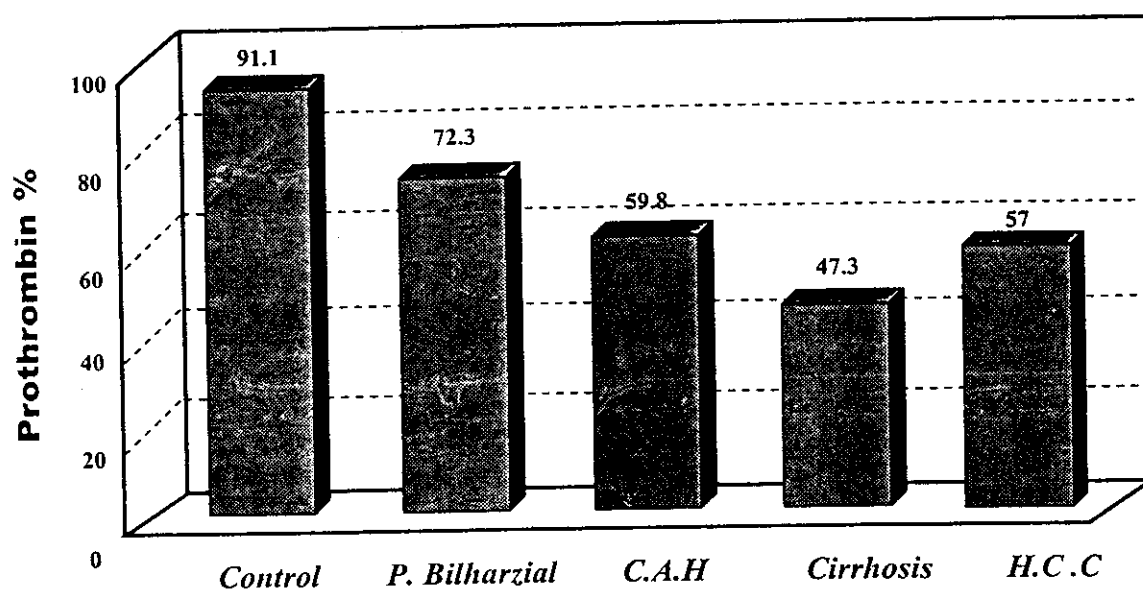


Fig. (8) MEAN PROTHROMBIN CONCENTRATIONS AMONG THE EXAMINED GROUPS

The lowest prothrombin concentration was detected among patients with liver cirrhosis (table 10 & Fig. 8). A significant difference was detected among the examined groups regarding prothrombin concentrations.

Table (11): Mean blood urea measures among the examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (mg /dl)	25.0	34.4	47.9	42.9	47.1
S.D.	8.1	11.4	28.7	20.3	21.0

F= 4.8463

P< 0.01

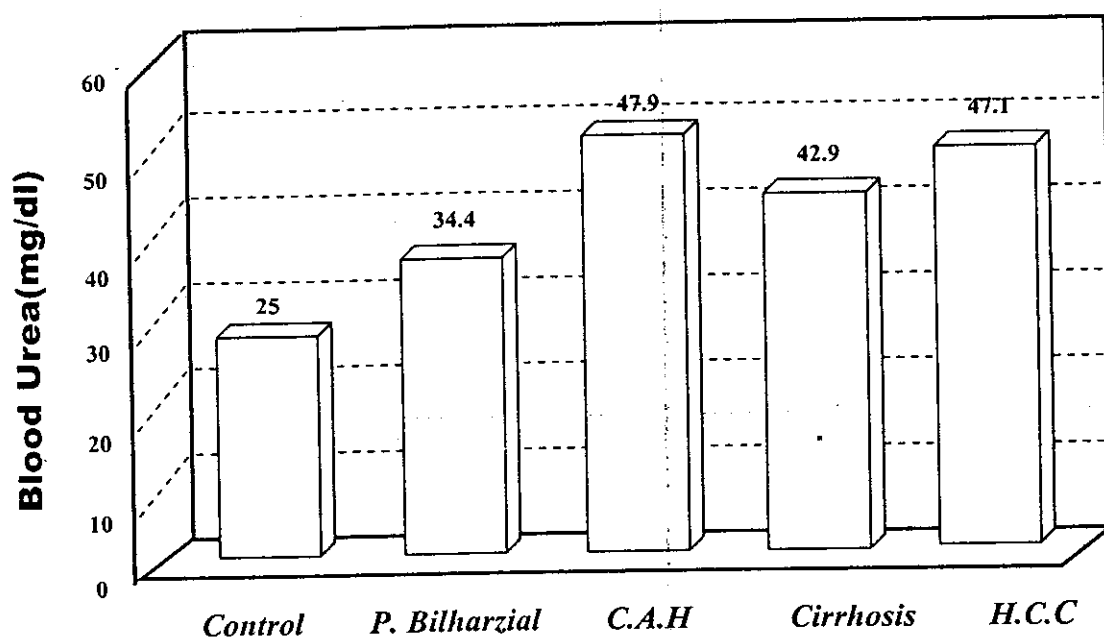


Fig. (9) MEAN BLOOD UREA MEASURES AMONG THE EXAMINED GROUPS

Also measures of blood urea showed significant difference among the examined groups (table 11 & Fig. 9).

Table (12): Mean serum creatinine measures among the examined groups.

Groups	Control	P.Bilharzial	C.A.H	Cirrhosis	H.C.C
Mean (mg /dl)	0.82	1.08	1.51	1.53	1.47
S.D.	0.24	0.25	0.91	0.98	0.50

F=4.5681

P< 0.01

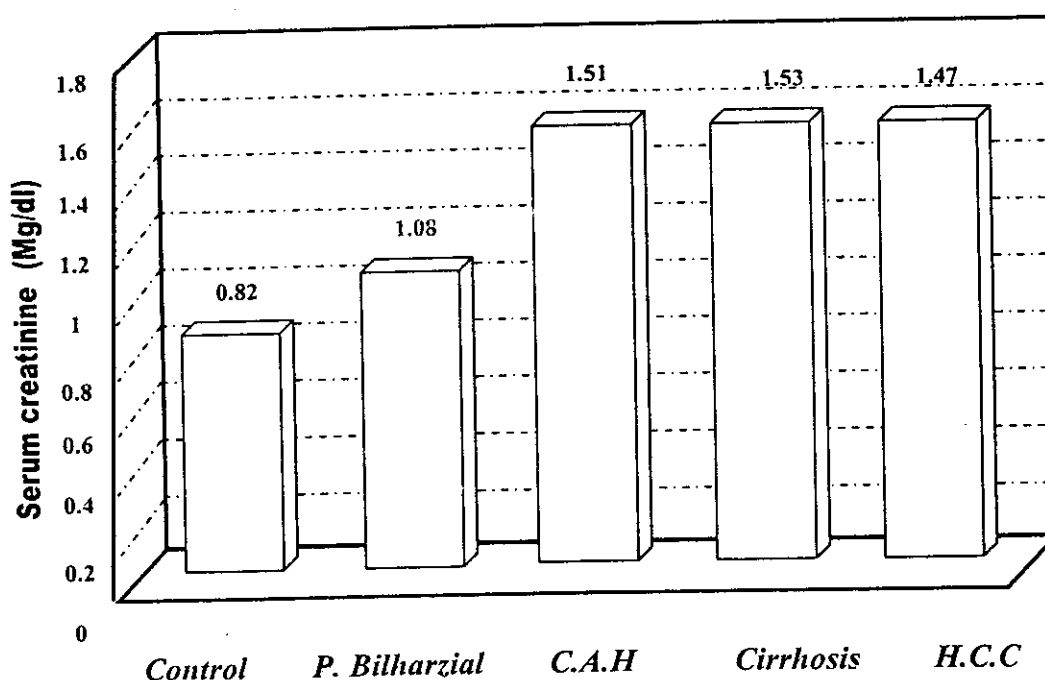


Fig. (10) MEAN SERUM CREATININE MEASURES AMONG THE EXAMINED GROUPS

Table 12 and Fig. 10 showed the significant difference found among the examined groups regarding serum creatinine measures.

Table (13) history of surgery and blood transfusion among the examined groups

<i>Groups</i>	<i>Control</i>	<i>P.Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>
Bl. Transfusion & surgery	4 (20%)	3(15.8%)	7 (38.9%)	9 (56.3%)	9 (60%)
Surgery alone	6 (30%)	6(31.6%)	5 (27.8%)	2(12.5%)	6 (40%)
Nothing	10(50%)	10(52.6%)	6(33.3%)	5(31.2%)	0 (0%)
Total	20	19	18	16	15

Chi. Square =18.2300

P< 0.05.

