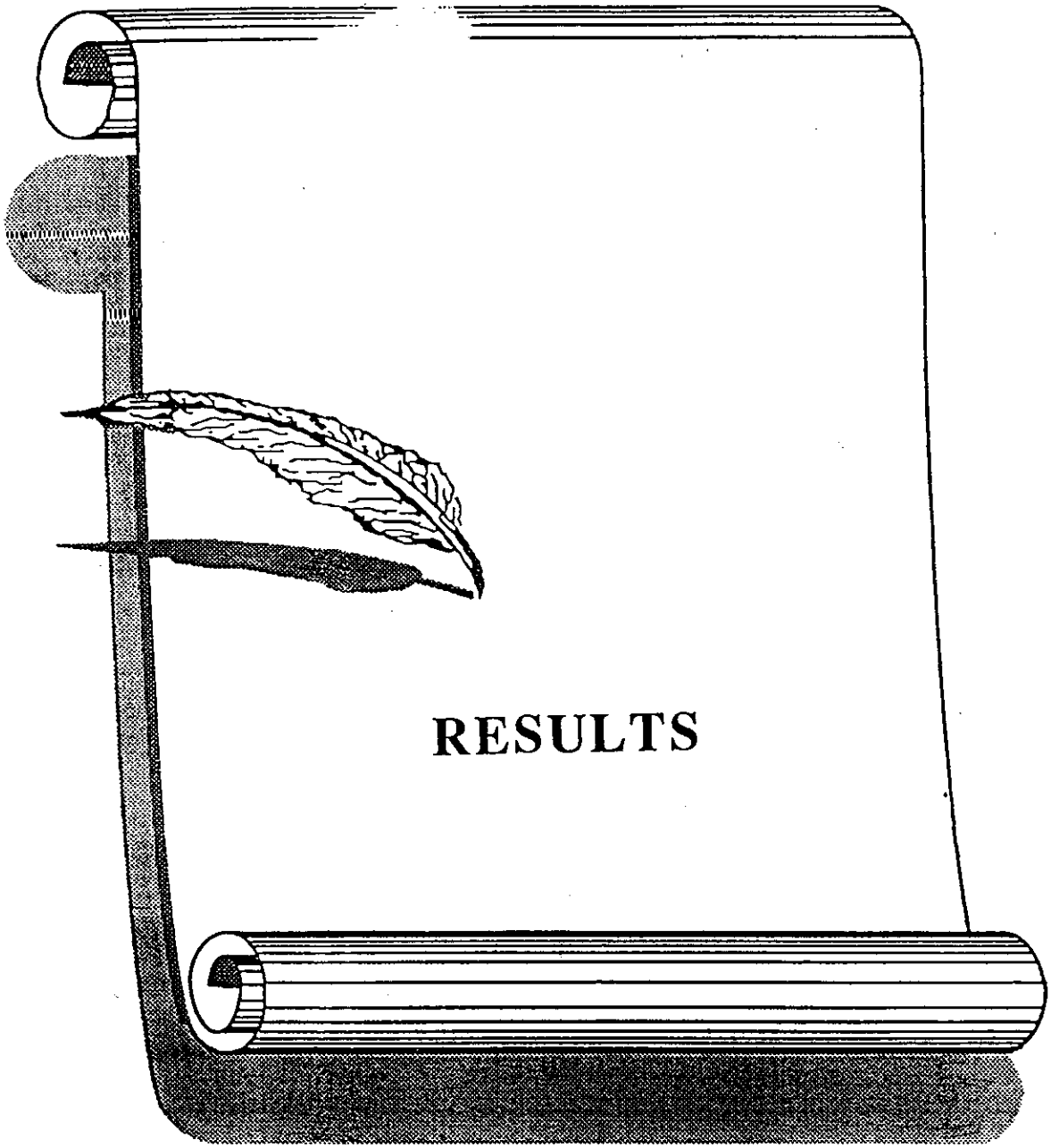

RESULTS

RESULTS

The results obtained in this study are presented in the following tables and figures.

Table (1): Shows some of the characteristics of the control group. Their ages ranged between 5 and 14 years. They are negative for viral B hepatitis and schistosomiasis. The mean level of serum IL-2 was 94 pg/ml with a standard deviation value of 58.63. The mean level of serum IL-4 was 0.89 pg/ml with a standard deviation value of 0.23.

Table (2): Shows the serum IL-2 and IL-4 in chronic viral hepatitis group. The mean level of IL-2 was 11.53 pg/ml with a standard deviation value of 18.59. The mean level of IL-4 was 1.04 pg/ml with a standard deviation value of 0.44. The ages of this group ranged between 5 and 15 years.

Table (3): Shows the serum IL-2 and IL-4 in chronic schistosomal hepatitis group. The mean level of IL-2 was 784.13 pg/ml with a standard deviation value of 855.08. The mean level of IL-4 was 1.23 pg/ml with a standard deviation

value of 0.47. The ages of this group ranged between 5 and 15 years.

Table (4): Shows the difference in IL-2 levels in each of the disease groups in relation to the control group. Significant difference with P<0.05 was found.

Figure (1): Shows the mean values of IL-2 in the three studied groups arranged as follows: control group, chronic hepatitis group and chronic schistosomal hepatitis group. As indicated from this figure: in relation to the control group, there was lower level of IL-2 in chronic viral hepatitis and higher level in chronic schistosomal hepatitis.

Table (6) and Figure (3): Show the different cutoff levels of serum IL-2 and the corresponding specificity and sensitivity values of each level in chronic viral hepatitis and control group. This is testing the reliability of the different cutoff levels of serum IL-2 in picking up the chronic viral hepatitis condition through the sensitivity and specificity. The cut off point was at serum IL-2 level of 12 pg/ml with

Table (7) and Figure (4): Show the different cut off levels of serum IL-2 and the corresponding specificity and sensitivity values at each level in chronic schistosomal hepatitis and control group. This is testing the reliability of the different cut off levels of serum IL-2 in picking up the chronic schistosomal hepatitis condition through the sensitivity and specificity. The cut off point was at serum IL-2 level of 200 pg/ml with specificity (100%) and sensitivity (86.7%).

Table (5): Shows the difference in IL-4 levels in each of the disease groups in relation to the control group. Significant difference with $P<0.05$ was found between the control and chronic schistosomal hepatitis group. On the other hand, the difference between the control and chronic viral hepatitis group was insignificant with $P>0.05$.

Figure (2): Shows the mean values of IL-4 in the three studied groups arranged as follows: control group, chronic viral hepatitis group and the chronic schistosomal hepatitis group. As indicated from this figure, higher mean values

in each of the disease groups in relation to the control group were found.

Table (8) and Figure (5): Show the different cut off levels of serum IL-4 and the corresponding specificity and sensitivity values of each level in chronic viral hepatitis and control groups. This is testing the reliability of the different cut off levels of serum IL-4 in picking up the chronic viral hepatitis condition through the sensitivity and specificity. The cut off point was at serum IL-4 level of 1.1 pg/ml with high specificity (85%) but low sensitivity (40%).

