Statistical analysis of the results

The statistic analysis of the result was done on IBM personal Computer using the following tests .

1- student t test to compare between two groups .

2- Chi squre test to compare between observation expected data (X^2) .

3- Correlation Coeificient to find association between different variable

Table (1) : - comparison between cases of the liver cirrhosis and control as regard of laboratory result .

	age (year)	bil (mg/dl)	albumn (g/dl)	proth (sec)	SGOT. (u/l)	SGPT (u/l)	T_4 (%)	T_8 (%)
CASES								
$\bar{X}$	58.3	1.40	3.2	19.2	47.12	39.25	31.4	19.3
Sd	8.21	1.00	0.29	3.21	11.92	12.85	4.41	1.65
n	40	40	40	40	40	40	40	40
CONTROL								
$\bar{X}$		0.39	3.64	13	21	14.5	42	23.5
Sd		0.19	0.40	2.48	6.14	5.50	2.58	1.08
n		10	10	10	10	10	10	10
t		6.00	2.59	6.65	9.64	9.50	9.8	9.69
p		<0.001	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001

* biliurbin, prothrombin time, SGOT and SGPT are significantly high in cases as compared with control groups Alb , T4 and T8 are significantly high in control as compared with cases .

P > 0.05 = non significant
P < 0.05 = : significant
P<: 0.01=moderate significant
P < 0.001 = highly significant

X : mean
Sd : stander deviation
n : number
t : studet t test

Table (1)

Show comparison between cases of the liver cirrhosis and control as regrad laboratory result .

* Bilirubin, prothrombin time and sgot significantly high in cases as compared with control groups

- Serum Albumin is significantly high in control of groups as compared with cases .

* T_4 is significantly high in control as compared with cases

$\bar{X}$ 42 ± 2.58 and 31.4 ± 4.41 respectively

P = < 0.01

* T_8 is significantly high in control as compared with cases.

$\bar{X}$ 23.5 ± 1.08 $\bar{X}$ and 19.3 ± 1.65 respectively .

P = < 0.01

Table (2) : comparison between group (A) bilh and group (B) mixed and group (c) (viral hepatitis of liver cirrhosis as regard of clinical examination.

		GROUP A		GROUP B		GROUP C		X2	P
		NO	%	NO	%	NO	%		
SEX	FEMALE	8	61.5	10	55.5	4	44.4	0.63	>0.05
	MALE	5	38.4	8	44.4	5	55.5		
OEDEMA	-VE	4	30.7	2	11.11	1	11.11	2.34	>0.05
	+VE	9	69.2	16	88.8	8	88.8		
ASCITIS	-VE	13	100	3	16.6	0	0	29.58	<0.001
	+VE	0	0	15	83.3	9	100		
LIVER	-VE	0	0	0	0	0	0		
	+VE	13	100	18	100	9	100		
SPLEEN	-VE	5	38.4	5	27.7	0	0	6.91	<0.05
	+VE	8	61.5	13	72.2	9	100		
JUNDIC	-VE	9	69.2	7	38.8	4	44.4	2.92	<0.05
	+VE	4	30.7	11	61.1	5	55.5		
HEAMAT	-VE	10	76.9	10	55.5	4	44.4	2.6	>0.05
	+VE	3	23.07	8	44.4	5	55.5		

X2 = chi square (test of significant)

Jaundic is highly significant in group B and group C as compared with group A

***Table* (2)**

Show comparison between group A (bilh) and group C (viral hepatitis) of liver cirrhosis as regard of clinical examination.

jaundic is significantly high in group B and C as compared with group A P = < 0.001

* No significant differance between these groups :

Table (3) : Comparison between Group A "bilh" , group B "mixed" and group C " viral hepatitis and control as regard of laboratory result .