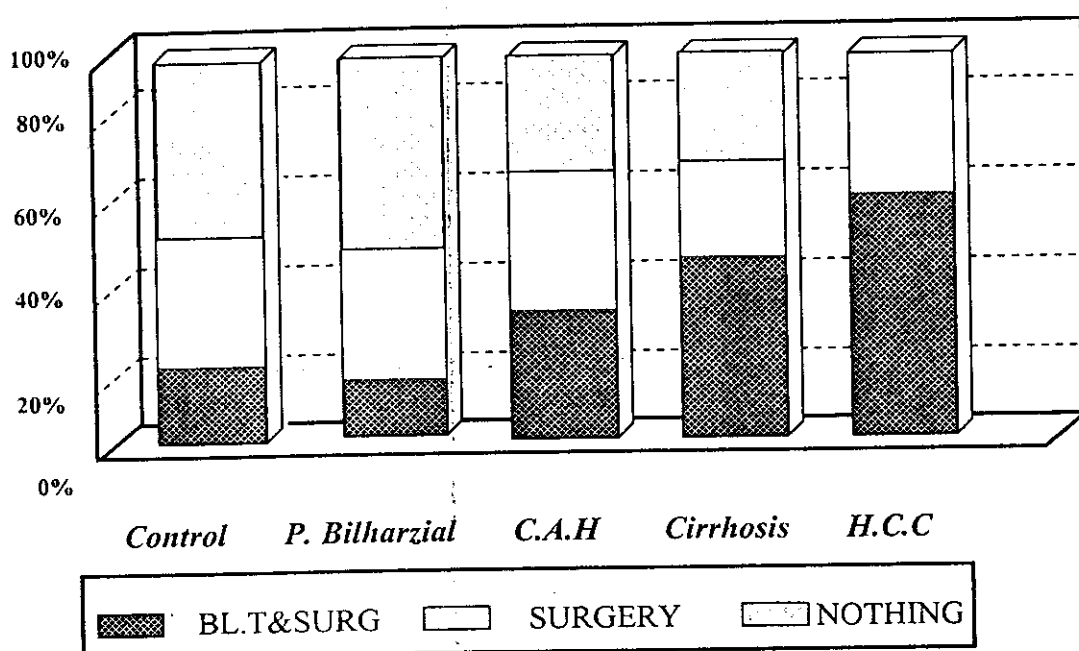
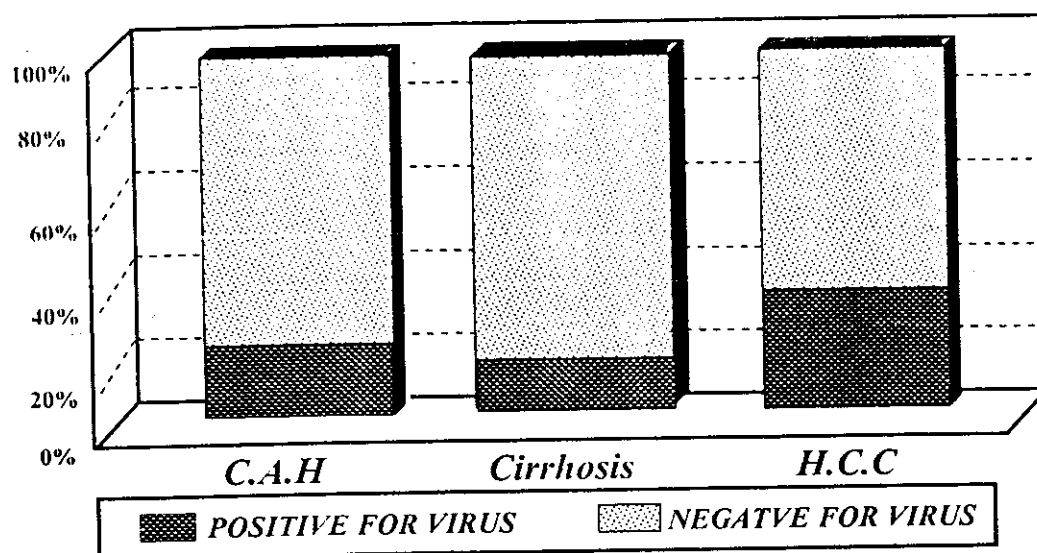
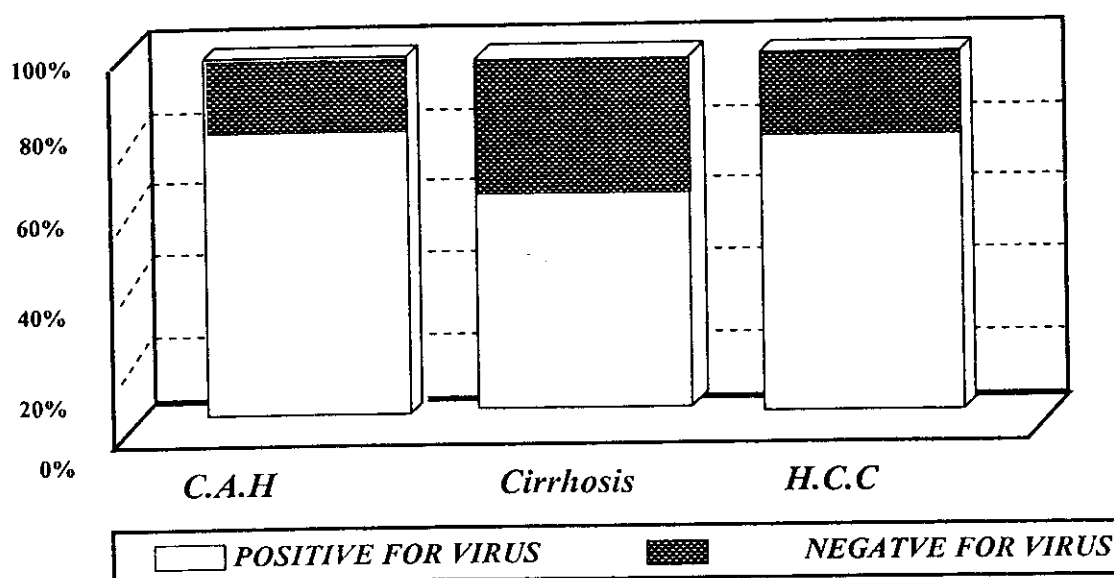


Fig.(11) HISTORY OF SURGERY AND BLOOD TRANSFUSION AMONG THE EXAMINED GROUPS

Table 13 and Fig. 11 showed that most of the patients with hepatocellular carcinoma, hepatic cirrhosis or chronic active hepatitis were having either history of surgery with or without blood transfusion, a significant difference was so found between the studied groups regarding history of surgery with or without blood transfusions.



**Fig. (12) DISTRIBUTION OF PATIENTS WITH HEPATITIS B VIRUS
AMONG EXAMINED GROUPS**

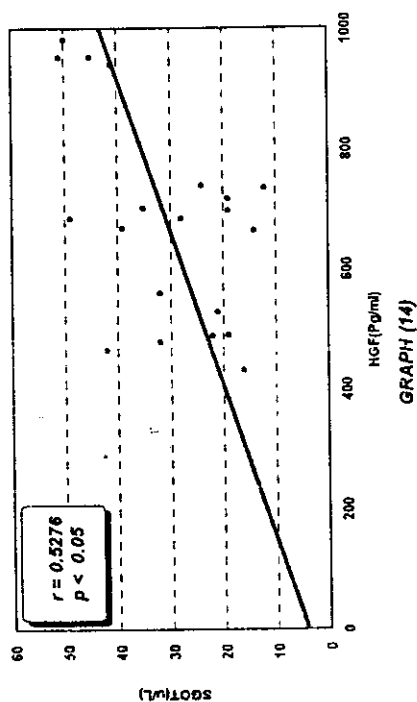


**Fig(13) DISTRIBUTION OF PATIENTS WITH HEPATITIS C VIRUS
AMONG EXAMINED GROUPS**

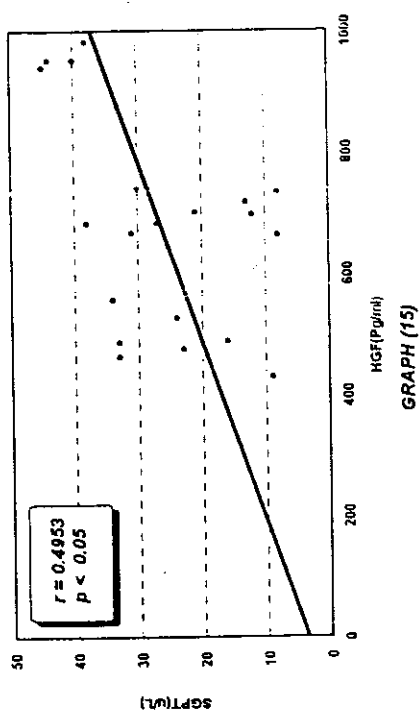
Fig. 12 and 13 showed the prevalence of hepatitis viruses B and C among the studied groups. It was clear that control group and pure bilharzial patients were chosen to be with no hepatitis viruses in their blood, prevalence of hepatitis C virus is heigher than that of hepatitis B virus among the other three groups.

All the previous tables (1-13) and figs (1-13) showed that we have 5 groups which are completely different clinically and statistically.