Table (9) and Figure (6): Show the different cut off levels of serum IL-4 and the corresponding specificity and sensitivity values of each level in chronic schistosomal hepatitis and control groups. This is testing the reliability of the different cut off levels of serum IL-4 in picking up the chronic schistosomal hepatitis condition. The cut off point was at serum IL-4 level of 1.1 pg/ml with high specificity (85%) and low sensitivity (46.7%).

Table (10): Shows the liver function tests with their mean and

Table (11): Shows the liver function tests with their mean and standard deviation values in chronic viral hepatitis group.

Table (12): Shows the liver function tests with their mean and standard deviation values in chronic schistosomal hepatitis group.

Table (13) and Table (14): Show the differences in liver function tests values between each of the disease groups and the control group. Significant differences in all liver function tests with $P<0.05$ or $P<0.001$ were found.

Figure (7): Shows the mean values of serum AST, ALT in the three studied groups. These enzymes were elevated in each of the disease groups in relation to the control group with higher incidence of elevations in chronic viral hepatitis group.

Figure (8): Shows the mean values of total serum bilirubin (TSB) and direct bilirubin in the three studied groups. The levels were higher in each of the disease groups in

incidence of elevation in chronic viral hepatitis group while DB showed higher incidence of elevation in chronic schistosomal hepatitis group.

Figure (9): Shows the mean values of total serum protein (TSP) and albumin (Alb) in the three studied groups. The level were lower in each of the disease groups in relation to the control group. (TSP) was lowest in chronic schistosomal hepatitis while (Alb) was lowest in chronic viral hepatitis.

Table (1): Serum IL-2 and IL-4 in the control group

Case No.	Age (y)	HBsAg	HBcAb	IL-2 (pg/ml)	IL-4 (pg/ml)
1	10	-ve	-ve	150	0.84
2	5	-ve	-ve	13	0.70
3	9	-ve	-ve	50	0.37
4	10	-ve	-ve	5	0.92
5	6	-ve	-ve	70	0.95
6	10	-ve	-ve	200	1.20
7	14	-ve	-ve	100	0.65
8	12	-ve	-ve	90	1.10
9	10	-ve	-ve	150	0.88
10	12	-ve	-ve	20	1.00
11	6	-ve	-ve	12	0.70
12	10	-ve	-ve	150	0.80
13	10	-ve	-ve	100	0.65
14	14	-ve	-ve	70	0.96
15	12	-ve	-ve	80	1.20
16	9	-ve	-ve	100	0.65
17	10	-ve	-ve	90	1.10
18	12	-ve	-ve	150	0.80
19	14	-ve	-ve	200	1.20
20	12	-ve	-ve	80	1.10
$\bar{X}$				94.00	0.89
SD				58.63	0.23

Table (2): Serum IL-2 and IL-4 in chronic viral hepatitis patients

Case No.	Age (y)	IL-2 (pg/ml)	IL-4 (pg/ml)
1	11	0	0.92
2	11	3	1.20
3	10	5	1.60
4	14	0	0.45
5	12	5	1.00
6	15	10	0.88
7	7	15	1.49
8	6	10	1.24
9	14	20	0.35
10	14	2	1.90
11	10	0	1.50
12	11	9	0.69
13	5	4	0.79
14	14	15	0.92
15	12	75	0.72
$\bar{X}$		11.53	1.04
SD		18.59	0.44

Table (3): Serum IL-2 and IL-4 in chronic schistosomal hepatitis patients

Case No.	Age (y)	IL-2 (pg/ml)	IL-4 (pg/ml)
1	12	325	1.78
2	14	600	1.12
3	10	450	0.84
4	6	1350	0.88
5	7	225	0.61
6	15	220	1.80
7	14	100	0.70
8	14	120	1.00
9	12	397	1.78
10	11	600	1.85
11	9	2000	0.88
12	10	3200	1.62
13	9	1305	1.20
14	5	380	0.85
15	10	490	0.50
$\bar{X}$		784.13	1.23
SD		855.08	0.47

Table (4): Serum IL-2 levels in all groups (mean "$\bar{X}$" and standard deviation "SD")

Group	$\bar{X}$ (pg/ml)	SD	Correlation with the control group	
			t	P
- Control group	94	58.63		
- Chronic viral hepatitis group	11.53	18.59	5.91	<0.05
- Chronic schistosomal hepatitis group	784.13	855.08	3.12	<0.05

P<0.05 = Significant correlation

Table (5): Serum IL-4 levels in all groups (mean "$\bar{X}$" and standard deviation "SD")

Group	$\bar{X}$ (pg/ml)	SD	Correlation with the control group	
			t	P
- Control group	0.89	0.23		
- Chronic viral hepatitis group	1.04	0.44	1.20	>0.05
- Chronic schistosomal hepatitis group	1.23	0.47	2.58	<0.05