	age year	bil mg/dl	album g/dl	proth sec	SGOT u/ L	SGPT u/ L	T_4 %	T_8 %
A								
$\bar{x}$	58	1	3.2	15.15	45.2	41.5	31.1	18.7
sd	6.6	0.3	0.2	1.5	5.5	8.7	3.9	1.5
n	13	13	13	13	13	13	13	13
B								
$\bar{x}$	59.3	1.3	3.3	20.9	44.6	35.4	32.0	19.6
sd	7.9	0.8	0.3	1.3	13.1	12.5	4.5	1.8
n	18	18	18	18	18	18	18	18
C								
$\bar{x}$	56.7	2.1	3.1	21.6	54.7	43.5	30.4	19.5
sd	11.0	1.4	0.3	1.5	13.8	14.7	5.0	1.3
n	9	9	9	9	9	9	9	9
control								
$\bar{x}$		0.39	3.6	13	21	14.5	42	23.5
sd		0.19	0.4	2.4	6.1	5.5	2.5	1.08
n		10	10	10	10	10	10	10

Table (4) : Comparison between Group A (bilh) and control as regard laboratory result

	age year	bil mg/dl	album g/dl	proth sec	SGoT u/ L	SGpT u/ L	T_4 %	T_8 %
A $\bar{x}$	58	1	3.2	15.1	45.2	41.5	31.1	18.7
x	6.6	0.3	0.2	1.5	8.7	8.7	3.9	1.5
sd	13	13	13	13	13	13	13	13
n								
control	-	-	-	-	-	-	-	-
$\bar{x}$		0.39	3.6	13	21	14.5	42	23.5
sd		0.19	0.40	2.4	6.1	5.5	2.5	1.08
n		10	10	10	10	10	10	10
t groupA + control		5.4	2.9	2.3	9.7	9.04	7.8	8.4
p		< 0.001	< 0.05	< 0.05	< 0.001	< 0.001	< 0.001	< 0.001

* Albumin , T_4 and T_8 are significant low in group "A" bilh as compared with control

* Bilirubin, prothrombin time , sgot and SGPT are significantly high in group "A" as compared with control .

Table (4) Show Comparison between Group A (bilh) and control as regard laboratory result

There is a significant difference between both groups in all paramater testes

* Bilirubin ,prothrombin time . sgot . and sgpt are significant high in group "A" as compared with control
* Albumin is significantly low in group "A" as compared with control group .
* T4 is signifiantly low in group "A" as compared with control group . $\bar{X}$ 31.1 ± 3.9 and $\bar{X}$ 42 ± 2.5 in both group respectively .
* T8 is significantly low in group "A" as compared with control group . $\bar{X}$ 18.7 ± 1.5 and $\bar{X}$ 23.5 ± 1.08 in both group respectively .

$$P = > 0.001$$

Table (5) : Comparison between Group (B) and control as regard of lab work

	age year	bil mg/dl	album g/dl	proth sec	SGoT u/ L	SGpT u/ L	T_4 %	T_8 %
B-								
x	59.2	1.3	3.3	20.9	44.6	35.4	32.0	19.6
sd	7.9	0.8	0.3	1.3	13.1	12.5	4.5	1.8
n	18	18	18	18	18	18	18	18
control	-	-	-	-	-	-	-	-
x		0.39	3.64	13	21	14.5	42	23.5
sd		0.19	0.40	2.4	6.1	5.5	2.5	1.08
n		10	10	10	10	10	10	10
t (B , control		4.4	1.7	9.3	4.4	6.08	7.3<	7.0
P		<0.001	>0.05	<0.001	<0.001	<0.001	< 0.001	

Bilirubin prothrombin time, SGot and SGPt are significant High in group B as Compared with control

T4 and T8 are significantly lower in group B as compared with control

Table (5) Show comparsion between group B and control as regade the laboratory result

The significant point in this table :

* Bilirubin, prothrombin time, SGOT and SGPT are significant high in group B as compared with control

No significant difference between both group as regard serum albumin.

T_4 is significant high in control group as compared with group B $\bar{x}$ 42 $\pm$ 2.5 and $\bar{x}$ 32 $\pm$ 4.5

T_8 is significant high in control group as compared with group B $\bar{x}$ 23.5$\pm$1.08 and $\bar{x}$19.6 $\pm$1.8

Table (6) : Comparison between Group (C) viral Hepatits and control group as regard of lab. work .

