
ANALYSIS OF RESULTS

Urine analysis :

in urine analysis : five cases of group I had oxalates crystals (++) in urine. Two cases in group II had pus cells over 5 / HPF. , three cases had trace amount of albumin, also two cases had few granular casts in urine. All cases of group III had albumin, pus cells over 5/HPF. and granular casts in urine.

Rectal snip :

Showed living bilharzial ova in all groups

Hepatitis markers :

HBsAg was positive in half of the patients. HCV are positive in five cases cases

Upper gastrointestinal tract endoscopy :

Revealed oesophageal varices in all cases

Table (1) Distribution of studied subjects as regards the liver compensation and renal function.

Kidney \ Liver	Compensated liver		Decompensated liver		Total	
	no	%	no	%	no	%
normal renal function	4	40	6	60	10	100
renal impairment	3	30	7	70	10	100
renal failure	2	20	8	80	10	100
total	9	30	21	70	30	%

Table (2) Results of ultrasonography among the studied groups

Studied gp. Ultrason.	Group I (n=10)		Group II (n=10)		Group III (n=10)		Total (n=30)		Test of significance
	NO	%	NO	%	NO	%	NO	%	
Liver									$X^2 = 0.8$
Mod. enlarg. liver	5	50	4	40	6	60	15	50	
span>13cm	5	50	6	60	4	40	15	50	
Shrunken liver span <10 cm									
Total	10	100	10	100	10	100	30	100	$p > 0.05$
Spleen									$X^2 = 0.8$
Mod. enlarge. spleen	5	50	4	40	6	60	15	50	
span=17cm									
Huge enlarge. spleen span >17cm	5	50	6	60	4	40	15	50	
Total	10	100	10	100	10	100	30	100	$P > 0.05$
Ascites									$X^2 = \dots\dots\dots$ $P = \dots\dots\dots$
No	4	40	3	30	2	20	9	30	
Moderate	3	30	6	60	5	50	14	46	
Tense	3	30	1	10	3	30	7	24	
	10	100	10	100	10	100	30	100	

Group I portal hypertension with normal kidney function .

Group II portal hypertension with renal impairment .

Group III portal hypertension with renal failure .

Table (3) Complete blood picture among the studied groups

Stud. groups	Group I		Group II		Group III		Control group		Test of significance		
	x	SD	x	SD	X	SD	X	SD	G.	t	p
C.B.C.	8.51	0.90	8.10	0.98	8.34	1.17	14.17	0.03	I	17.26	*<0.001
Hb g/dl									II	15.57	*<0.001
									III	14.43	*<0.001
RBCs cuont millions /Cmm	3.72	2.54	2.80	0.32	2.81	0.32	4.51	0.32	I	0.97	*<0.05
									II	11.73	*<0.001
									III	11.46	*<0.001
WBCs count thousands/Cmm	7.12	1.79	8.20	1.82	6.70	2.16	5.85	1.22	I	1.96	>0.05
									II	3.61	*<0.01
									III	1.13	>0.05
Platelets thousands/Cmm	176.9	5.22	176.8	4.87	174.3	6.06	180.0	4.15	I	4.76	*<0.001
									II	5.48	*<0.001
									III	5.45	*<0.001
Neutrophils %	49.90	10.93	54.5	5.68	55.40	6.35	58.87	8.72	I	2.18	*<0.05
									II	1.52	>0.05
									III	1.15	>0.05
Lymphocytes %	42.80	9.21	39.10	4.82	40.90	6.24	41.80	15.95	I	0.20	>0.05
									II	0.62	>0.05
									III	0.20	>0.05
Eosinophils %	6.80	4.13	5.80	4.13	3.40	1.51	2.93	2.28	I	2.10	*<0.05
									II	2.00	>0.05
									III	0.62	>0.05
Basophils %	0.80	0.79	0.50	0.53	0.30	0.48	2.93	2.28	I	3.33	*<0.01
									II	3.97	*<0.001
									III	4.33	*<0.001

* significant

Table (4) : Prothrombin activity among the studied groups .

	Control (n=15)	GI (n=10)	GII (n=10)	GIII (n=10)
X	113.67	72.0	75.0	73.0
SD $\pm$	± 6.67	± 4.83	± 5.27	± 13.98
t ₁		18.10 * <0.001	17.62 * <0.001	8.572 * <0.001
p ₁				
t ₂			1.34 >0.05	0.21 * <0.05
p ₂				
t ₃				0.29 >0.05
p ₃				

where: -

t₁ :- GI, GII and G III versus control group .

t₂ :- GII and G III versus GI .

t₃ :- GII versus GIII .

* :- Significant .

Table (5) : Serum albumin g/dl among the studied groups

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	4.41	2.42	2.60	2.73
SD	± 0.38	± 0.45	± 0.43	± 0.39
t ₁		10.62	9.84	9.63
p ₁		* <0.01	* <0.01	* <0.01
t ₂			0.92	1.64
p ₂			>0.05	>0.05
t ₃				0.71
p ₃				>0.05

* :- Significant .