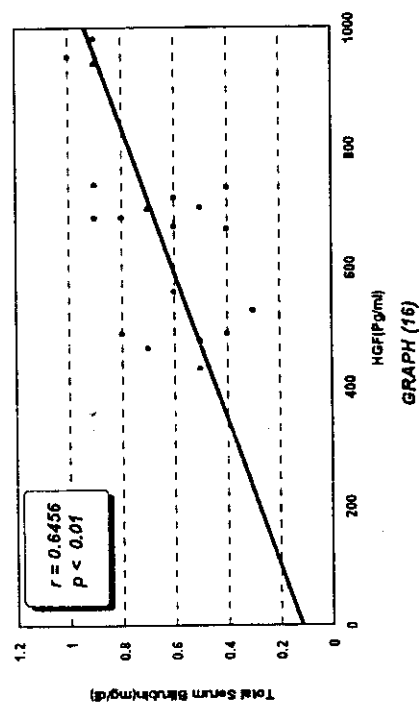
RELATION BETWEEN MEASUREMENTS OF SGOT
AND HGF AMONG THE CONTROLS



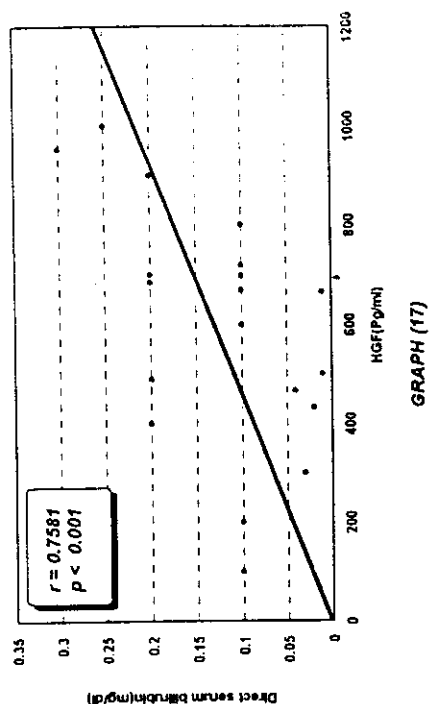
RELATION BETWEEN MEASUREMENTS OF SGPT
AND HGF AMONG THE CONTROLS



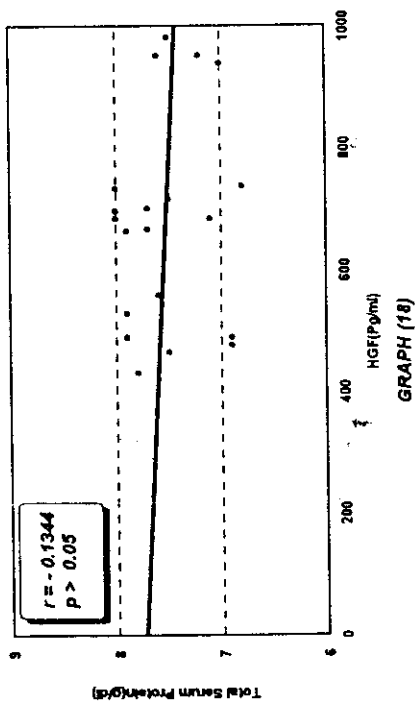
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM
BILIRUBIN AND HGF AMONG THE CONTROLS



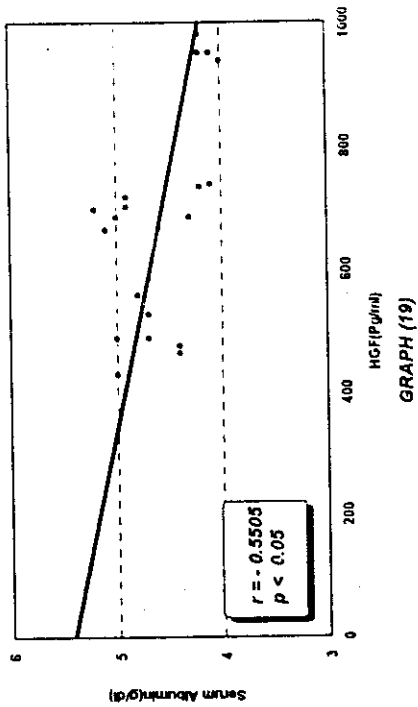
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM
BILIRUBIN AND HGF AMONG THE CONTROLS



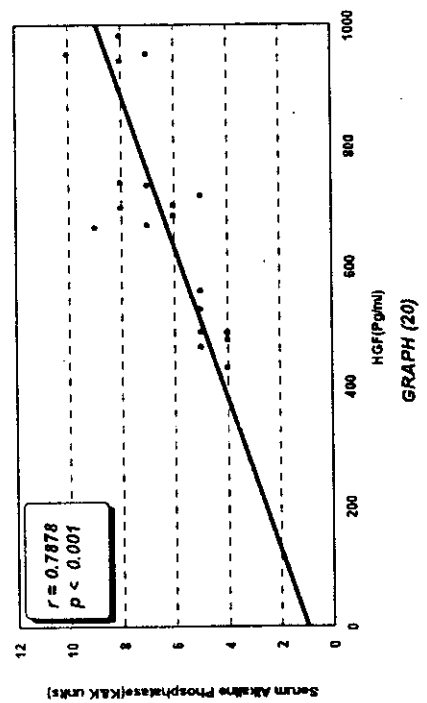
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG THE CONTROLS



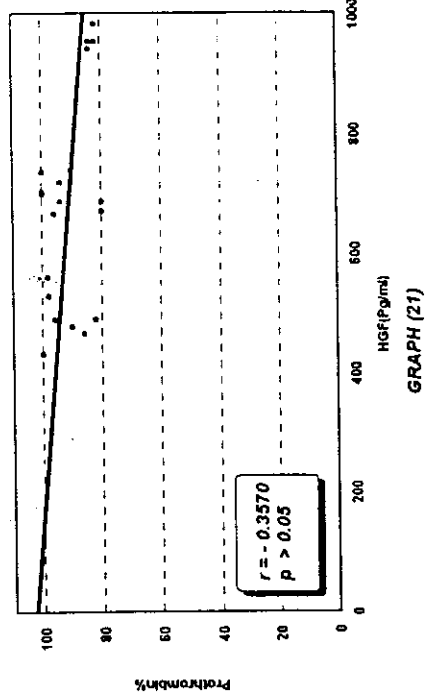
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG THE CONTROLS



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG THE CONTROLS



RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG THE CONTROLS



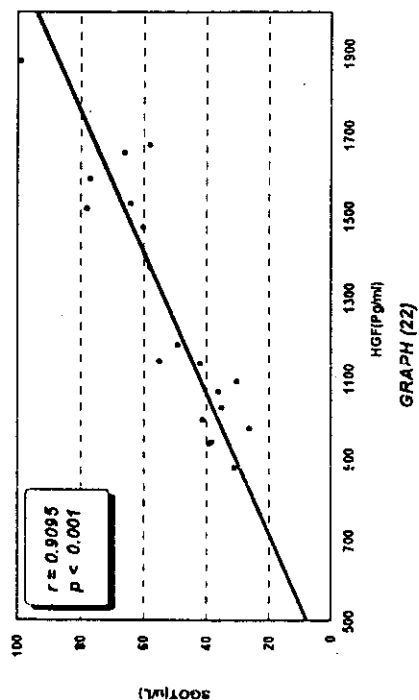
Figs. 14 to 21 showed the relations between measurements of hepatocyte growth factor (HGF) and other liver functions among the control group.

Statistically significant positive correlations were found between HGF measures and SGOT, SGPT, total serum bilirubin, direct serum bilirubin and serum alkaline phosphatase measures (Figs. 14-17 and Fig. 20).

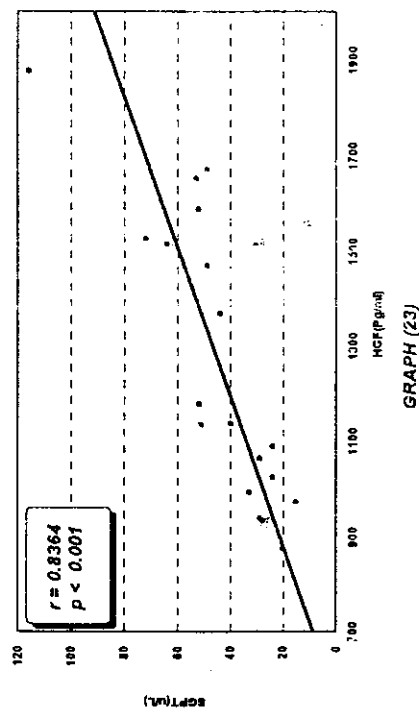
Statistically significant negative correlation was observed between measures of HGF and serum albumin (Fig. 19).

No correlation was found between HGF and total serum protein or prothrombin concentration.

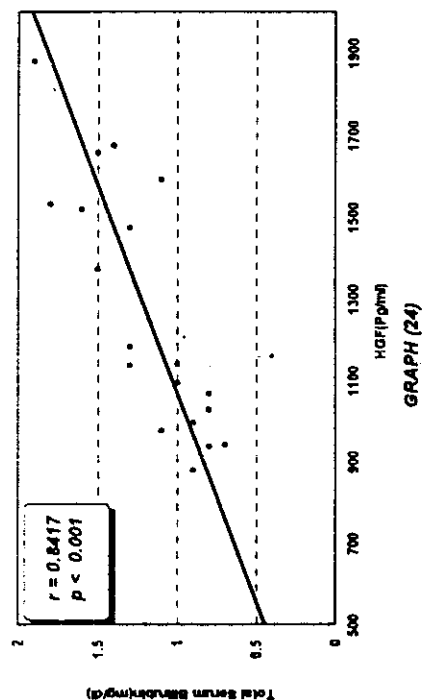
RELATION BETWEEN MEASUREMENTS OF SGOT AND HGF AMONG THE PURE BILHARZIAL PATIENTS



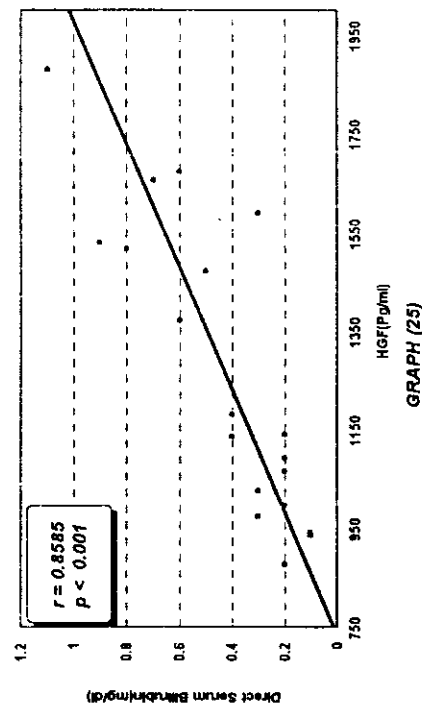
RELATION BETWEEN MEASUREMENTS OF SGPT AND HGF AMONG THE PURE BILHARZIAL PATIENTS