P<0.05 = Significant correlation

P>0.05 = Insignificant correlation

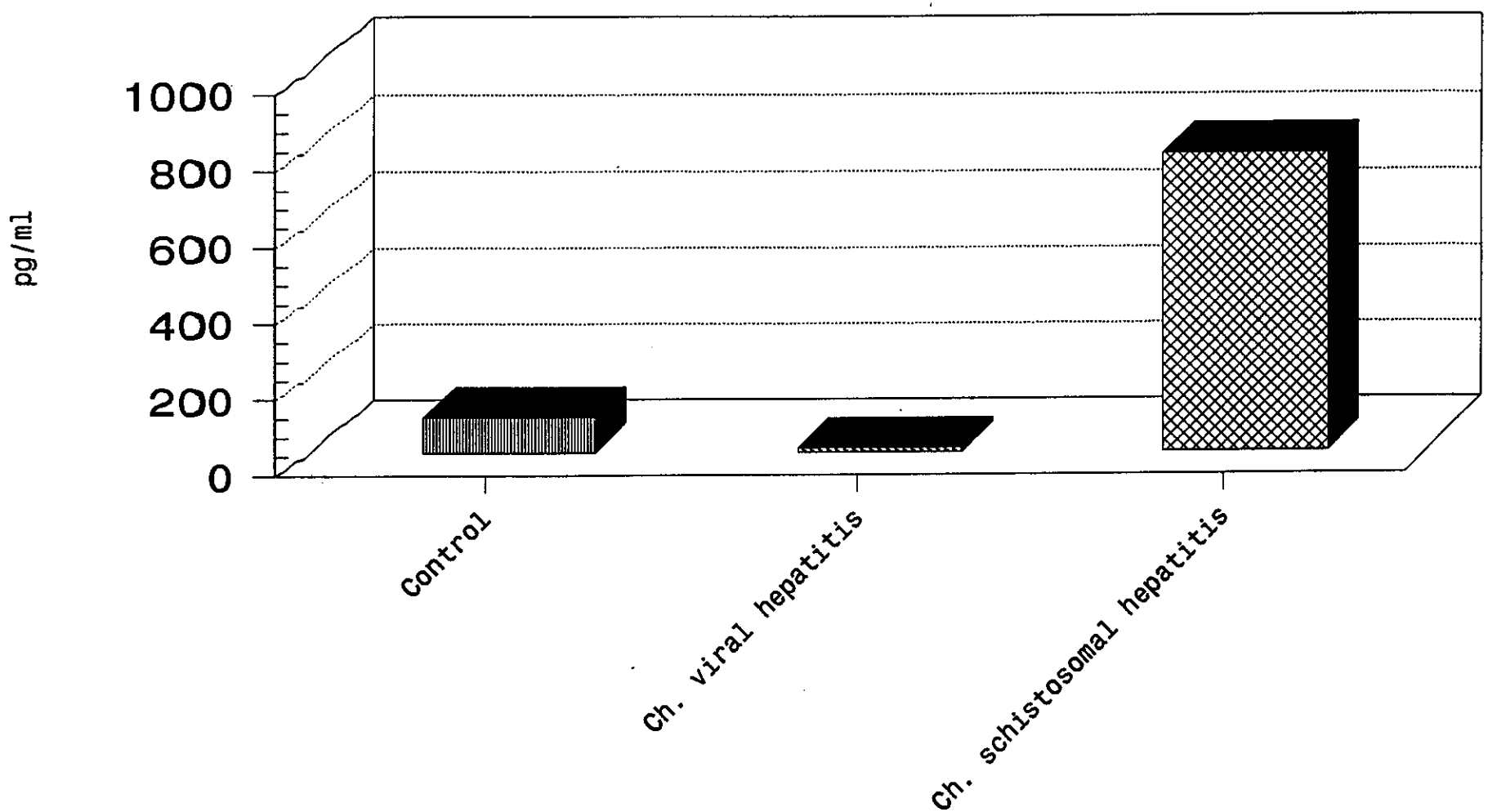

Fig. (1): IL-2 in all groups (Mean)

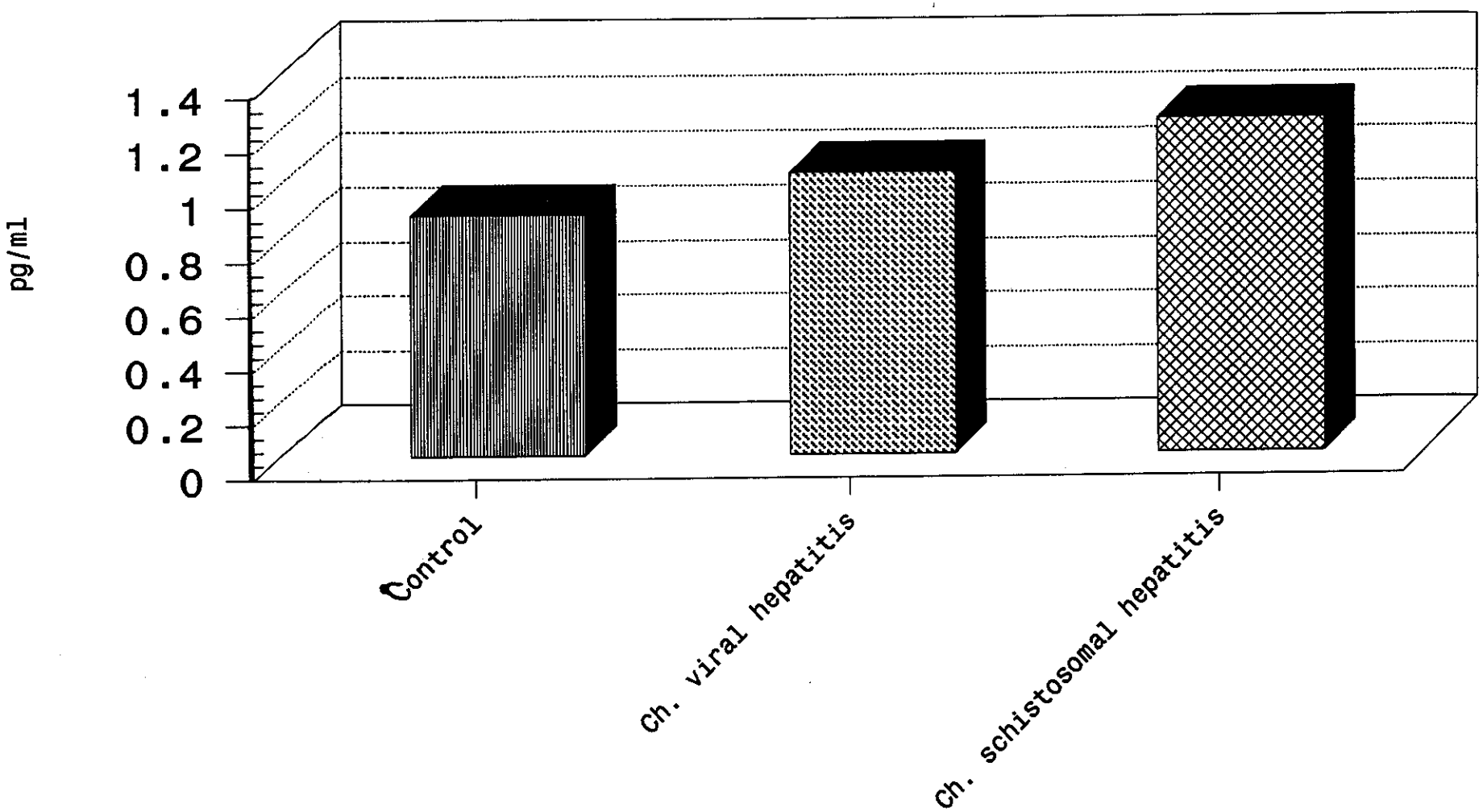

Fig. (2): IL-4 in all groups (Mean)

Table (6): The different cut off levels of serum IL-2 and the corresponding specificity and sensitivity values of each cut off level in chronic viral hepatitis and control groups

Cut off level (pg/ml)	Specificity (%)	Sensitivity (%)
5	100	40
12*	95	73
13	90	73
20	85	86
50	80	93
70	75	93
80	65	100
90	50	100
100	45	100
150	30	100
200	10	100