Table (6) : Serum total protien g/dl among the studied groups

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	8.48	6.65	6.65	7.43
SD $\pm$	± 0.41	± 0.61	± 0.52	± 0.49
p ₁		9.47 * <0.01	9.47 * <0.01	5.34 * <0.01
t ₂ p ₂			0.0 >0.05	3.14 * <0.05
t ₃ p ₃				3.43 * <0.05

* :- Significant .

Table(7) : Serum creatinine mg/dl among the studied groups.

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	0.86	0.89	3.26	10.13
SD				
t ₁ p ₁		0.71 >0.05	14.86 * <0.01	19.59 * <0.01
t ₂ p ₂			11.96 * <0.01	15.79 * <0.01
t ₃ p ₃				11.15 * <0.01

* :- Significant .

Table (8) : urine creatinine mg/dl among the studied groups .

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
$\bar{X}$	98.60	105.70	127.80	149.20
SD $\pm$	± 10.71	± 9.52	± 16.00	± 37.11
t_1		1.69	5.48	5.02
p_1		>0.05	* <0.01	* <0.01
t_2			3.75	3.59
p_2			* <0.05	* <0.05
t_3				1.67
p_3				>0.05

* :- Significant .

Table (9) : urine volume ml/24 hs. among the studied groups .

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	1546	1504	1674	502.70
SD ±	±94.54	±106.97	±126.94	±76.27
p ₁		1.05 ≥0.05	2.89 ↓ <0.05	29.11 ↓ * <0.01
t ₂ p ₂			3.25 * <0.05	24.13 * <0.001
t ₃ p ₃				25.02 * <0.001

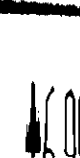
* :- Significant .

Table (10) : Creatinine clearance ml/min. among the studied groups .

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	122.76	124.05	48.26	4.86
SD $\pm$	± 1.89	± 2.16	± 11.10	± 0.74
t ₁ p ₁		1.58 >0.05	25.70 * <0.01	186.58 * <0.001
t ₂ p ₂			21.19 * <0.001	164.85 * <0.001
t ₃ p ₃				12.34 * <0.001

* :- Significant .

Table (11) : Serum sodium mmol/l. among the studied groups .

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	145.39	143.50	145.00	144.20
SD				
t ₁		-.64	0.29	0.54
p ₁		>0.05	>0.05	>0.05
t ₂			0.40	0.19
p ₂			>0.05	>0.05
t ₃				0.26
p ₃				>0.05

* :- Significant .

Table (12) : Urine sodium mmol/l. among the studied groups.

	Control (n=15)	GI (n=10)	G II (n=10)	G III (n=10)
$\bar{X}$	154.80	155.10	184.00	189.80
SD $\pm$	± 17.44	± 18.89	± 29.99	± 5.63
t_1		0.04	3.09	6.10
p_1		>0.05	* <0.05	* <0.01
t_2			2.58	5.47
p_2			* <0.05	* <0.01
t_3				0.60
p_3				>0.05

* :- Significant .

Table (13) : Sodium excretion equation among the studied groups.

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
X	0.86	0.87	3.23	9.62
SD ±	±0.19	±0.19	±0.60	±1.85
t ₁ p ₁		0.07 >0.05	14.47 * <0.01	18.63 * <0.01
t ₂ p ₂			11.95 * <0.01	15.08 * <0.01
t ₃ p ₃				10.52 * <0.01

* :- Significant .

*Excretion fraction filtered sodium :

$$\frac{\text{Serum creatinine mg/dl} \times \text{Urine sodium mmol/l}}{\text{Urine creatinine mg/dl} \times \text{Serum sodium mmol/l}} \times 100$$

(Espinel and Gregory 1980).

Table (14 a) : Plasma endothelin level pg / ml.
among the studied groups

	Control (n=15)	G I (n=10)	G II (n=10)	G III (n=10)
$\bar{X}$	4.01	4.70	4.96	5.69
SD $\pm$	± 0.68	± 1.10	± 1.31	± 1.29
t_1 p_1		1.97 * <0.05	2.39 * <0.05	4.26 * <0.01
t_2 p_2			0.44 >0.05	1.79 >0.05
t_3 p_3				1.26 >0.05

* :- Significant .

Table (14 b) : Plasma endothelin level pg / ml.among the studied groups

	Control (n=15)	Compensated Group (n=9)	Decompensated Group (n=21)
X	4.01	4.14	5.55
SD $\pm$	± 0.68	± 0.60	± 1.13
t ₁		0.43 >0.05	4.10 * <0.01
p ₁			
t ₂			4.41 * <0.01
p ₂			

where :

t₁ : compensated and decompensated groups versus control group

t₂ : compensated group against decompensated group.