	Age year	bil mg /dl	album gm/dl	Proth. sec.	SGOT u/l	SGPT u/l	T_4 %	T_8 %
C								
$\bar{x}$	56.7	2.1	3.1	21.6	54.7	43.5	30.4	19.5
SD	11.03	1.4	0.3	1.5	13.8	14.7	5.0	1.3
n	9	9	9	9	9	9	9	9
control	-	-	-	-	-	-	-	-
$\bar{x}$		0.39	3.64	13	21	14.5	42	23.5
SD		0.19	0.4	2.4	6.1	5.5	2.5	1.08
n		10	10	10	10	10	10	10
t (C, control		3.5	2.4	9.3	6.7	5.5	6.2	7.03
P		<0.01	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001

Bil , prothrombin time , SGOT and SGPT are high significant in group C as compared with control

T_4 & T_8 higher significant in control group as compard with group . C .

Table (6) show comparision between group C and control as regard laboratory result

The significant point in this table

bil, prothrombin , SGOt , and SGPT high in group C as compared with control

T4 is significant high in control group as compard with group C $\bar{x}$ 42$\pm$ 2.5 , $\bar{x}$ 30.4$\pm$ 5

T8 is significant High in control group as compared with group C. mean 23.5 $\pm$ 1.08 and mean 19.5 $\pm$ 1.3

Table (7) : Comparison between Group (A) bilh and group (B) mixed as regard of laboratory result

	age year	bil mg/dl	album g/dl	proth sec	SGOT u/ L	SGPT u/ L	T_4 %	T_8 %
A-								
x	58	1	3.23	15.15	45.23	41.53	31.15	18.76
SD	6.65	0.33	0.02	1.57	5.52	8.78	3.99	1.58
n	13	13	13	13	13	13	13	13
B								
x	59.27	1.31	3.33	20.94	44.66	35.44	32.05	18.66
sd	7.99	.85	0.31	1.39	13.17	12.59	4.55	1.81
n	18	18	18	18	18	18	18	18
t (A,B)		1.42	1.6	10.6	0.16	1.5	0.5	1.4
P		>0.05	>0.05	<0.001	>0.05	>0.05	>0.05	>0.05

Prothrombin time is significantly prolonged in group B as compared with group A .

Table (7) Comparison between Group A bilh and B. Mixed as regared laboratory result

Prothrombin time is significantly prolonged in group B compared with group A $\bar{X}$20.94 ± 1.39 and 15.15 ± 1.75 respectively. the other parameter show no significant difference between both groups .

Table (8) : Comparison between Group (A) bilh and group (C) viral hepatits as regard of laboratory result

	age year	bil mg/dl	album g/dl	proth sec	SGOT u/ L	SGPT u/ L	T_4 %	T_8 %
A-								
x	58	1	3.23	15.15	45.23	41.15	31.15	18.76
SD	6.65	0.33	0.02	1.57	5.52	8.78	3.99	1.58
n	13	13	13	13	13	13	13	13
C								
x	56.77	2.17	3.17	21.66	54.77	43.55	30.44	19.5
sd	11.03	1.43	0.32	1.5	13.89	14.74	5.0	1.33
n	9	9	9	9	9	9	9	9
t (A,C)		2.3	0.4	9.8	1.9	0.3	0.3	1.2
P		<0.05	>0.05	<0.001	>0.05	>0.05	>0.05	>0.05

Bilirubin and prothrombin time are significantly high in group C as compared with group A .

Table (8) show comparison between group A bilh and group C viral hepatitis as regarde laboratory results.

Bilirubin is significantely high in group C as compared with group A .

mean 2.17± 1.43 and mean 1 ± 0 .33 respectively .

Prothrombin time is also significantly longer in group C as compared with group A mean 21.66+ 1.5 and $\bar{X}$ 15.15 + 1.57 respectively .

There are no significante difference in the other parameter alb, SGOT , SGPT, T4 & T8

Table (9) : Comparison between Group (B) mixed and group (C) viral hepatits as regard of laboratory **result**

	age year	bil mg/dl	album g/dl	proth sec	SGT u/ L	SGpT u/ L	T_4 %	T_8 %
B-								
x	59.27	1.31	3.33	20.94	44.66	35.44	32.05	19.66
SD	7.99	0.85	0.31	1.39	13.17	12.5	4.55	1.81
n	18	18	18	18	18	18	18	18
C								
x	56.77	2.17	3.17	21.66	54.77	43.55	30.44	19.5
sd	11.03	1.63	0.32	1.5	13.89	14.74	5.0	1.33
n	9	9	9	9	9	9	9	9
t (B, C)		1.6	1.5	1.2	1.8	1.4	0.8	0.1
P		>0.05	>0.05	>0.05	>0.05	>0.05	>0.05	>0.05

There are no significant different between both group in the measured parameter .