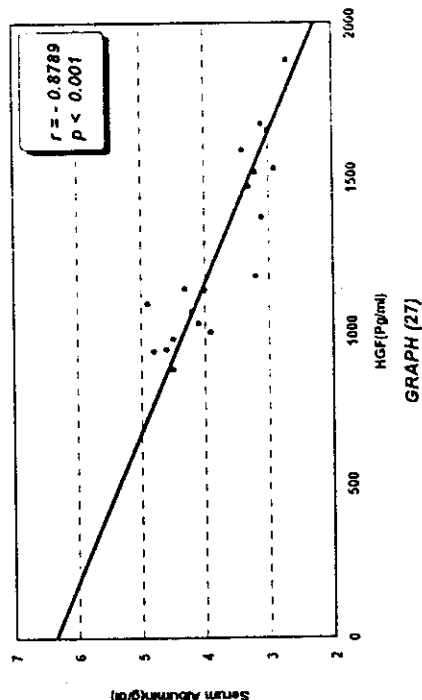
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM BILIRUBIN AND HGF AMONG THE PURE BILHARZIAL PATIENTS



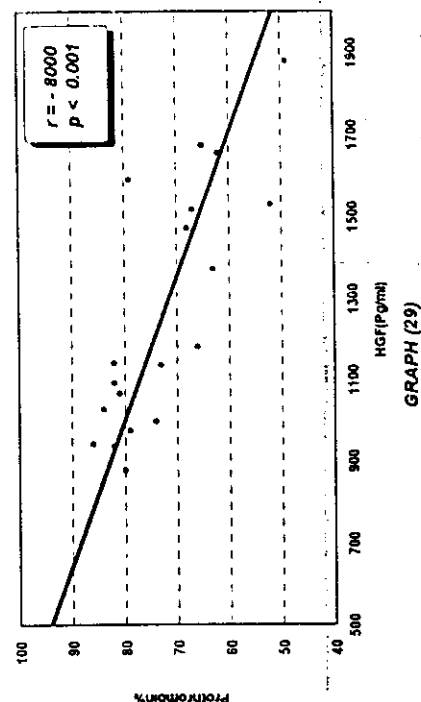
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM BILIRUBIN AND HGF AMONG THE PURE BILHARZIAL PATIENTS



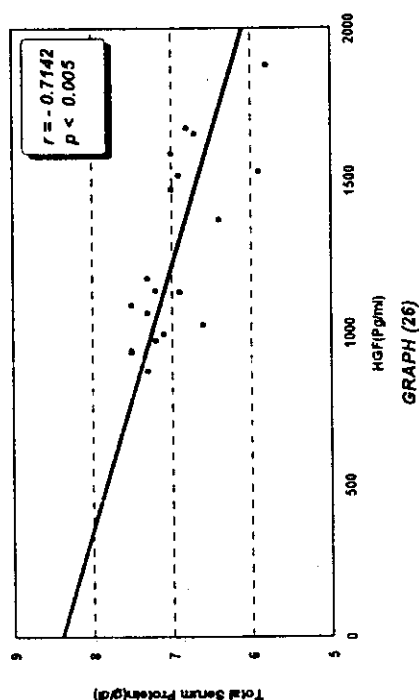
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG THE PURE BILHARZIAL PATIENTS



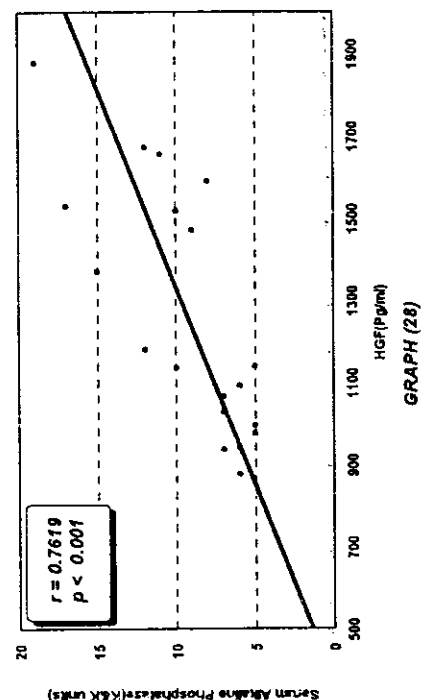
RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG THE PURE BILHARZIAL PATIENTS



RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG THE PURE BILHARZIAL PATIENTS



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG THE PURE BILHARZIAL PATIENTS

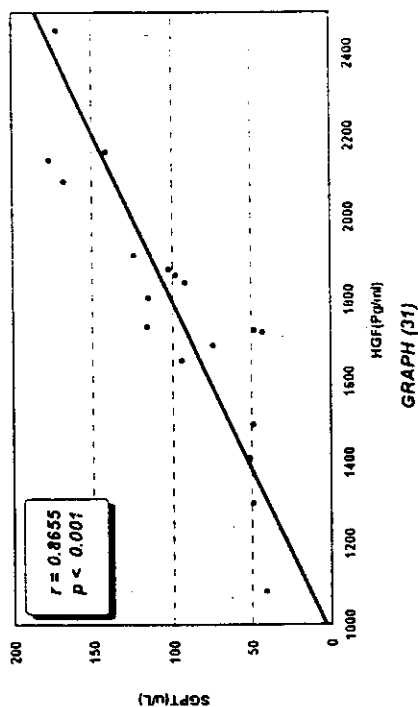


Figs. 22 to 29 showed the relation between measurements of HGF and other liver functions among the pure bilharzial patients.

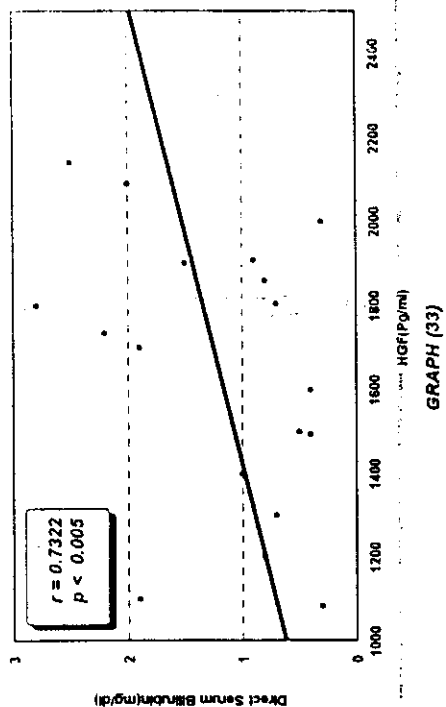
Statistically significant positive correlations were detected between HGF measures and SGOT, SGPT, total and direct serum bilirubin and serum alkaline phosphatase measures (Figs. 22- 25 and Fig. 28).

Statistically significant negative correlation were found between measures of HGF and total serum proteins, serum albumin and prothrombin concentration (Figs. 26, 27 & 29).

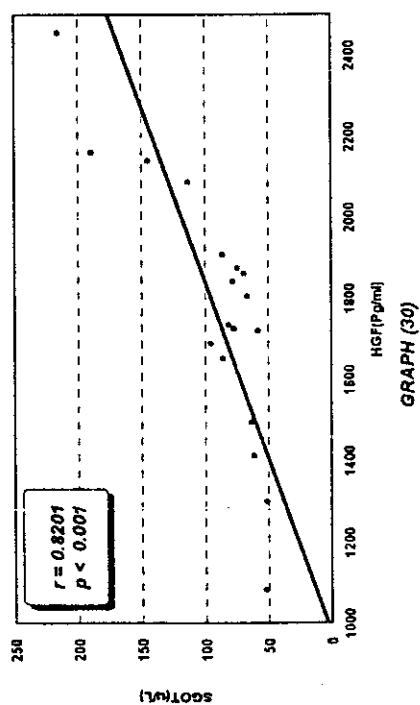
RELATION BETWEEN MEASUREMENTS OF SGPT AND HGF
AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



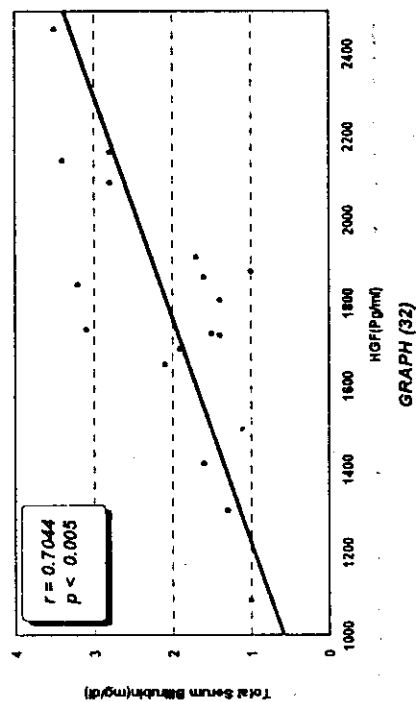
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM BILIRUBIN
AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



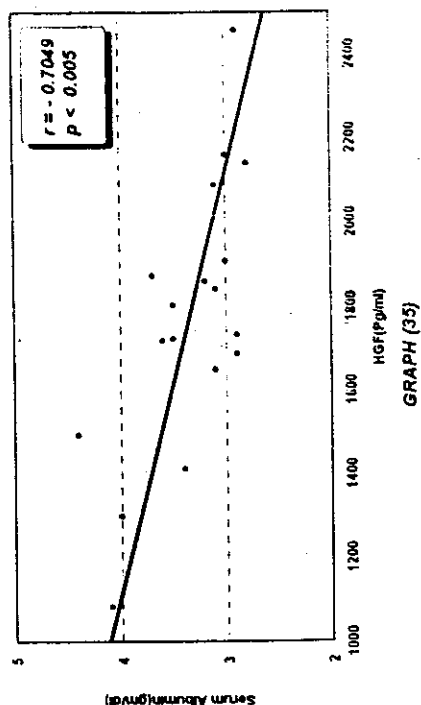
RELATION BETWEEN MEASUREMENTS OF SGOT AND HGF
AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



