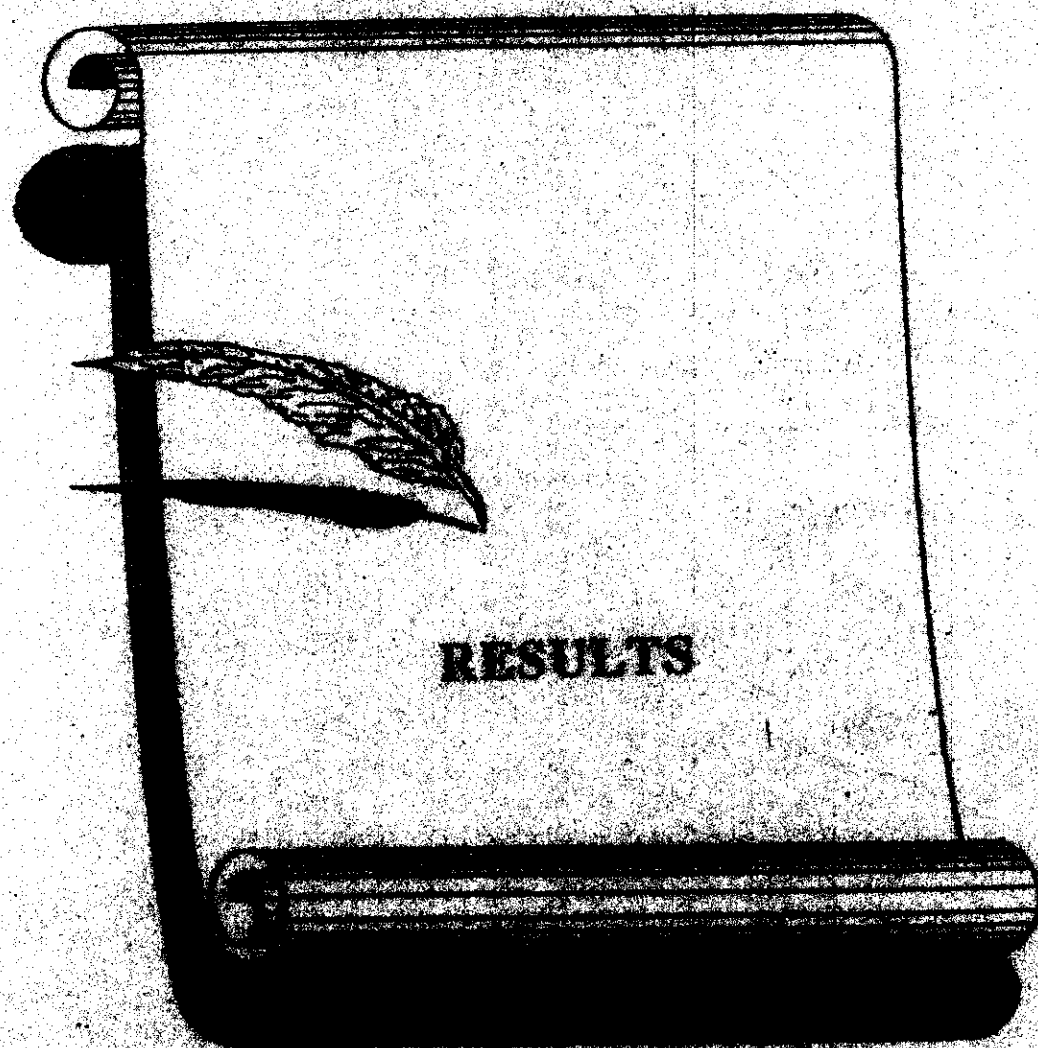




RESULTS

The results of this study are presented in the following tables and figures :

Table (4): This table shows the individual data of ANP, PRA and aldosterone in adults and children control subjects.

Table (5): This table shows the individual data of ANP, PRA and aldosterone in cirrhotic children groups.

Table (6): This table shows the individual data of ANP, PRA and aldosterone in cirrhotic adult groups.

Table (7): This table shows the mean, S.D., t and P values of control children and control adult groups .

a)The results of the control children group (13):

The mean value of PRA was 1.14 ± 0.27 ng/ml/h, ANP was 16.63 ± 4.75 ng/ml and aldosterone was 28.12 ± 8.99 pg/dl.

b)The results of the control adults group (15):

The mean value of PRA was 1.03 ± 0.43 ng/ml/h, ANP was 15.69 ± 5.69 ng/ml and aldosterone was 7.68 ± 2.18 pg/dl.

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The statistical analysis between the two group demonstrated insignificant decrease of PRA ($P > 0.05$), significant decrease of ANP ($P < 0.05$) and highly

significant decrease of aldosterone in adults group in comparison to children group .

Table (8): This table shows the mean ,S.D. ,t and P values of compensated cirrhotic and control children groups .

The results of the compensated cirrhotic children group (8):

The mean value of PRA was 1.66 ± 0.38 ng/ml/h, ANP was 19.12 ± 4.23 ng/ml and aldosterone was 69.97 ± 38.32 pg/dl .