* :- Significant .

Table (15) Correlation coefficient (r) and probability (p) between Endothelin and other Variable.

Variable	Endothelin	
	r	p
serum albumin	- 0.309	* < 0.05
Prothrombin activity	- 0.380	* < 0.05
Serum creatinine	+0.515	** < 0.05
Creatinine clearance	- 0.475	* < 0.05
Sodium excretion fraction	+ 0.430	** < 0.05

* Negative significant correlation

** Positive significant correlation

GROUP I

1	2	3	4	5	6	7	8	9	10	no
16	18	16	16	16	18	18	16	17	17	P.V.
7.0	9.0	10.0	7.5	7.9	9.2	8.5	8.0	9.0	9.0	Hb g/dl
3.7	2.0	2.9	3.0	2.1	2.1	3.0	2.3	2.2	2.9	RBCs mil./cmm
4.100	9.700	7.500	6.200	7.500	5.500	9.500	7.500	5.500	8.200	WBCs thous./cmm
180.000	182.000	175.000	179.000	169.000	176.000	170.000	173.000	175.000	180.000	Platelets thous./cmm
59%	37%	66%	50%	45%	62%	50%	50%	50%	30%	N%
37%	59%	25%	40%	44%	39%	40%	45%	46%	53%	L%
35%	4%	8%	8%	10%	2%	10%	5%	3%	15%	E%
1%	0%	1%	2%	1%	0%	0%	0%	0%	2%	B%
0.8	0.8	1	0.9	1	0.9	1	0.9	0.7	0.9	S. cr. mg/dl
98	100	102	98	115	110	118	112	89	115	U. cr. mg/dl
127.6	125.9	120.0	124.8	125.4	123.0	125.0	121.0	123.6	124.2	Cr. cleran.
142	145	140	145	173	140	160	158	143	152	S. Na mmol /l
173	165	120	163	160	170	170	160	145	125	U. Na mmol /l
0.99	1.08	0.84	1.03	0.99	0.99	0.50	0.81	0.79	0.64	Equation
2.9	1.8	3.0	2.5	2.1	1.7	2.7	2.4	2.8	2.3	S. alb. g/dl
6.9	5.5	7.3	7.4	6.0	6.2	7.0	6.8	6.4	7.0	S total ptn. g/dl
55%	55%	65%	60%	50%	60%	55%	60%	50%	70%	Proth. activ.
3.90	3.91	3.90	5.55	3.71	4.18	3.70	6.36	6.45	5.55	Endoth.pg/ml

Cases number 2,3,5 and 6 had compensated portal hypertension

GROUP II

1	2	3	4	5	6	7	8	9	10	no
17	18	17	17	18	16	17	17	16	16	P.V.
8.9	8.3	7.9	9.0	7.2	10.0	8.9	7.5	9.5	10.0	Hb g/dl
3.0	2.8	2.4	2.9	2.2	3.2	3.0	2.4	2.9	3.0	RBCs mil./cmm.
11.400	10.230	7.400	8.300	9.500	8.400	7.200	8.200	6.400	5.200	WBCs thous./cmm.
182.000	173.000	177.000	182.000	171.000	179.000	182.000	180.000	172.000	170.000	Platelets thous./cmm
58%	54%	50%	48%	49%	63%	60%	50%	55%	63%	N%
36%	40%	48%	39%	40%	30%	38%	40%	44%	36%	L%
10%	6%	2%	12%	10%	6%	2%	8%	1%	1%	E%
1%	0%	0%	1%	1%	1%	0%	2%	0%	0%	B%
3.1	2.7	3.1	3.3	3.2	3.0	4.9	2.9	3.5	2.9	S. cr. mg/dl
131	135	142	130	139	140	130	102	119	100	U. cr. mg/dl
50.77	61.90	57.25	51.89	44.95	65.75	31.96	40.30	39.47	38.31	Cr. cleran.
159	151	150	133	143	147	150	152	140	135	S. Na mmol /l
204	200	192	191	185	194	100	193	191	190	U. Na mmol /l
3.24	2.52	2.80	3.65	2.98	2.83	2.51	3.61	4.08	4.08	Equation
2.5	2.0	2.9	2.3	2.3	3.0	3.1	2.0	3.0	2.9	S. alb. g/dl
6.1	6.0	7.1	6.4	7.0	6.4	7.0	6.4	7.0	6.5	S total ptn. g/dl
55%	65%	65%	60%	45%	50%	60%	70%	65%	50%	Proth. activ
6.75	3.21	6.00	6.50	3.90	3.30	5.28	5.91	4.20	4.56	Endoth.pg/m