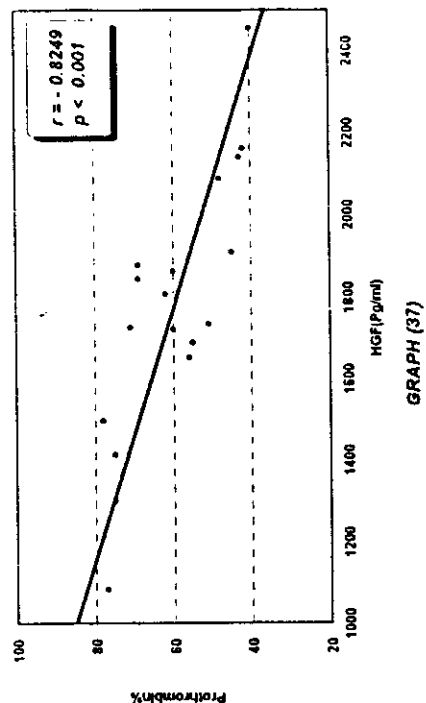
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM BILIRUBIN
AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



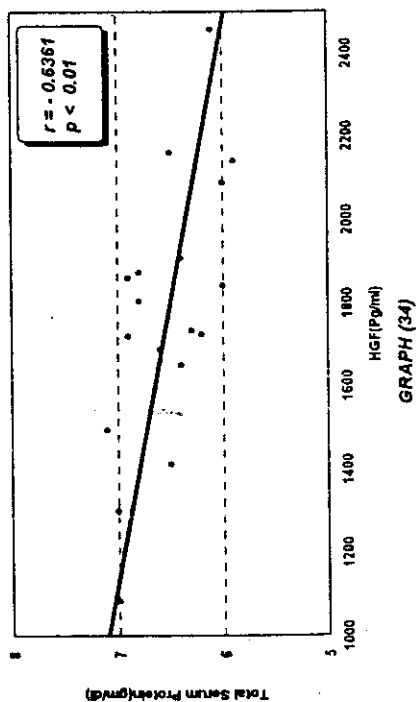
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



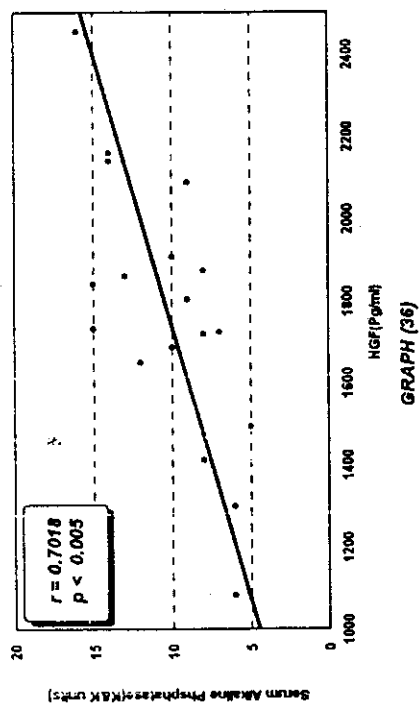
RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG PATIENTS WITH CHRONIC ACTIVE HEPATITIS

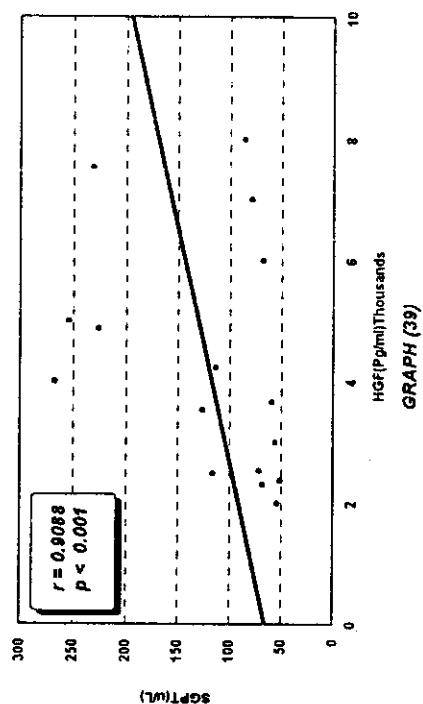


Figs. 30 - 37 defined the relation between measurements of HGF and other liver functions among patients with chronic active hepatitis.

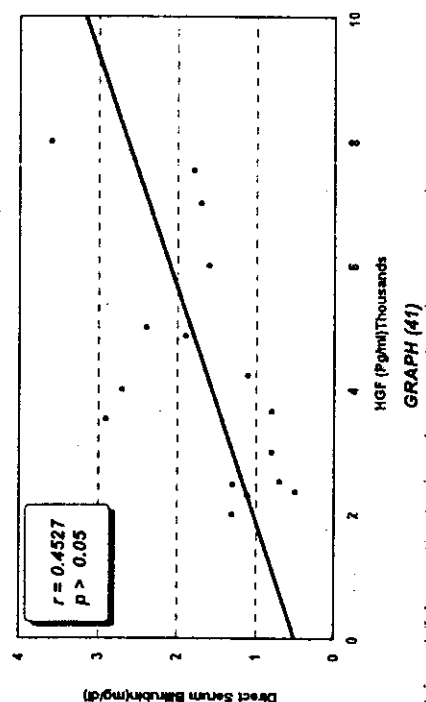
Statistically significant positive correlations were detected between HGF measures and SGOT, SGPT, total and direct serum bilirubin and serum alkaline phosphatase measures (Figs. 30 - 33 and Fig. 36).

Statistically significant negative correlation were found between measures of HGF and total serum proteins, serum albumin and prothrombin concentration (Figs. 34 , 35 & 37).

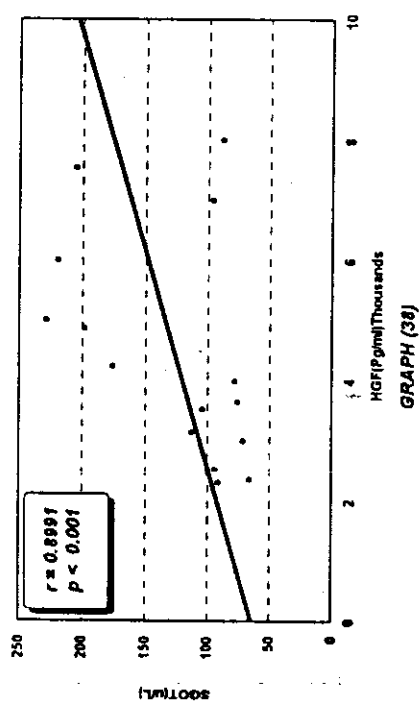
RELATION BETWEEN MEASUREMENTS OF SGPT AND HGF
AMONG PATIENTS WITH LIVER CIRRHOSIS



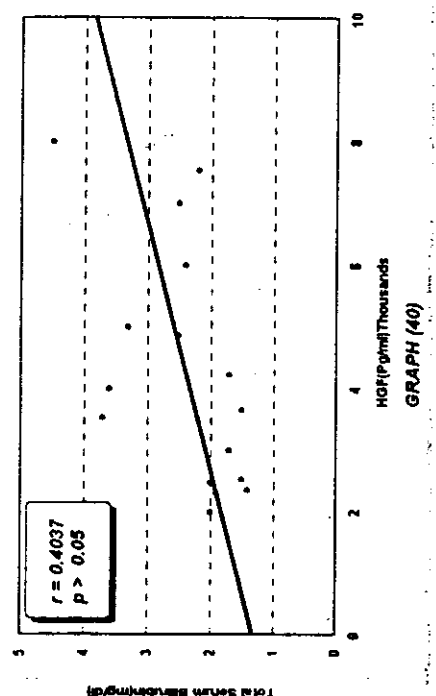
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM BILIRUBIN
AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



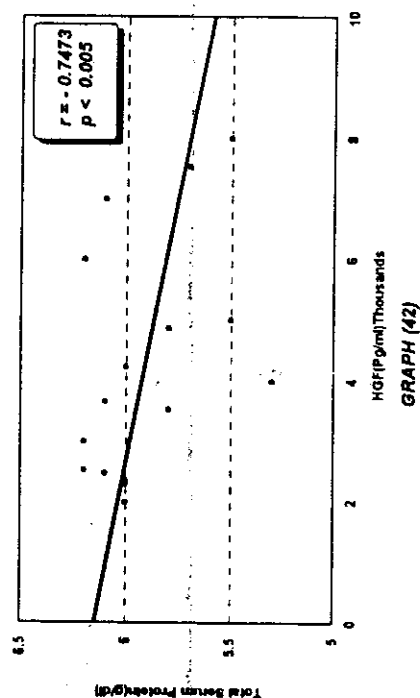
RELATION BETWEEN MEASUREMENTS OF SGOT AND HGF
AMONG PATIENTS WITH LIVER CIRRHOSIS



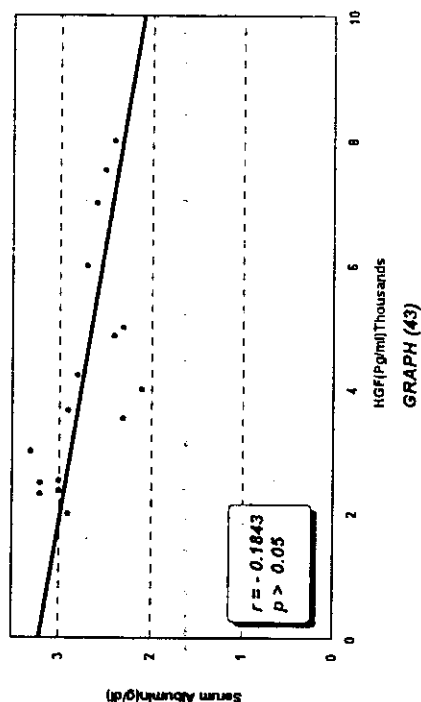
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM BILIRUBIN
AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