The statistical analysis between the two groups demonstrated, highly significant increase of aldosterone ($P < 0.01$) and insignificant increase of PRA and ANP ($P < 0.05$) in compensated children in comparison to the controls.

Table (9): This table shows the mean , standard deviation (S.D) , t and p values in decompensated cirrhotic and control children groups.

The results of the decompensated cirrhotic children group (12):

The mean value of PRA was 1.66 ± 0.38 ng/ml/h, ANP was 21.1 ± 1.76 ng/ml and aldosterone was 83.12 ± 33.8 pg/dl .

The statistical analysis of the results of decompensated cirrhotic children group shows, highly significant increase of ANP ($P < 0.05$) and aldosterone ($P < 0.05$) but there was insignificant increase of PRA in the decompensated cirrhotic children in comparison to the controls.

Table (10): This table shows the mean, S.D, t and P values of compensated and decompensated cirrhotic children groups.

The statistical analysis between the two groups demonstrated significant increase of ANP ($P < 0.05$) ,and insignificant increase of PRA and aldosterone ($P > 0.05$).

Table (11): This table shows the mean, S.D., t and P values of the compensated cirrhotic and the control adult groups .

The results of the compensated cirrhotic adults group (13):

The mean value of PRA was 2.15 ± 0.59 ng/ml/h, ANP was 21.13 ± 3.90 ng/ml and aldosterone was 61.76 ± 26.4 pg/dl .

The statistical analysis between the two groups demonstrated , highly significant increase of aldosterone ($P < 0.01$) but there was significant increase of ANP ($P < 0.05$) and insignificant increase of PRA ($P > 0.05$) in the compensated cirrhotic adults in comparison to the control

Table (12) This table shows the mean , standard deviation (S.D),t and p values in decompensated cirrhotic and control adults groups.

The results of the decompensated cirrhotic adults group (7):

The mean value of PRA was 2.68 ± 0.77 ng/ml/h, ANP was 23.28 ± 1.32 ng/ml and aldosterone was 66.84 ± 26.03 pg/dl .

The statistical analysis of the results of the decompensated cirrhotic adults group shows, highly significant increase of ANP ($P < 0.01$) and aldosterone ($P < 0.01$) but significant increase of PRA in comparison to the controls.

Table (13): This table shows the mean, S.D., t and P values of compensated and decompensated cirrhotic adults groups

The statistical analysis between the two groups show insignificant increase of PRA, ANP and aldosterone ($P > 0.05$).

Table (14): This table shows the correlation coefficient of the three variables in cirrhotic children. There is positive correlation between PRA and aldosterone.

Table (15): This table shows the correlation coefficient of the three variables in compensated cirrhotic children. there is insignificant correlation.

Table (16): This table shows the correlation coefficient of the three variables in the cirrhotic decompensated children. There is positive correlation between aldosterone and ANP.

Table (17): This table shows the correlation coefficient of the three variables in the cirrhotic adults. There is significant correlation between aldosterone and ANP.

Table (18): This table shows the correlation coefficient of the three variables in the cirrhotic compensated adults. There is insignificant correlation.

Table (19): This table shows the correlation coefficient of the three variables in the cirrhotic decompensated adults. There is positive correlation between aldosterone and ANP.

Table (20): This table shows the individual clinical data of the (20) cirrhotic children.

Table (21): This table shows the individual clinical data of the (20) cirrhotic adults.

Table (22): This table shows the mean , S.D, t and P values of the liver and kidney function tests of the control group and the decompensated cirrhotic children group.

Table (23): This table shows the mean and S.D, t and P values of the liver and kidney function tests of the control group and the decompensated cirrhotic children group.

Table (24): This table shows the mean and S.D, t and P values of the liver and kidney function tests of the control group and the compensated cirrhotic adult group.

Table (25): This table shows the mean and S.D, t and P values of the liver and kidney function tests of the control group and the decompensated cirrhotic adult group.

Figure (5): It shows the mean of PRA in the children groups.

Figure (6): It shows the mean of ANP in the children groups.

Figure (7): It shows the mean of aldosterone in the children groups.

Figure (8): It shows the mean of PRA in the adult groups.

Figure (9): It shows the mean of ANP in the adult groups.

Figure (10): It shows the mean of aldosterone in the adult groups.

Figure (11): It shows positive correlation between aldosterone and ANP in decompensated cirrhotic children group .

Figure (12): It shows positive correlation between aldosterone and PRA in cirrhotic children groups.

Figure (13): It shows positive correlation between aldosterone and ANP in cirrhotic adult groups.

Figure(14): It shows positive correlation between aldosterone and ANP in decompensated cirrhotic adult groups.