Cases number 5,6 and 9 had compensated portal hypertension

GROUP III

1	2	3	4	5	6	7	8	9	10	no
18	17	18	17	17	17	17	16	16	17	P.V.O.
6.8	9.9	6.9	7.3	9.9	6.5	8.8	9.5	8.0	7.8	Hb g/dl
2.9	3.2	2.1	2.5	3.1	2.9	2.9	3.1	2.8	2.8	RBCs mil./cmm.
5.400	6.870	5.800	9.200	4.100	4.700	6.900	4.500	10.230	9.200	WBCs thos./cmm.
170.000	179.000	180.000	179.000	185.000	170.000	168.000	172.000	170.000	180.000	Platelets thos./cmm
57%	49%	49%	58%	65%	55%	52%	66%	55%	8%	N%
41%	44%	48%	37%	33%	40%	44%	30%	42%	50%	L%
2%	6%	3%	5%	2%	5%	4%	3%	2%	2%	E%
0%	1%	0%	0%	0%	0%	0%	1%	1%	0%	B%
12.8	12.2	9.4	13.0	9.4	10.3	8.6	8.5	8.6	8.5	S. cr. mg/dl
192	183	180	190	141	154	192	82	129	112	U. cr. mg/dl
5.23	6.25	4.65	3.76	5.47	5.19	4.17	4.15	5.10	4.56	Cr. cleran.
148	134	147	150	153	152	140	138	135	145	S. Na mmol/l
191	198	193	195	185	176	191	190	192	190	U. Na mmol/l
8.60	9.85	10.29	28.90	8.06	7.74	9.09	14.27	9.48	9.95	Equation
2.5	3.2	2.2	3.0	3.0	3.0	2.9	3.0	2.0	2.8	S. alb. g/dl
6.9	7.4	7.0	8.3	6.9	8.0	7.5	7.9	7.4	7.0	S total ptn. g/dl
55%	50%	55%	60%	64%	50%	65%	55%	60%	70%	Proth. activ
7.50	5.25	7.80	7.05	5.25	5.70	4.65	4.95	4.41	4.35	Endoth.pg/ml