* Cut off point

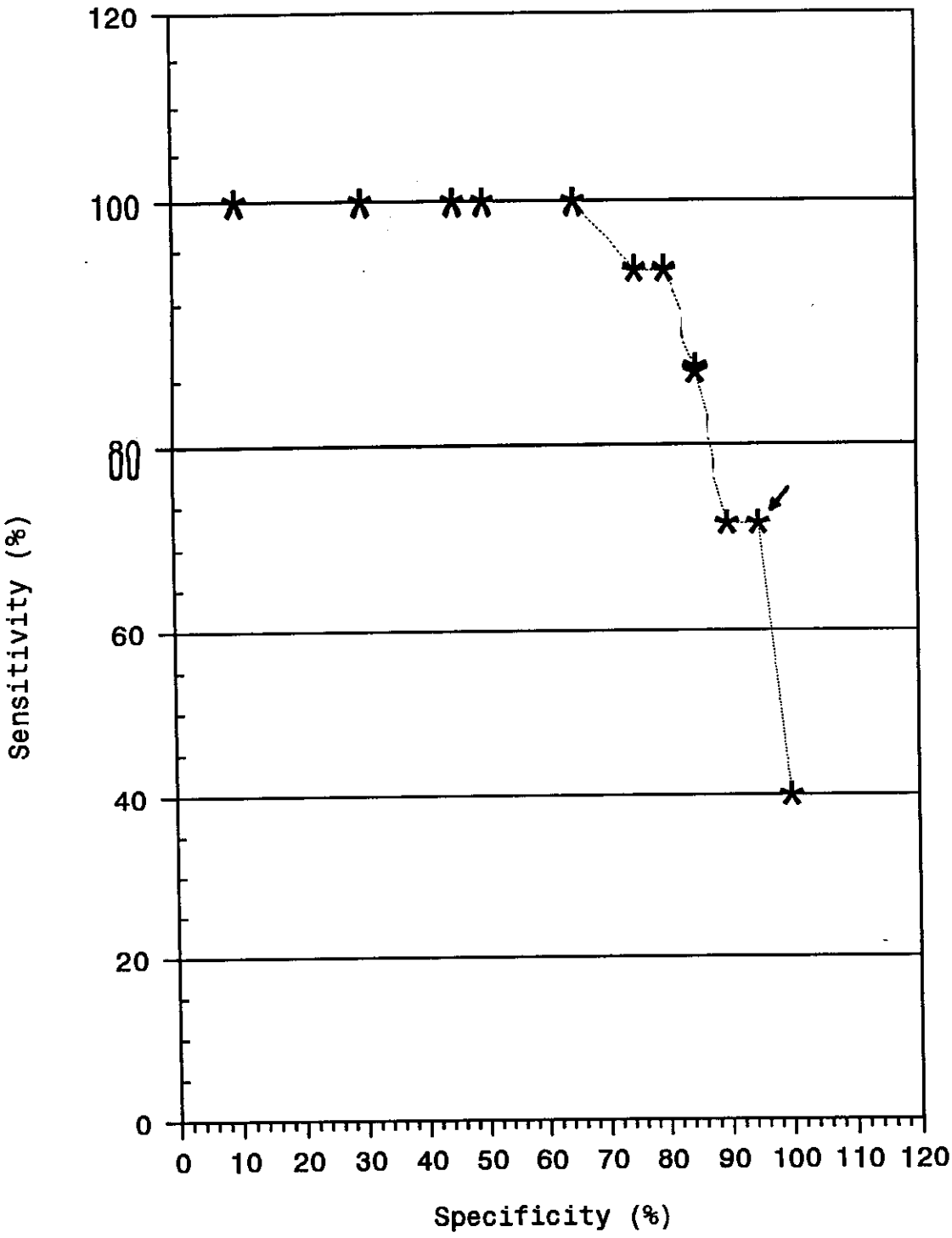

Fig. (3): Sensitivity and specificity of the different cut off levels of serum IL-2 in chronic viral hepatitis and control groups

Table (7): The different cut off levels of serum IL-2 and the corresponding specificity and sensitivity values of each cut off level in chronic schistosomal hepatitis and control groups

Cut off level (pg/ml)	Specificity (%)	Sensitivity (%)
5	5	100
12	10	100
13	15	100
20	20	100
50	25	100
70	35	100
80	45	100
90	55	100
100	70	93.3
150	90	86.7
200*	100	86.7

* Cut off point

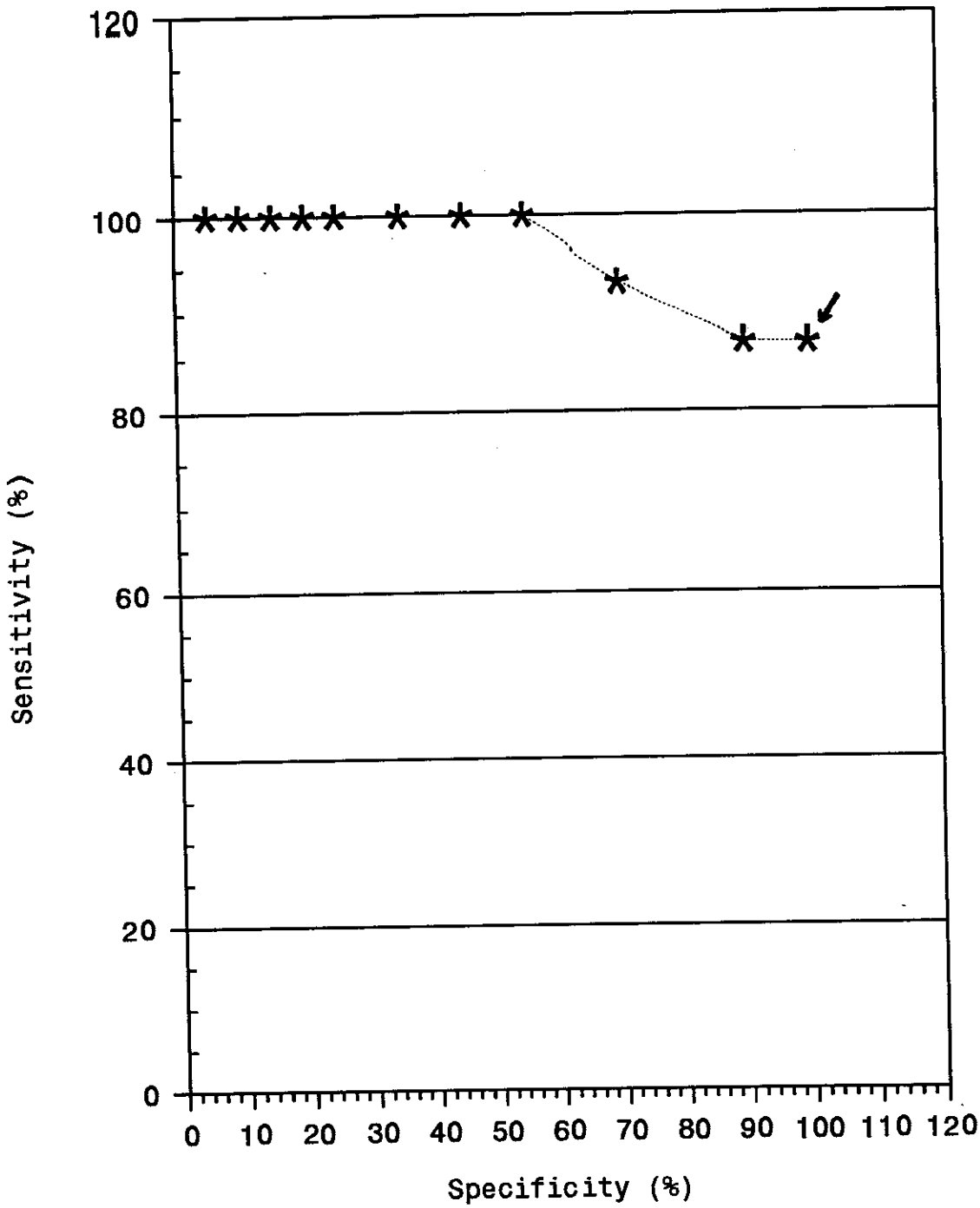

Fig. (4): Sensitivity and specificity of the different cut off levels of serum IL-2 in chronic schistosomal hepatitis and control groups