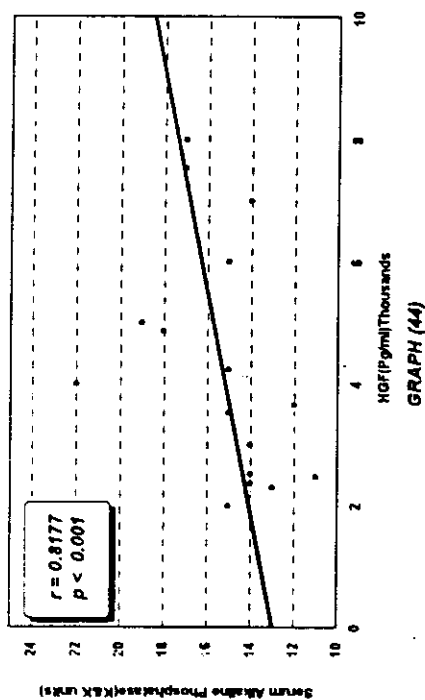
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



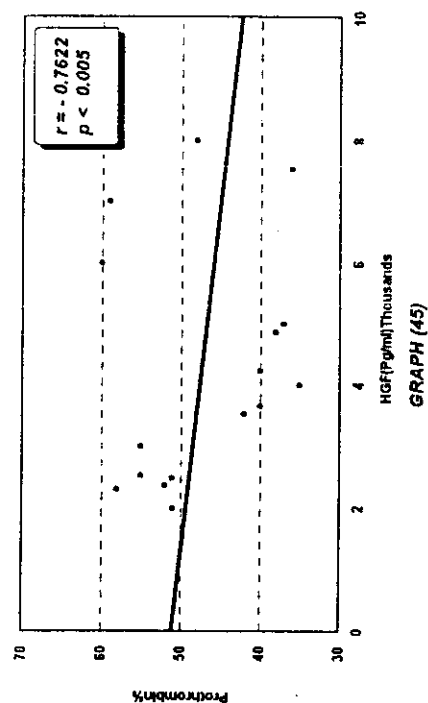
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG PATIENTS WITH LIVER CIRRHOSIS



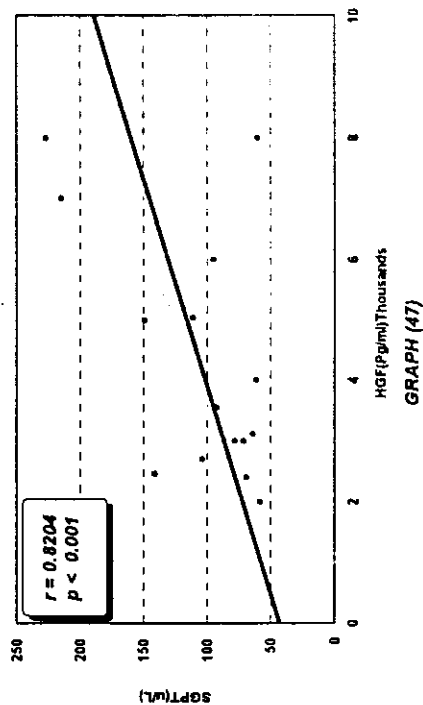
Figs. 38-45 showed the relation between measurements of HGF and other liver functions among patients with liver cirrhosis.

Statistically significant positive correlations were detected between HGF measures and SGOT, SGPT, and serum alkaline phosphatase measures (Figs. 38- 39 and Fig. 44).

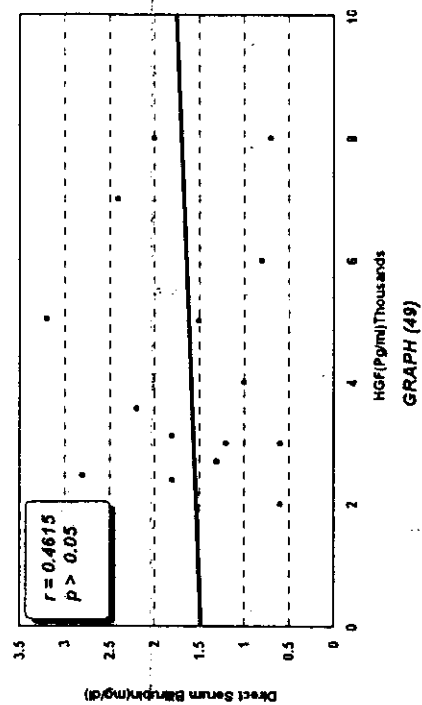
Statistically significant negative correlation were found between measures of HGF and total serum proteins, and prothrombin (Figs. 42 & 45).

No correlation were found between measures of HGF and total and direct serum bilirubin and serum albumin (Figs.40,41 and 43).

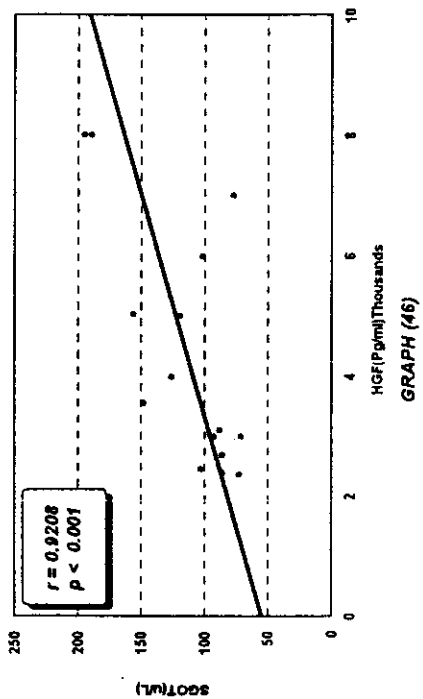
RELATION BETWEEN MEASUREMENTS OF SGPT AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



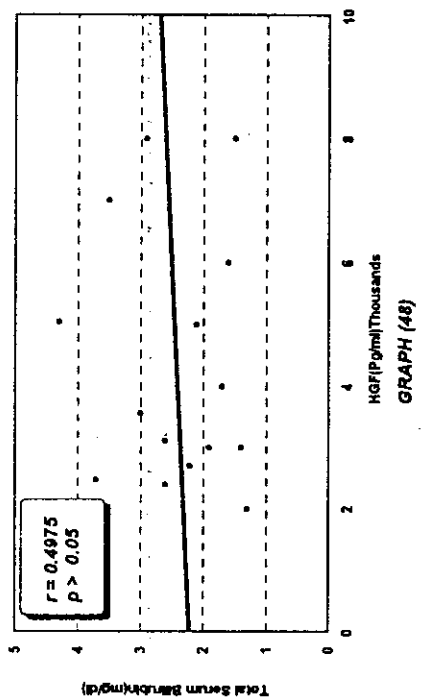
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM BILIRUBIN AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



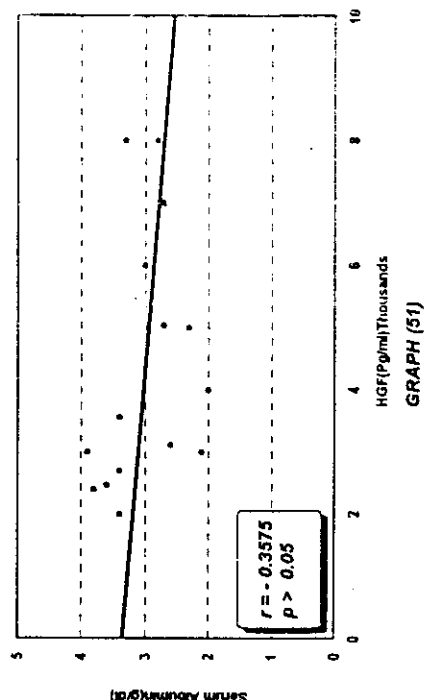
RELATION BETWEEN MEASUREMENTS OF SGOT AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



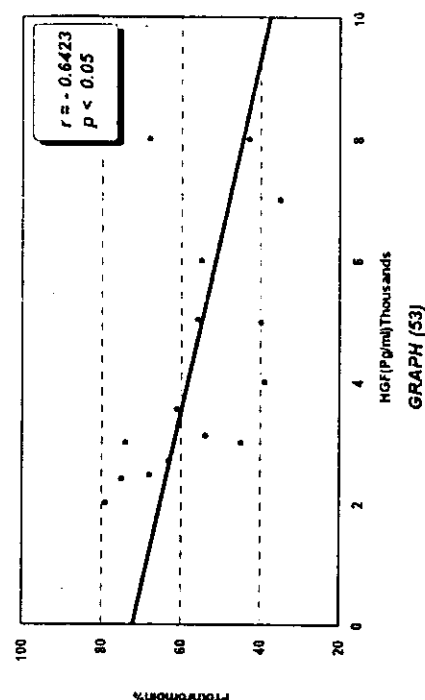
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM BILIRUBIN AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