Cases number 5 and 8 had compensated portal hypertension

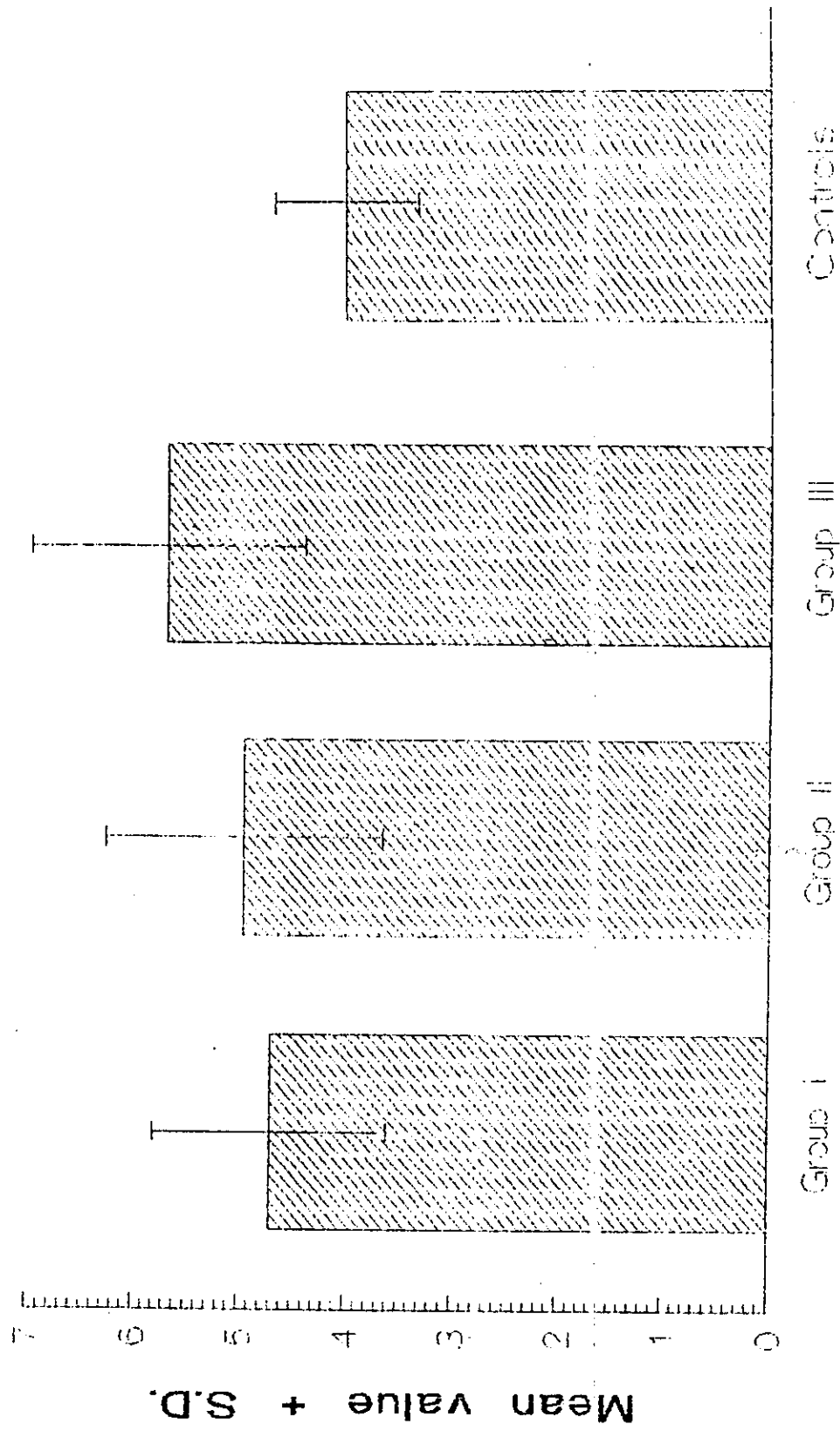
CONTROL GROUP

1	2	3	4	5	6	7	8	9	10	no
12	12	11	12	12	11	11	12	11	11	P.V. D.
15.3	15.5	15.0	13.9	14.1	14.0	13.9	13.2	14.2	14.0	Hb g/dl
5.0	5.1	5.0	4.3	4.7	4.6	4.4	4.5	4.7	4.9	RBCs mil./cmm.
4.100	8.000	5.000	7.200	8.700	6.200	6.200	5.200	5.000	4.100	WBCs thos./cmm.
183.000	190.000	183.000	189.000	190.000	187.000	187.000	180.000	183.000	180.000	Platelets thos./cmm
56%	59%	69%	51%	48%	58%	54%	62%	72%	78%	N%
42%	36%	29%	42%	49%	42%	39%	30%	26%	21%	L%
1%	5%	1%	7%	3%	2%	5%	8%	2%	1%	E%
1%	0%	1%	0%	1%	0%	2%	0%	0%	0%	B%
1	1	.9	.8	.9	1	.8	1	.9	.8	S. cr. mg/dl
120	107	102	80	104	112	89	105	100	95	U. cr. mg/dl
125.0	121.86	121.20	121.53	125.18	120.05	125.05	123.95	123.45	123.00	Cr. cleran.
140	159	163	142	145	140	162	160	140	143	S. Na mmol/l
165	162	182	130	155	160	170	165	155	160	U. Na mmol/l
0.98	1.08	0.89	0.55	0.93	1.02	0.85	0.98	0.99	0.94	Equation
4.5	4.3	4.3	3.9	4.2	3.8	4.2	4.1	4.1	4.3	S. alb. g/dl
8.9	8.9	8.9	8.6	8.5	7.9	8.2	8.3	8.3	8.1	S total ptn. g/dl
110%	110%	120%	120%	120%	110%	110%	100%	110%	110%	Proth. activ.
3.36	3.75	5.25	4.49	5.10	4.20	3.21	4.41	4.05	3.60	Endoth.pg/ml