The arrow refers to the cut off point

Table (8): The different cut off levels of serum IL-4 and the corresponding specificity and sensitivity values of each cut off level in chronic viral hepatitis and control groups

Cut off level (pg/ml)	Specificity (%)	Sensitivity (%)
0.37	5	93.3
0.65	20	86.7
0.70	30	80
0.80	40	66.7
0.84	45	66.7
0.88	50	60
0.92	55	46.7
0.95	60	46.7
0.96	65	46.7
1.0	70	40
1.1*	85	40
1.2	100	33

* Cut off point

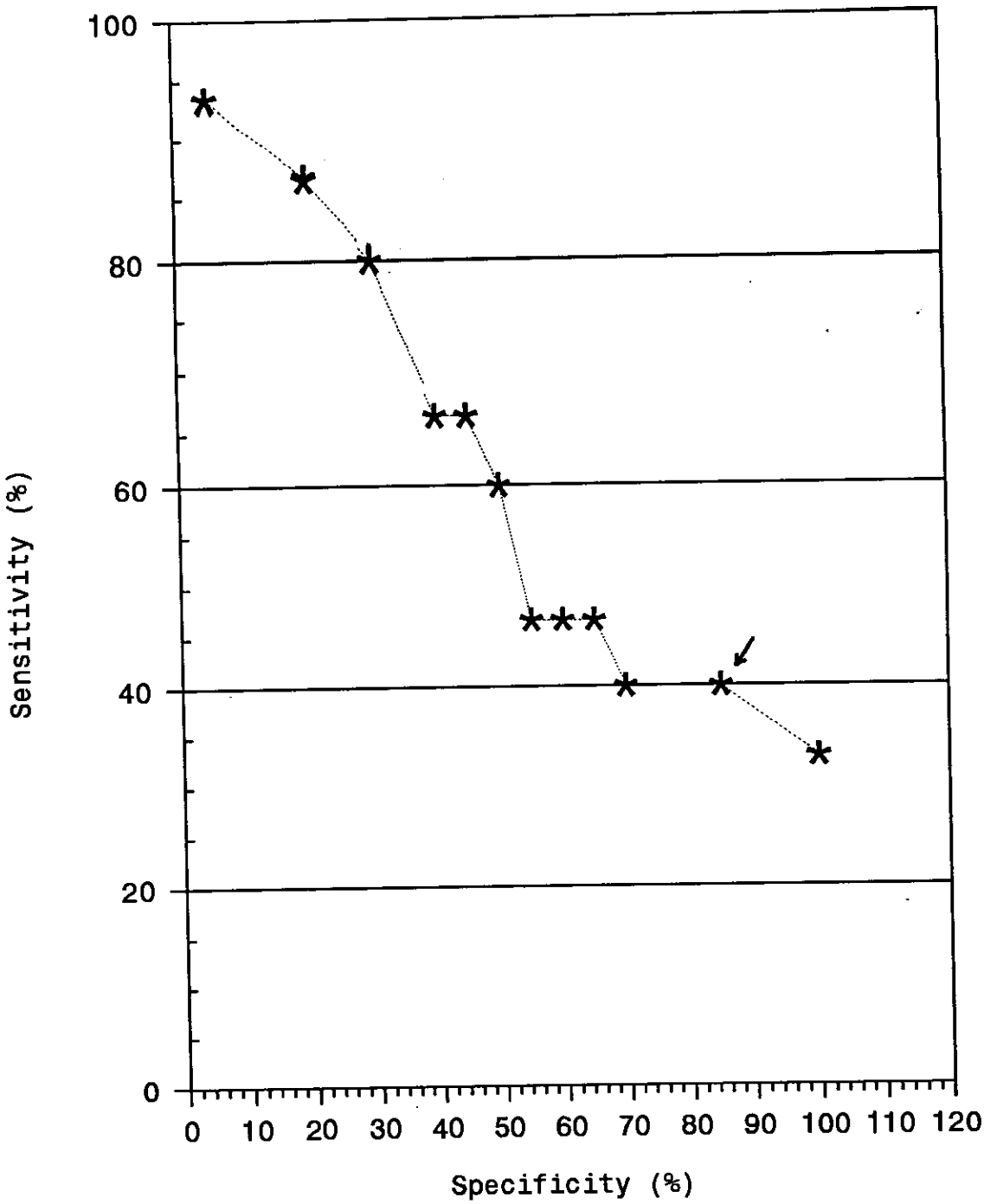

Fig. (5): Sensitivity and specificity of the different cut off levels of serum IL-4 in chronic viral hepatitis and control groups

The arrow refers to the cut off point

Table (9): The different cut off levels of serum IL-4 and the corresponding specificity and sensitivity values of each cut off level in chronic schistosomal hepatitis and control groups

Cut off level (pg/ml)	Specificity (%)	Sensitivity (%)
0.37	5	100
0.65	20	86.7
0.70	30	80
0.80	40	80
0.84	45	73.3
0.88	50	53.3
0.92	55	53.3
0.95	60	53.3
0.96	65	53.3
1.0	70	46.7
1.1*	85	46.7
1.2	100	33.3