Table (9) Show comparison between group B (mixed) and group C Viral hepatitis as regard laboratory result.

There are no significant difference between both groups in the measured parameter

Table (10) Correlation Bt (T_4) and liver functions

Variable	R	P
bil	- 0.08	> 0.05
alb	0.26	> 0.05
Proth	- 0.05	> 0.05
sgot	0.0004	> 0.05
sgpt	- 0.16	> 0.05

R. correlation coeificiant

Table (11) Correlation (between) (T_8) and liver function

Variable	R	P
bi l	0.12	> 0.05
alb	0.27	> 0.05
proth	0.15	> 0.05
SGOT	- 0.09	> 0.05
SGPT	- 0.37	> 0.05

Table (10) no correlation between T4 & liver function.

This table Show that there are positive correlation between T4 , Alb, SGPT and negative Correlation between T4 and bil , Proth. SGPT but this result statistically in significant

Table (11) no Corelation between T8 and liver function

This table show that there are positive correlation between T_8 , bil, & alb & proth and negative correlation between T_8 , SGOT , & S Gpt and this result statistically insignificant .

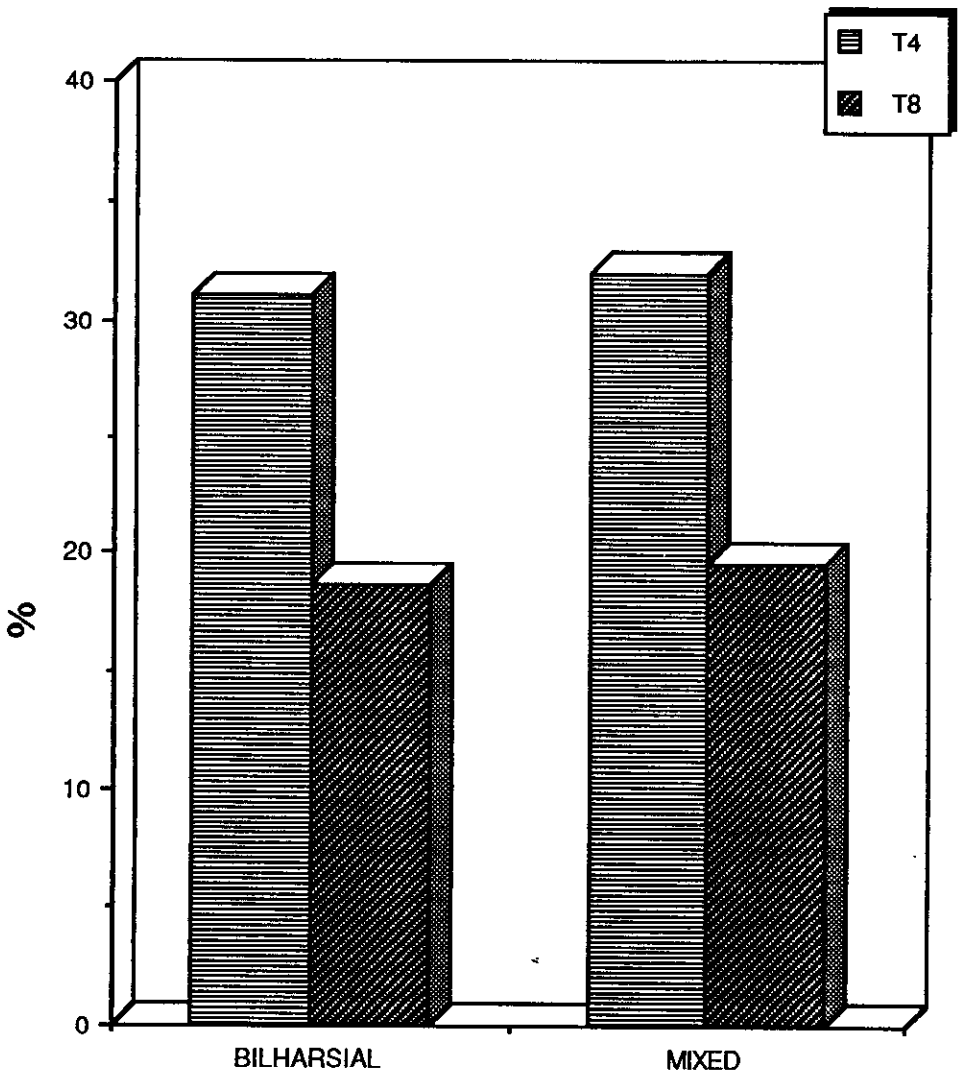

FIG.(1) T4 and T8 level in Bilharizial and mixed liver diseases

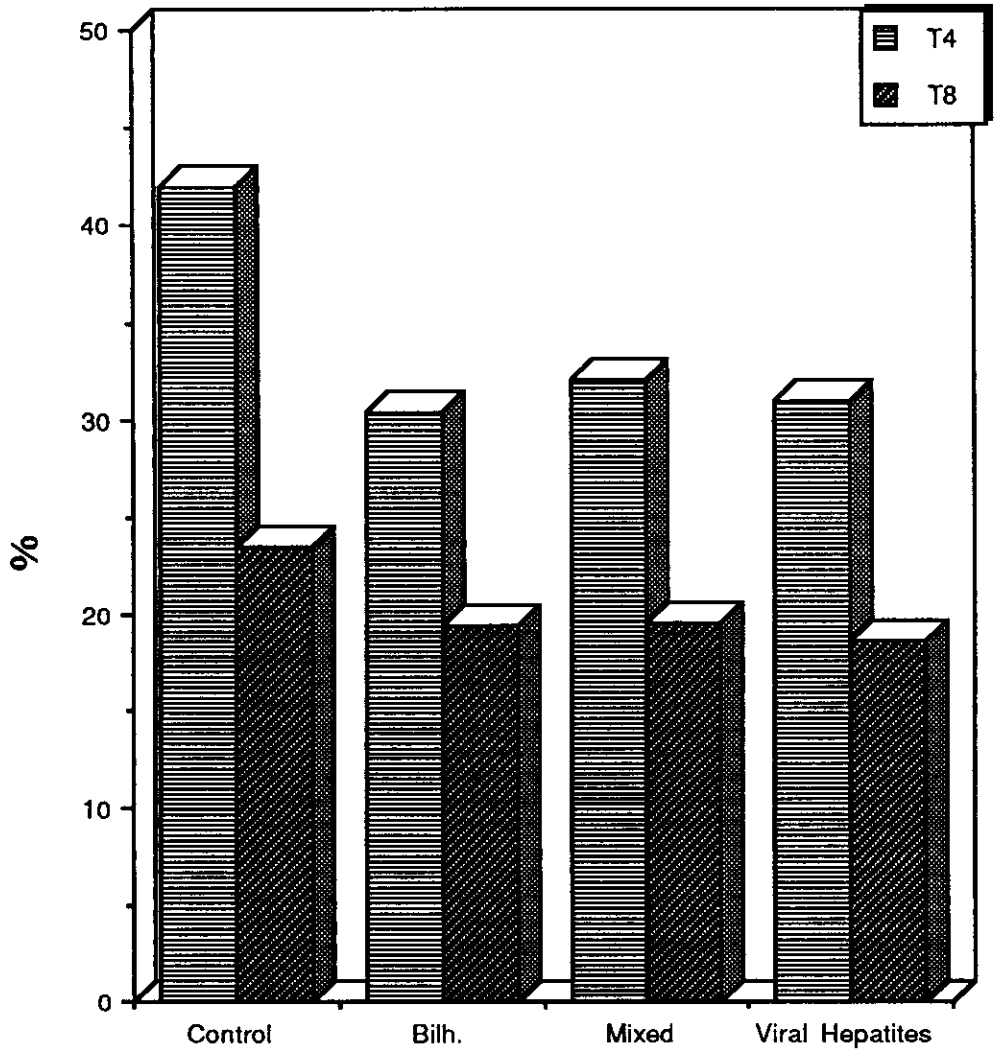

Fig.(2) T4 and T8 level in control and different groups of liver disease (Bilh., Mixed and Viral Hepatitis