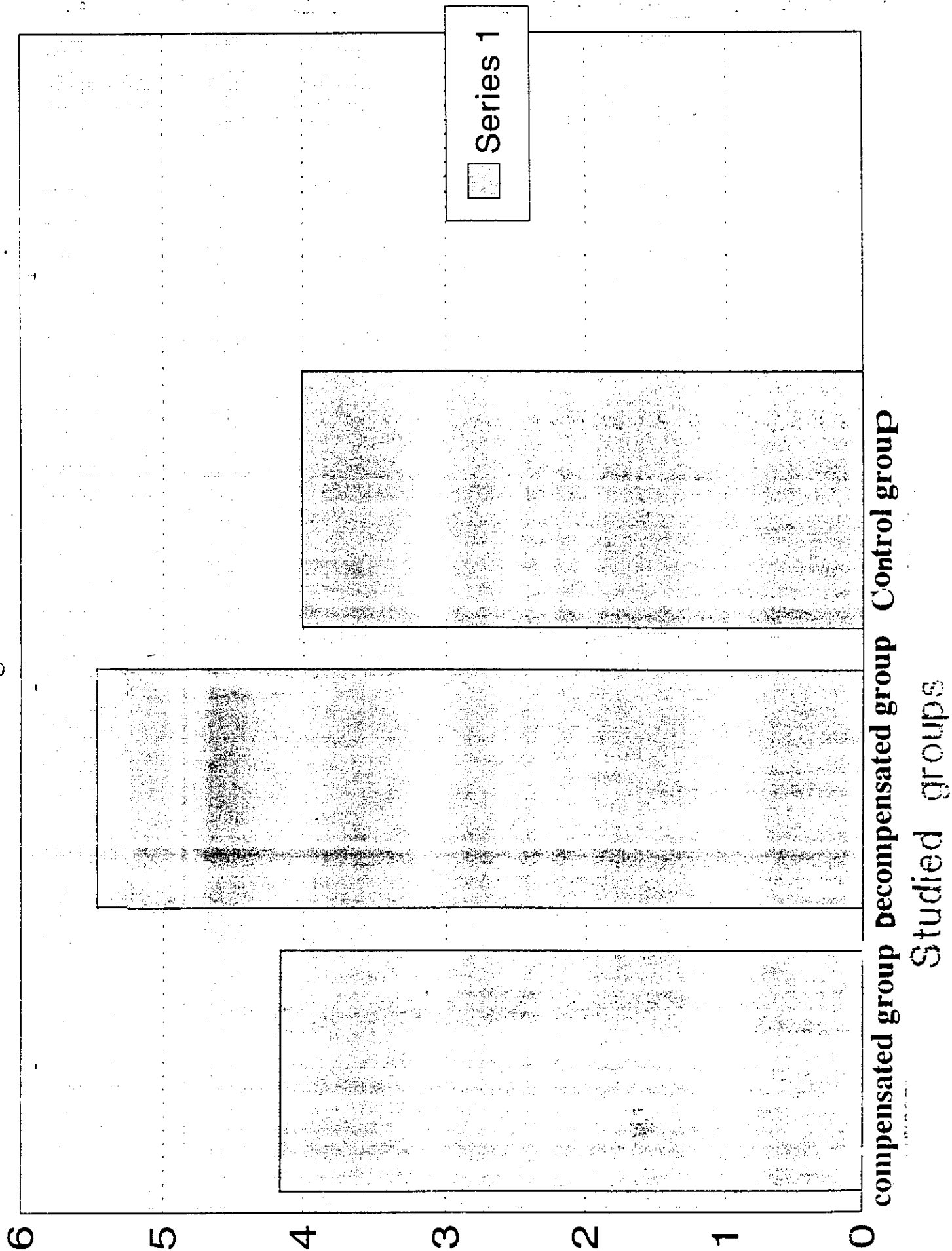
CONTROL GROUP

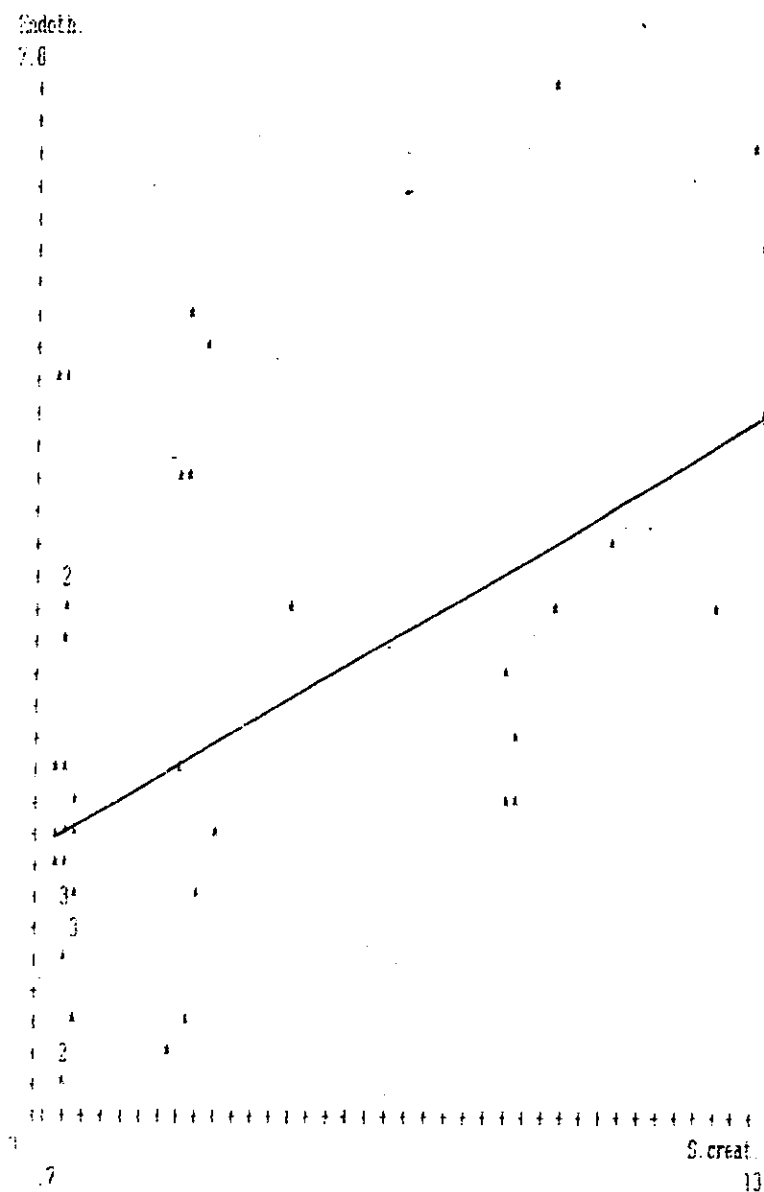
1	2	3	4	5	no
13	12	13	11	12	P.V.D
14.2	14.0	13.8	14.0	13.5	Hb g/dl
4.3	4.3	4.2	4.3	3.5	RBCs mil./cmm
6.300	5.500	5.500	5.100	6.300	WBCs thous./cmm
188.000	171.000	191.000	187.000	189.000	Platelets thous./cmm
59%	60%	57%	60%	48%	N%
38%	39%	39%	38%	50%	L%
2%	1%	3%	1%	2%	E%
1%	0%	1%	1%	0%	B%
0.8	0.7	0.7	0.8	0.8	S. cr. mg/dl
100	82	89	95	90	U. cr. mg/dl
123.26	122.60	118.89	124.52	121.09	Cr. cleran.
145	142	149	146	132	S. Na mmol/l
140	110	165	153	150	U. Na mmol/l
0.77	0.59	0.87	0.69	0.88	Equation
4.8	3.9	4.0	3.8	4.9	S. alb. g/dl
7.5	7.9	8.7	8.1	9.0	S total ptn. g/dl
125%	110%	120%	120%	110%	Proth. activ.
3.00	4.50	5.10	3.00	3.18	Endoth.pg/ml