* Cut off point

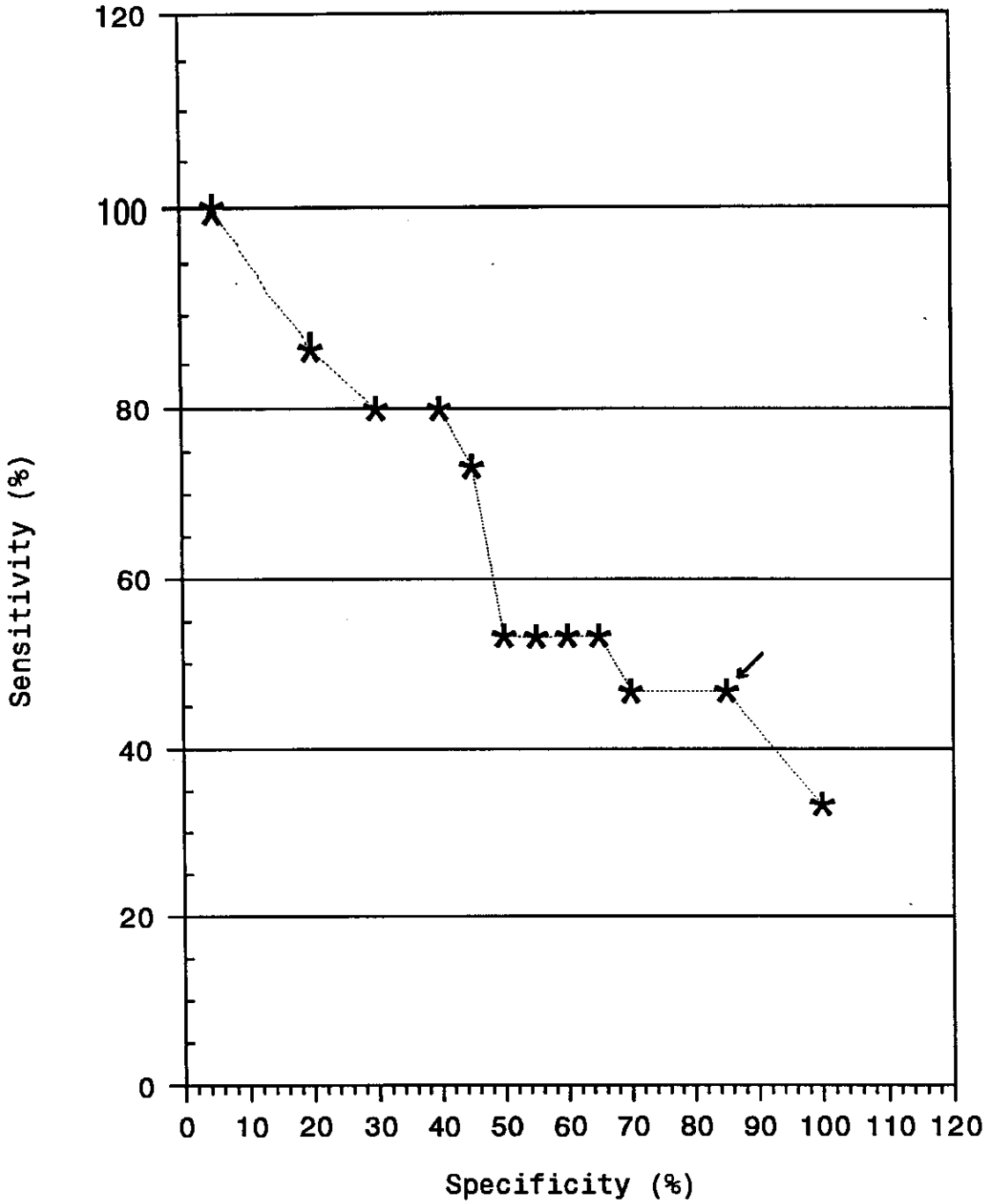

Fig. (6): Sensitivity and specificity of the different cut off levels of serum IL-4 in chronic schistosomal hepatitis and control groups

The arrow refers to the cut off point

Table (10): Liver function tests in the control group

Case No.	AST (U/L)	ALT (U/L)	ALP (K & K)	TSB (mg%)	DB (mg%)	TSP (gm%)	Alb (gm%)
1	12	9	14	0.9	0.20	7.7	4.2
2	9	9	14	0.8	0.2	7.7	4.2
3	11	10	12	0.9	0.15	8.0	4.0
4	5	7	10	0.9	0.22	8.0	4.2
5	8	7	11	0.7	0.20	7.5	3.9
6	10	11	12	0.7	0.10	7.0	3.0
7	12	11	10	0.9	0.16	7.7	4.0
8	9	5	16	0.8	0.19	7.4	3.9
9	9	8	10	0.6	0.08	8.0	4.1
10	10	7	12	0.9	0.20	8.0	3.9
11	12	7	14	0.7	0.13	7.5	3.8
12	8	6	14	0.9	0.20	7.7	4.0
13	7	10	14	0.7	0.10	7.0	3.9
14	7	12	10	0.8	0.20	8.0	4.2
15	6	11	10	0.8	0.10	7.0	3.8
16	8	9	15	0.9	0.23	7.2	4.2
17	5	6	12	0.7	0.15	7.1	3.8
18	12	7	10	0.9	0.21	8.0	4.2
19	11	8	12	0.5	0.20	8.0	4.2
20	9	10	12	0.9	0.16	7.5	3.9
$\bar{X}$	9.00	8.50	12.20	0.79	0.17	7.60	3.97
SD	2.27	1.99	1.91	0.12	0.05	0.38	0.28

Table (11): Liver function tests in chronic viral hepatitis group

Case No.	AST (U/L)	ALT (U/L)	ALP (K & K)	TSB (mg%)	DB (mg%)	TSP (gm%)	Alb (gm%)
1	282	274	70	2.9	1.3	5.5	2.0
2	181	94	80	1.1	0.4	6.9	2.3
3	217	80	80	1.4	0.2	5.1	2.4
4	282	166	90	1.4	0.4	7.0	2.0
5	280	181	60	1.2	0.3	6.3	2.5
6	109	87	70	1.4	0.2	8.2	3.7
7	122	90	80	0.9	0.1	7.3	2.9
8	196	77	50	0.8	0.1	5.8	2.6
9	233	91	60	2.9	0.6	5.2	1.4
10	243	184	70	3.0	0.8	6.1	2.8
11	116	100	90	5.7	1.5	6.8	1.5
12	282	178	70	1.6	0.2	5.9	2.1
13	197	100	70	0.9	0.1	6.0	2.5
14	237	192	50	4.2	2.2	8.0	2.6
15	172	100	60	1.7	0.1	7.0	2.4
$\bar{X}$	209.93	132.93	70.00	2.07	0.57	6.47	2.38
SD	61.11	58.46	12.54	1.41	0.63	0.94	0.56

Table (12): Liver function tests in chronic schistosomal hepatitis group

Case No.	AST (U/L)	ALT (U/L)	ALP (K & K)	TSB (mg%)	DB (mg%)	TSP (gm%)	Alb (gm%)
1	47	22	14	1.6	0.5	5.0	2.7
2	24	14	15	2.0	0.9	5.6	2.4
3	40	24	12	1.8	0.7	6.0	2.8
4	40	28	13	2.2	0.9	5.5	2.5
5	40	22	12	2.2	0.8	6.0	2.9
6	24	20	11	2.0	0.9	7.0	2.9
7	40	20	11	2.2	0.7	7.5	3.5
8	40	22	20	2.0	0.5	4.2	2.0
9	22	28	14	1.7	0.7	5.0	2.5
10	40	20	12	1.9	0.5	4.0	2.3
11	34	20	13	1.2	0.8	6.0	2.2
12	42	25	16	1.0	0.5	5.0	2.2
13	34	22	19	1.4	0.7	5.5	2.5
14	40	29	12	1.8	0.8	4.0	2.4
15	35	24	20	1.9	0.8	5.0	2.9
$\bar{X}$	36.33	22.67	14.27	1.79	0.71	5.42	2.58
SD	7.53	3.89	3.13	0.36	0.15	1.00	0.38