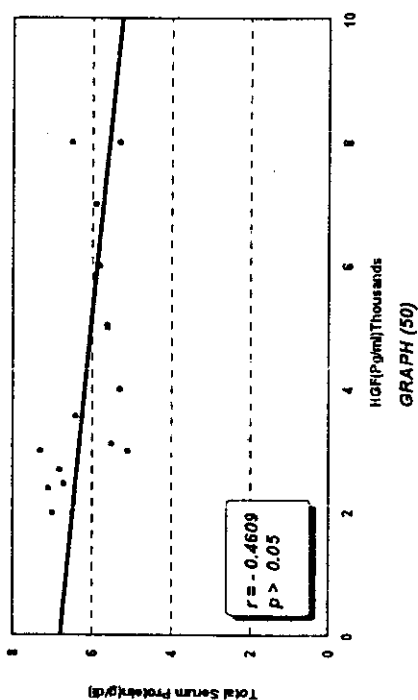
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



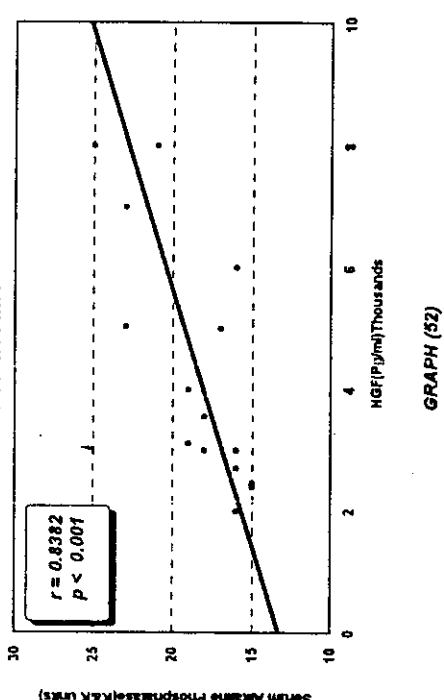
RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG PATIENTS WITH HEPATOCELLULAR CARCINOMA



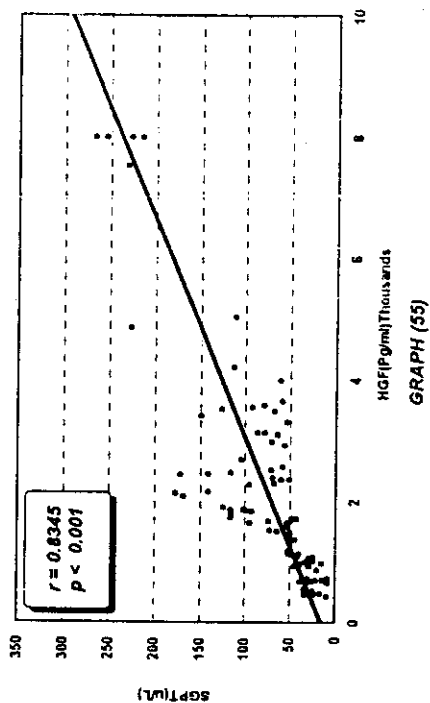
Figs. 46-53 showed the relations between measurements of HGF and other liver functions among patients with hepatocellular carcinoma (HCC).

Statistically significant positive correlations were detected between HGF measures and SGOT, SGPT. and serum alkaline phosphatase measures (Figs. 46, 47 and Fig. 52).

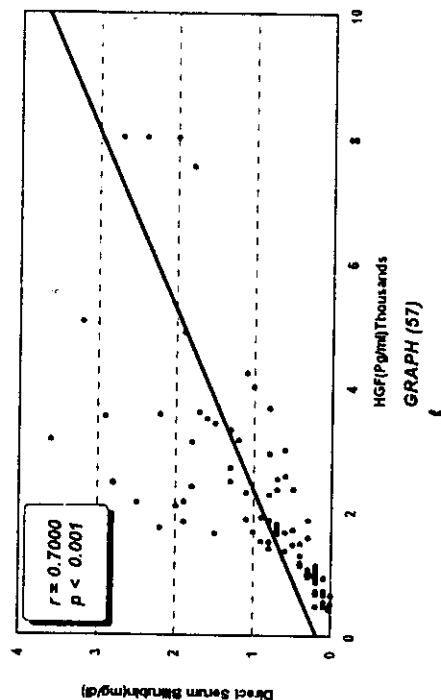
Statistically significant negative correlation were found between measures of HGF and prothrombin conc. (Figs. 53).

No correlation was found between measures of HGF and total and direct serum bilirubin ,total protein and serum albumin (figs 48 to 51)

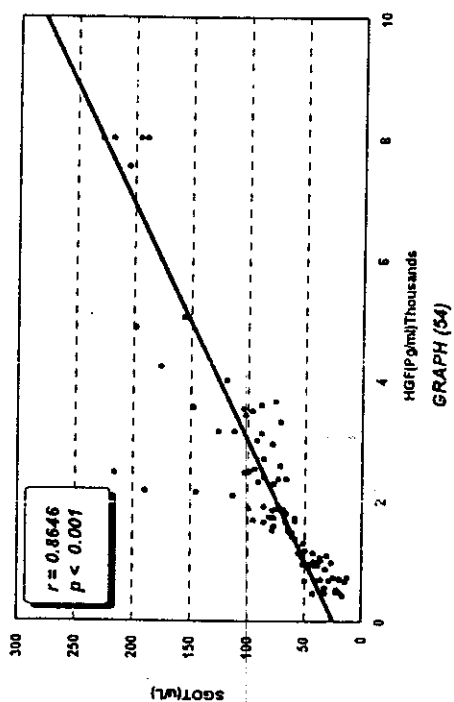
RELATION BETWEEN MEASUREMENTS OF SGPT AND HGF
AMONG ALL CASES



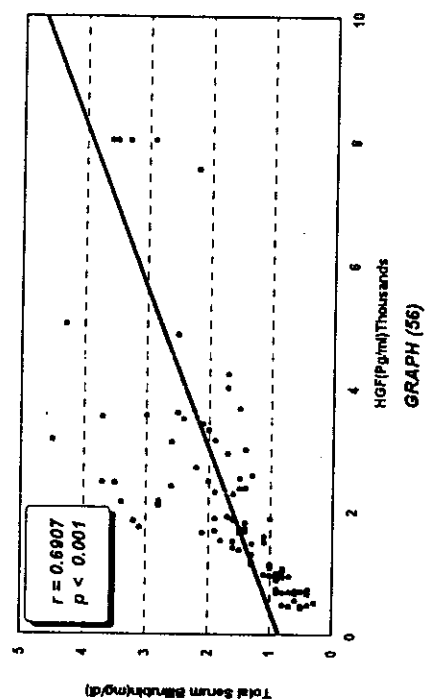
RELATION BETWEEN MEASUREMENTS OF DIRECT SERUM
BILIRUBIN AND HGF AMONG ALL CASES



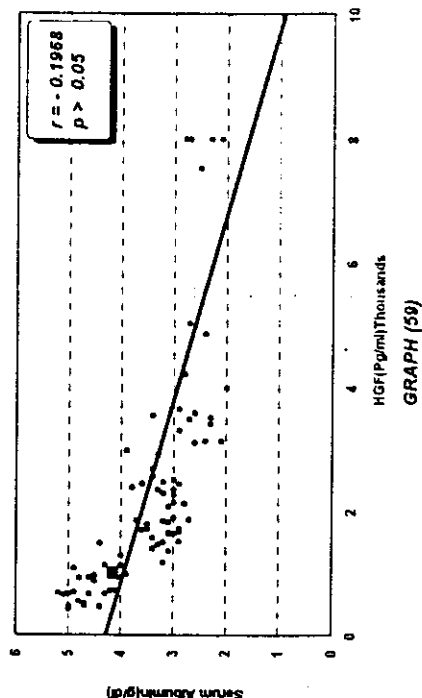
RELATION BETWEEN MEASUREMENTS OF SGOT AND HGF
AMONG ALL CASES



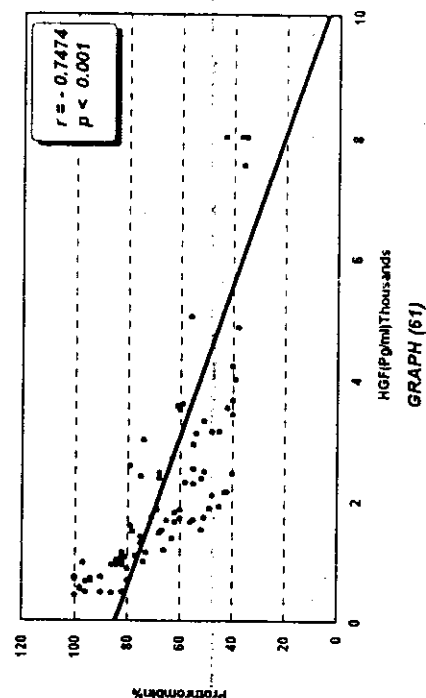
RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM
BILIRUBIN AND HGF AMONG ALL CASES



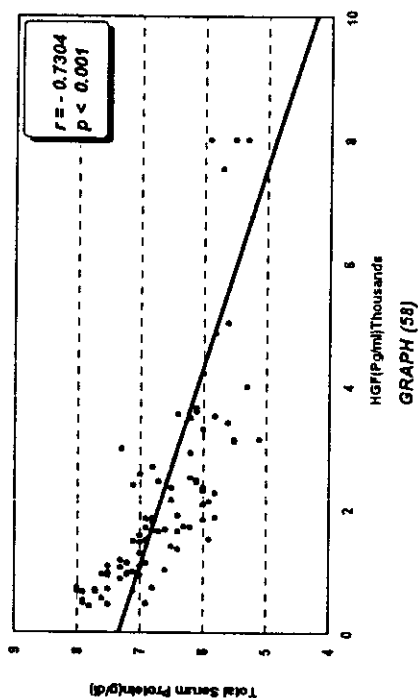
RELATION BETWEEN MEASUREMENTS OF SERUM ALBUMIN AND HGF AMONG ALL CASES



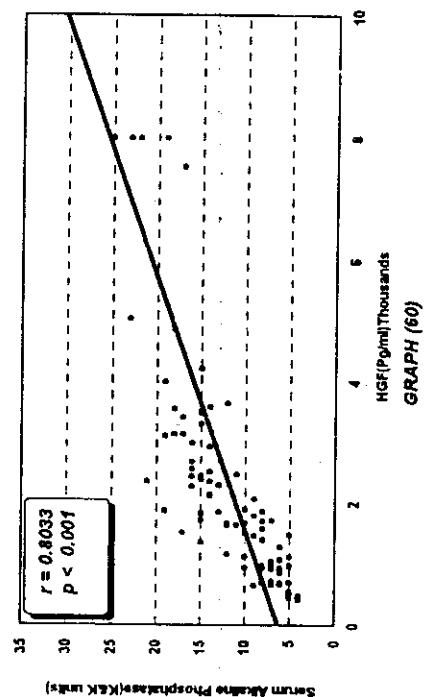
RELATION BETWEEN MEASUREMENTS OF PROTHROMBIN CONCENTRATION AND HGF AMONG ALL CASES



RELATION BETWEEN MEASUREMENTS OF TOTAL SERUM PROTEIN AND HGF AMONG ALL CASES



RELATION BETWEEN MEASUREMENTS OF SERUM ALKALINE PHOSPHATASE AND HGF AMONG ALL CASES



Figs. 54-61 showed the relation between measurements of HGF and other liver functions detected among all cases examined in this study.