Fig.(1): Endothelin among the studied groups



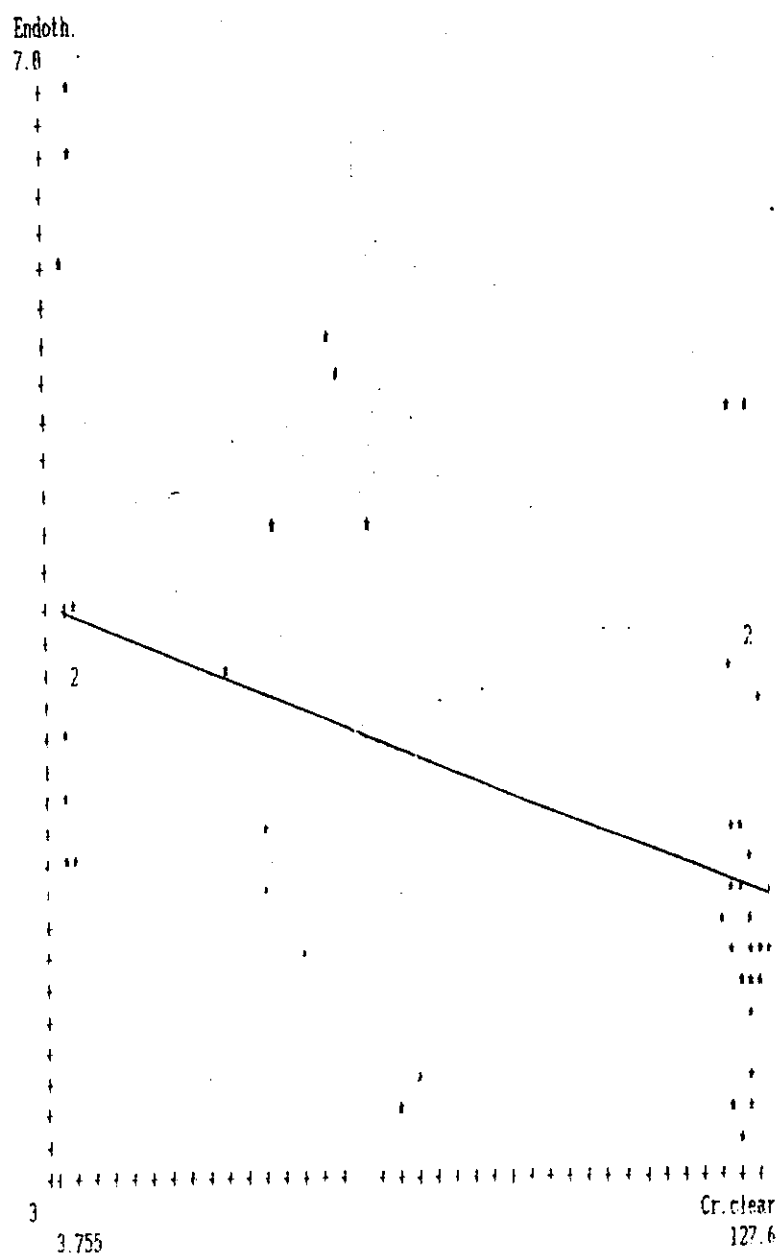
Studied groups





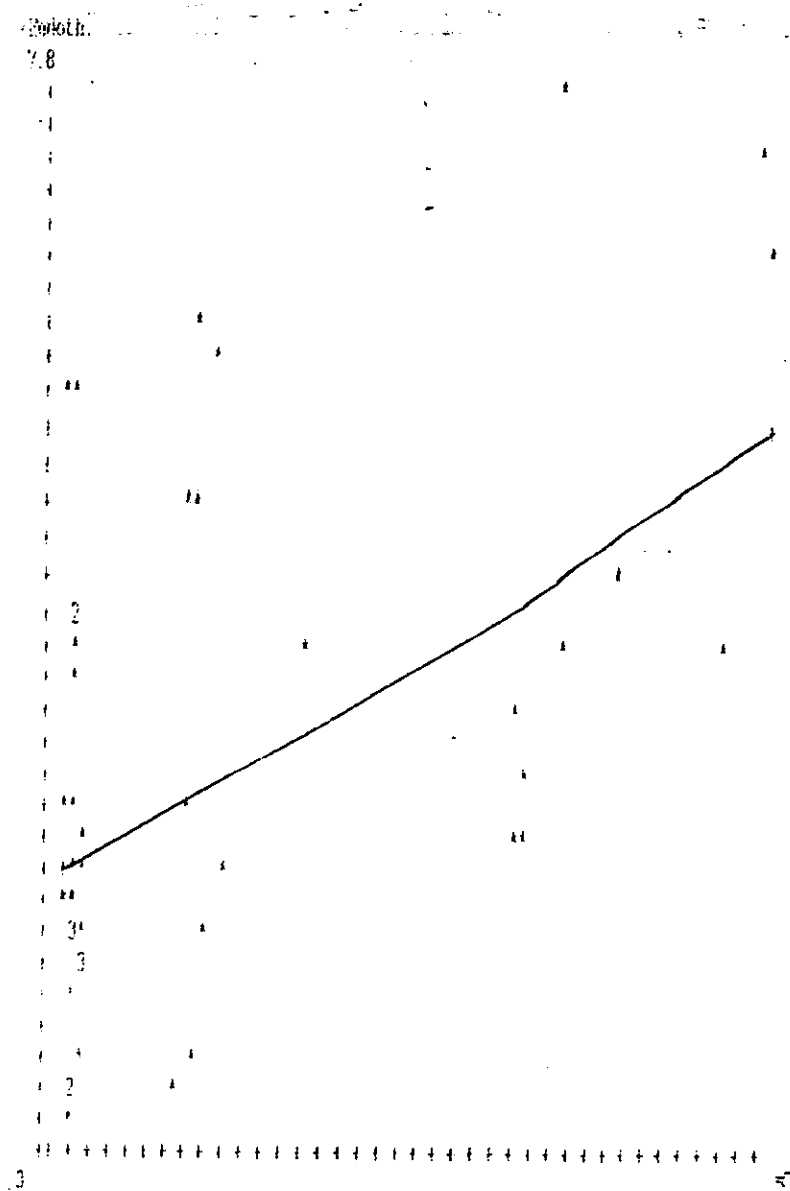
**Relationship between serum creatinine and
endothelin among the studied samples.**

Fig.(3)



**Relationship between creatinine clearance test
and endothelin among the studied samples.**

Fig. (4)



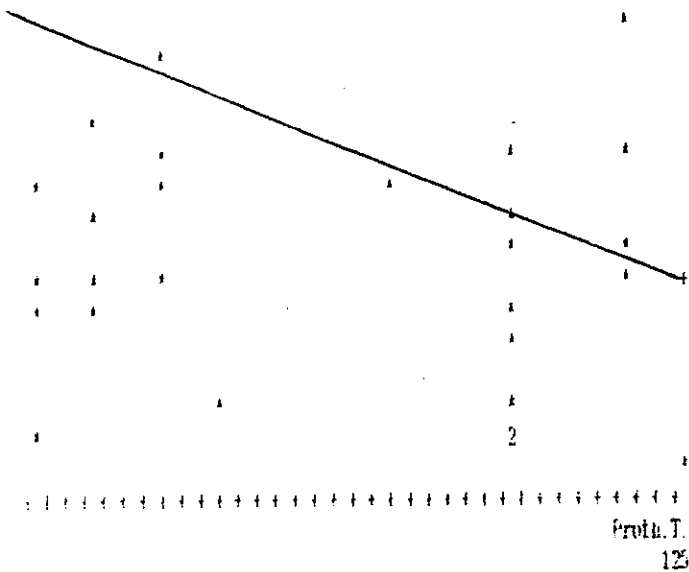
equation

5

14.27

**Relationship between Sodium excretion equation
and endothelin among the studied samples.**

Fig. (5)



relationship between prothrombin activity and
endothelin among the studied samples.

Fig. (6)