Table (13): The difference in liver function tests between the control group and the chronic viral hepatitis and chronic schistosomal hepatitis groups

Liver function test	Group and No. of cases					
	Control (20)		Chronic viral hepatitis (15)		Chronic schistosomal hepatitis (15)	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
AST (U/L)	9.00	2.27	209.93	61.11	36.33	7.53
ALT (U/L)	8.50	1.99	132.93	58.76	22.67	3.89
ALP (K & K)	12.20	1.91	70.0	12.54	14.27	3.13
TSB (mg%)	0.79	0.12	2.07	1.41	1.79	0.36
DB (mg%)	0.17	0.05	0.57	0.63	0.71	0.15
TSP (gm%)	7.60	0.38	6.47	0.94	5.42	1.00
Alb (gm%)	3.97	0.28	2.38	0.56	2.58	0.38

Table (14): The significance of differences in liver function tests between the control group and each of the chronic hepatits and chronic schistosomal hepatitis groups

Liver function test	Chronic viral hepatitis		Chronic schistosomal hepatitis	
	t	P	t	P
AST (U/L)	12.73	<0.001	13.61	<0.001
ALT (U/L)	8.24	<0.001	12.91	<0.001
ALP (K & K)	17.71	<0.001	2.26	<0.05
TSB (mg%)	3.51	<0.05	10.29	<0.001
DB (mg%)	2.45	<0.05	13.54	<0.001
TSP (gm%)	4.37	<0.001	7.997	<0.001
Alb (gm%)	10.08	<0.001	12.04	<0.001