Measures of HGF correlated positively with that of SGOT, SGPT, total and direct bilirubin and serum alkaline phosphatase. While negatively correlated with that of total serum protein, albumin and prothrombin concentrations.

Table (14): Distribution of patients of different examined groups according to child classification

Groups	Child classification			Total
	1(A)	2(B)	3(C)	
P. Bilharzial	10 (52.6%)	9 (47.4%)	0 (0.0%)	19 (27.9%)
C.A.H	0 (0.0%)	11 (61.1%)	7 (38.9%)	18 (26.5%)
Cirrhosis	0 (0.0%)	0 (0.0%)	16 (100.0%)	16 (23.5%)
H.C.C	0 (0.0%)	6 (40.0%)	9 (60.0%)	15 (22.1%)
Total	10 (14.7%)	26 (33.2%)	32 (47.1%)	68 (100%)

Table (14) showed that all patients with hepatic cirrhosis were having grade three (C) child classification while non of those with pure bilharziasis were classified in this class

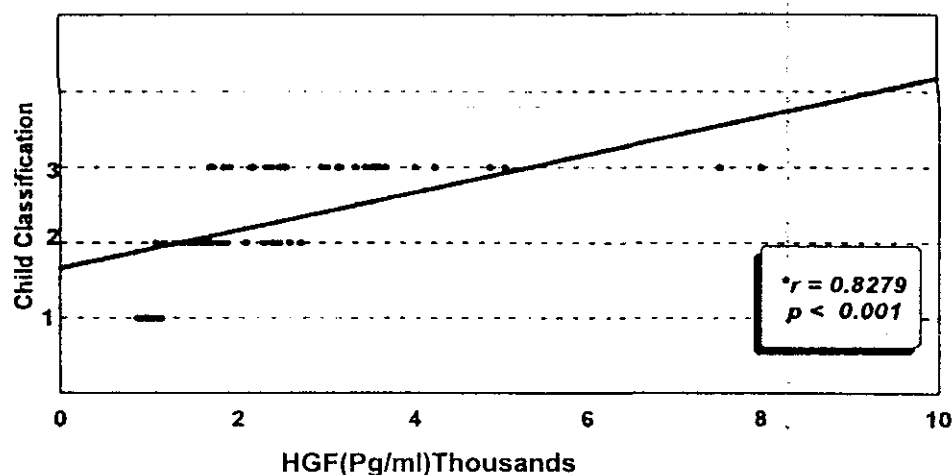


FIG. (62)

Fig. (62) Relation Between Child Classification And HGF Measures (All Cases)

Fig. 62 showed that measurements of HGF are positively correlated with the grades of Child classification.

Table (15): Relation between encephalopathy and HGF measures among patients with liver cirrhosis

<i>Groups</i>	<i>No encephalitis (n=5)</i>	<i>Encephalitis (n=11)</i>
Mean HGF pg/ml	2525.6	4851.7
S.D.	246.3	1981.0

Student t test = 10.66

P < 0.005

Table (15) showed that measures of HGF among patients with encephalopathy were nearly double those with non- encephalopathy patients. The difference between them was statistically significant.

Table (16): Relation between measures of HGF and serum creatinine among the studied groups

<i>Groups</i>	<i>Control</i>	<i>P. Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>	<i>All cases</i>
Mean HGF ($\pm$ S.D)	278.6 ($\pm$ 174.1)	1265.9 ($\pm$ 305.0)	1773.9 ($\pm$ 328.1)	4124.8 ($\pm$ 1967.9)	3738.2 ($\pm$ 1877.6)	2177.6 ($\pm$ 1769.4)
Mean creatinine ($\pm$ S.D.)	0.81 ($\pm$ 0.2)	1.08 ($\pm$ 0.2)	1.51 ($\pm$ 0.91)	1.53 ($\pm$ 0.98)	1.47 ($\pm$ 0.50)	1.26 ($\pm$ 0.69)
r.	0.2613	0.5402	0.2294	-0.3516	0.2556	0.2196
P.	>0.05	0.05	>0.05	>0.05	>0.05	0.05

Table (17): Relation between measures of HGF and blood urea among the studied groups

<i>Groups</i>	<i>Control</i>	<i>P. Bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>	<i>All cases</i>
Mean HGF ($\pm$ SD)	278.6 ($\pm$ 174.1)	1265.9 ($\pm$ 305.01)	1773.9 ($\pm$ 328.1)	4124.8 ($\pm$ 967.9)	3738.2 ($\pm$ 1877.6)	2177.6 ($\pm$ 769.41)
Mean Blood Urea ($\pm$ S.D).	25.00 ($\pm$ 8.10)	34.42 ($\pm$ 11.37)	47.94 ($\pm$ 28.69)	42.88 ($\pm$ 20.28)	47.13 ($\pm$ 21.00)	38.75 ($\pm$ 20.59)
r.	0.2326	0.5813	0.3296	-0.2727	0.2718	0.2610
P.	>0.05	0.01	>0.05	>0.05	>0.05	0.05

Tables (16-17) showed that measures of HGF were not correlated well with that of serum creatinine and blood urea.

Table (18): Difference in HGF measures between cases with and without renal impairment

Groups	No renal impairment (n = 77)	With renal impairment (n=11)
Mean HGF pg/ml	2112.0	2636.5
S.D	1849.7	985.1

Student t test =0.92

P> 0.05

Insignificant difference was found in the measures of HGF between cases with and without renal impairment (renal impairment was considered if serum creatinine was heigher than 2.0 mg/dl).

Table 19 : Mean measures of HGF among examined groups

Groups	Control	<i>P. bilharzial</i>	<i>C.A.H</i>	<i>Cirrhosis</i>	<i>H.C.C</i>
Mean pg/ml	678.5	1265.9	1773.9	4124.8	3738.2
S.D.	174.1	305.0	328.1	1967.9	1877.6

F= 29.93311

P< 0.001

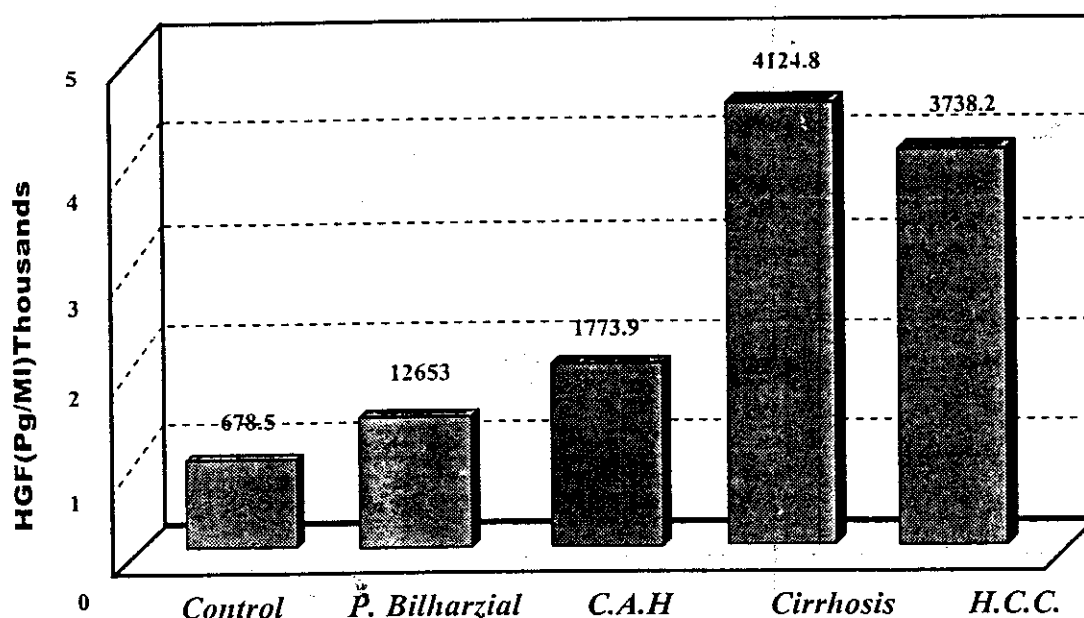


Fig. (63) MEAN MEASURES OF HGF AMONG EXAMINED GROUPS

Table 19 and Fig. 63 showed the significant difference found among the examined groups regarding measures of HGF. Cirrhosis group had the highest mean value of HGF.