P <0.001 & P <0.05 = Significant difference

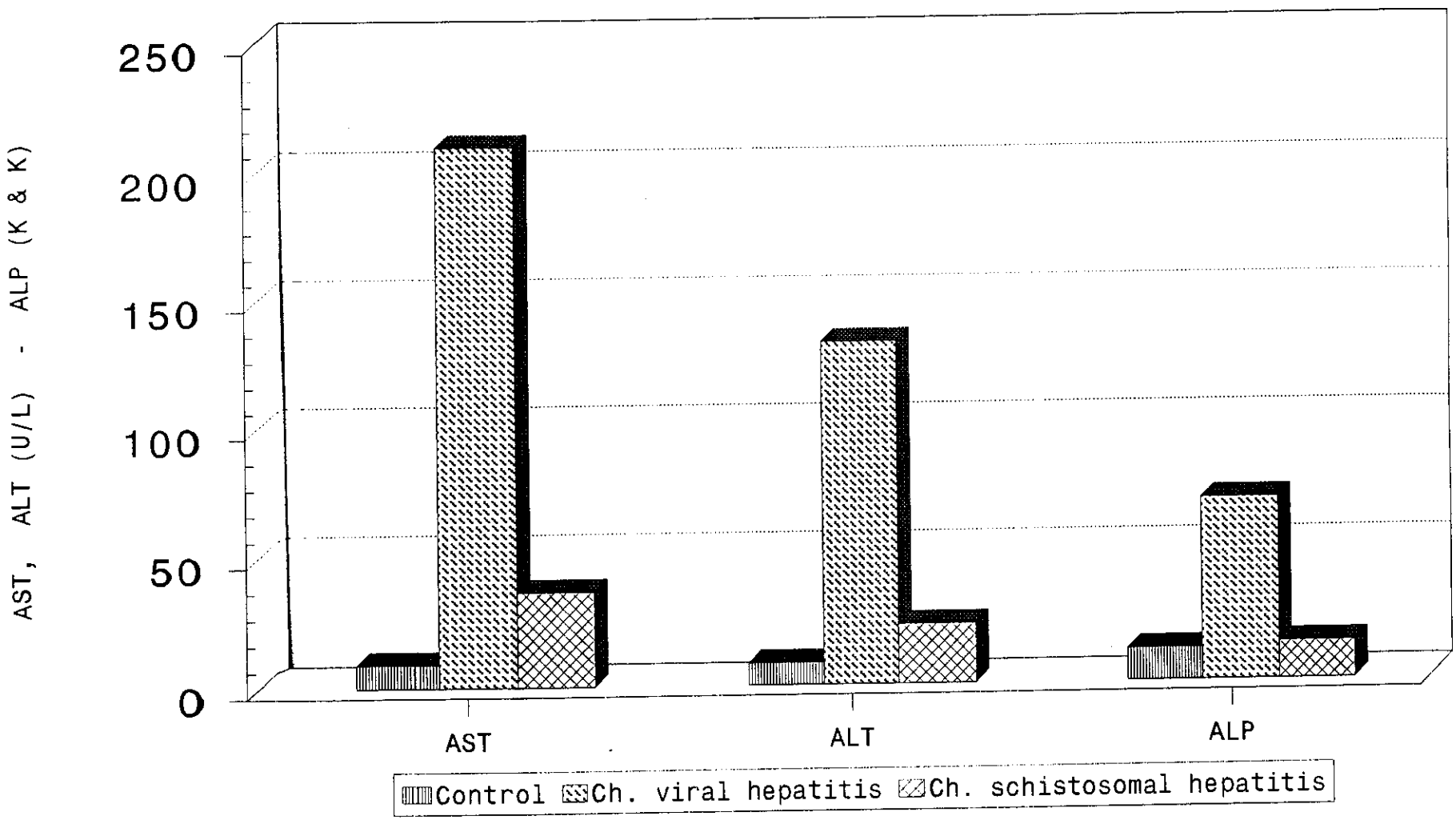

Fig. (7): Serum AST, ALT and ALP in all groups

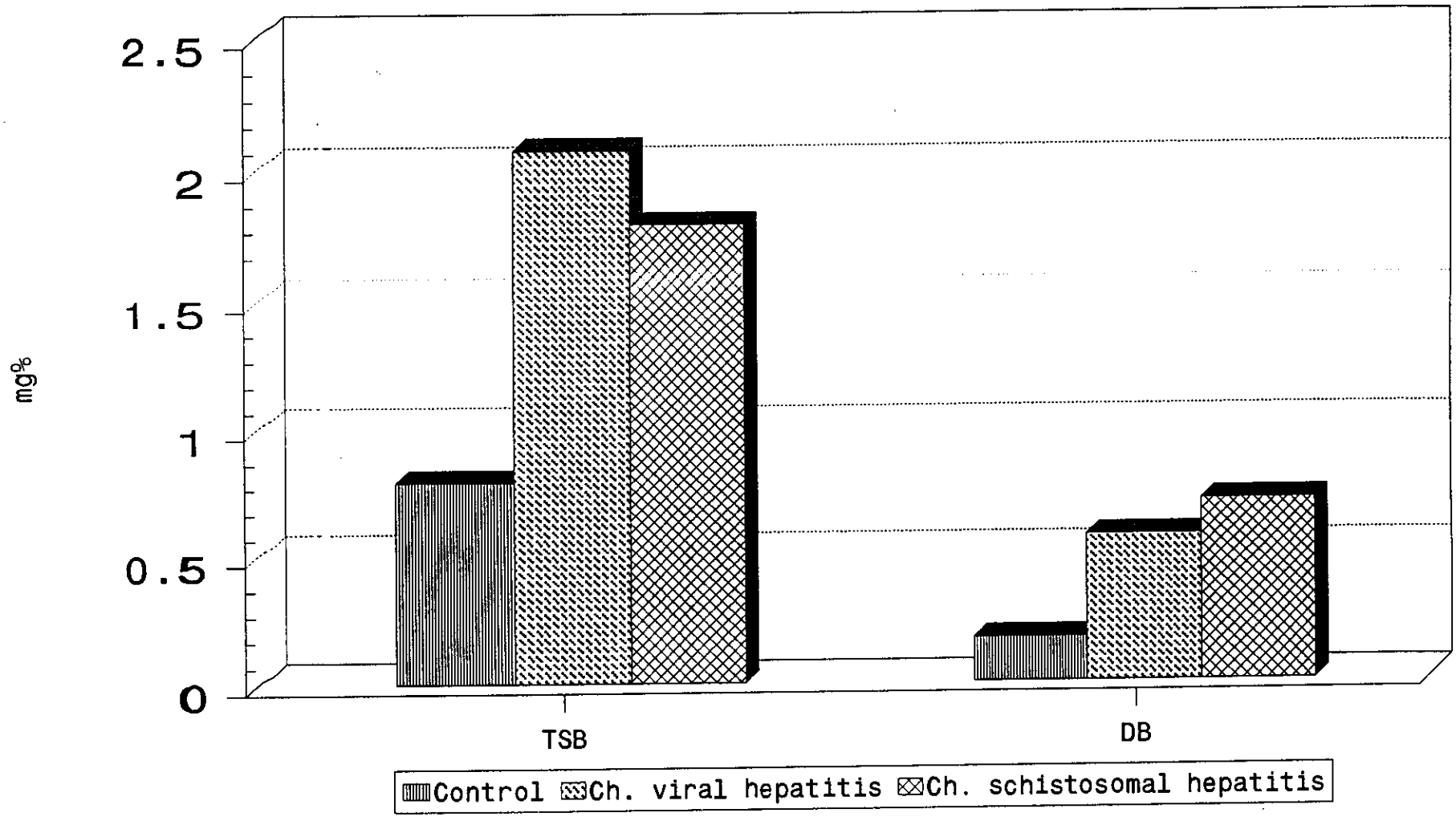

Fig. (8): Total serum bilirubin (TSB) and direct bilirubin (DB) in all groups

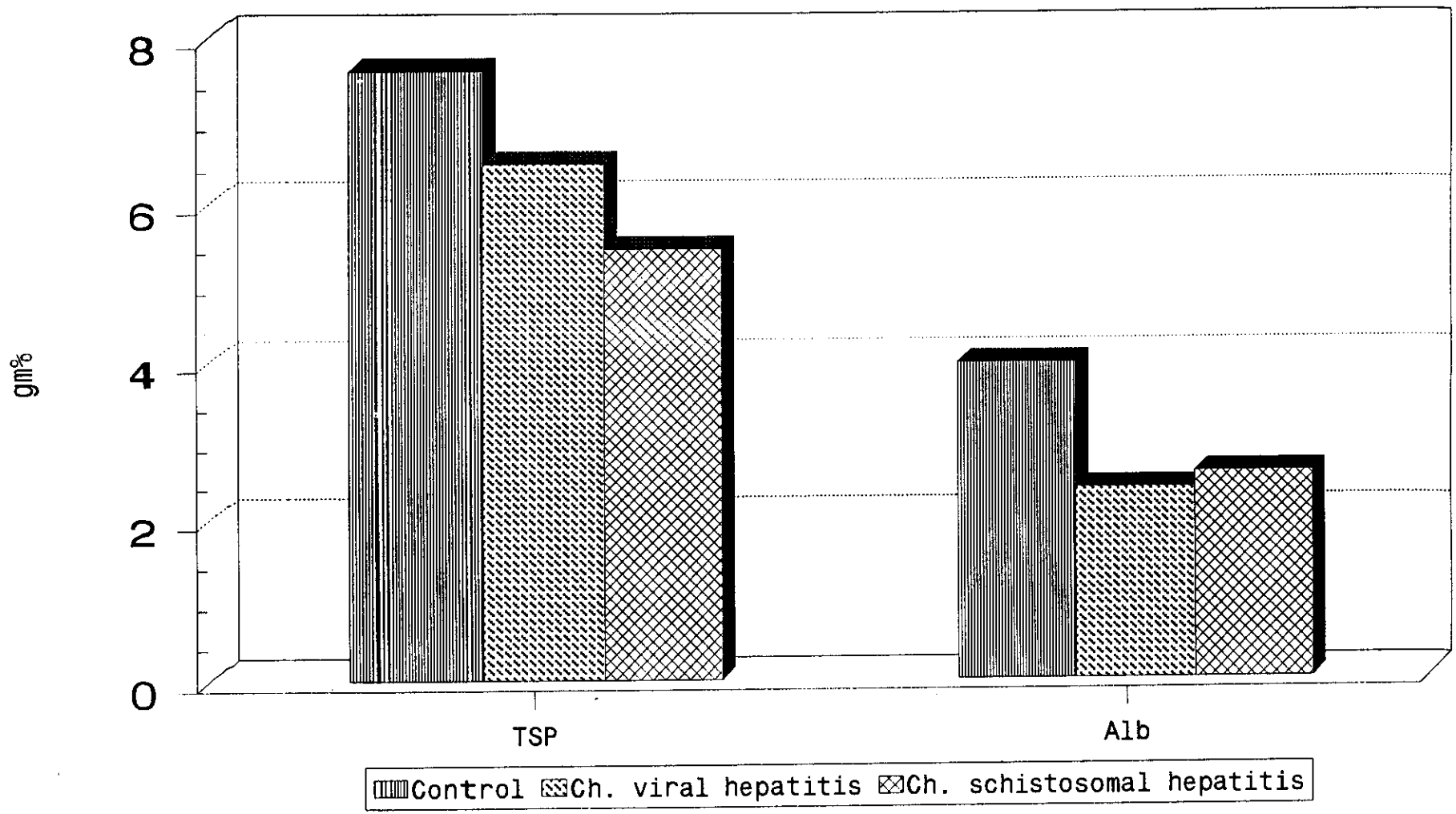

Fig. (9): Total serum protein (TSP) and albumin (Alb) in all groups