Table (4) :

**Individual data of ANP (ng/ml), aldosterone (SA)(pg/ml) and
PRA (ng/ml/h) in adult and children control subjects.**

	Control adult			control children		
	ANP	SA	PRA	ANP	SA	PRA
1	20.6	11.8	0.5	21.1	41.1	1.1
2	20.2	5.4	0.8	21.2	39.8	1.5
3	21.4	5.6	0.6	20.4	34.7	1.1
4	21.8	9.8	0.8	16.7	27.6	1.2
5	9.1	7.7	1.2	10.2	14.5	1
6	10.4	6.7	1.2	12.1	20.4	0.8
7	9.2	6.8	1.7	20.9	32.2	1.2
8	10.2	5.3	1.9	19.3	36.8	1.5
89	10.9	4.9	1.6	21.8	29.1	1.3
10	9.4	7.2	1.1	11	20.1	0.9
11	18.3	10.1	0.7	10.5	16.7	0.7
12	20.7	9.4	0.9	24.9	38.2	1.6
13	21.8	9.2	0.9	11.4	22.8	1
14				12	17.4	0.9
15				20	30.5	1.4

Table (5):

**Individual data of ANP (ng/ml), aldosterone (SA)(pg/ml) and
PRA (ng/ml/h) in cirrhotic children groups.**

No	Compensated			Decompensated		
	ANP	SA	PRA	ANP	SA	PRA
1	22	37.3	0.8	21	116.6	1.8
2	15.7	56	1.2	21.4	93.7	1.7
3	17.3	128	1.5	20.2	34.2	1.2
4	22.5	39.9	0.9	20.9	35.7	1.3
5	21.5	46.6	1.1	21.5	64.2	2.1
6	22.9	35.7	1.8	22.8	101.8	2.4
7	10.8	114	1.9	22.8	54	1.5
8	20.3	101.5	1.7	21.1	111	1.8
9				22.9	150	1.2
10				18.3	131.8	2.1
11				22.9	120.3	1.5
12				17.5	76.2	1.4

Table (6):

**Individual data of ANP (ng/ml), aldosterone (SA) (pg/ml) and
PRA (ng/ml/h) in cirrhotic adult groups.**

NUM	Compensated			Decompensated		
	ANP	PA	PRA	ANP	PA	PRA
1	21.9	55.3	2.6	24	87.3	2.9
2	25.4	96.6	2.7	22.9	64.6	1.9
3	21.5	35.7	1.8	22	35.8	1.8
4	22.8	90.2	1.7	23	59.3	3.8
5	11.6	33	1.5	25.2	89.8	3.4
6	21.5	77.1	1.8	21.5	33.2	2.1
7	22	33.5	2.1	24.4	97.9	2.9
8	14	38.6	2.9			
9	24.1	59.6	3.1			
10	22.9	54.1	2.9			
11	21.1	92.2	1.5			
12	23	101.4	1.8			
13	22.9	35.7	1.6			

Table(7):

statistical analysis of PRA, ANP, and aldosterone of control children and control adult groups.

	Mean	S.D	t-value	P
PRA children	1.14	0.27	0.55	0.092
Adults (ng/ml/h)	1.03	0.43		
ANP children	16.63	4.75	- 0.47	0.054
Adults (ng/ml)	15.69	5.69		
SA children	28.12	8.99	- 0.47	0.054
Adults (pg/ml)	7.68	2.18		

This table shows insignificant decrease of PRA, significant decrease of ANP, and high significant decrease of aldosterone in the adult groups in comparison to the children groups .

Table(8):

Statistical analysis of PRA, ANP, and Aldosterone in compensated cirrhotic children (8) and control children(15)groups.

	Mean	S.D	t-value	P
PRA controls	1.14	0.27	4.10	0.17
compensated. (ng/ml/h)	1.36	0.42		
ANP controls	16.63	4.23	1.24	0.23
compensated (ng/ml)	19.12	4.75		
SA controls	28.12	8.99	3.04	000
compensated (pg/ml)	69.97	38.32		

This table shows a high significant increase of aldosterone ($p < 0.01$) in compensated cirrhotic children in comparison to control children group.

Table(9):

**Statistical analysis of PRA, ANP, and Aldosterone in
decompensated children(12) and control children (15) groups.**

	Mean	S.D	t-value	P
PRA	1.14	0.27	4.10	0.17
control. Chil				
decomp. Chil.	1.66	0.38		
(ng/ml/h)				
ANP	16.63	4.75	3.37	000
controls				
decompensated	21.10	1.76		
(ng/ml)				
SA	28.12	8.99		
controls				
decompensated	83.12	33.8	5.47	000
(pg/ml)				

This table shows a high significant increase of aldosterone , ANP and insignificant increase of PRA in decompensated children in comparison to control children groups.

Table(10):

Statistical analysis of PRA, ANP, and Aldosterone in compensated children (8) and decompensated children(12)groups.

	Mean	S.D	t-value	P
PRA compensated	1.36	0.42	- 1.66	0.59
decompensated (ng/ml/h)	1.66	0.38		
ANP compensated	19.12	4.23	- 1.26	0.01
decompensated (ng/ml)	21.10	1.76		
PA compensated.	68.72	39.34	- 0.87	0.43
decompensated (pg/dl)	83.12	33.89		

This table shows significant increase of ANP and insignificant increase in PRA and aldosterone in decompensated children group in comparison to compensated children group.

Table(11):

Statistical analysis of PRA, ANP, and Aldosterone in compensated adults (13) and control adults (13) groups.

	Mean	S.D	t-value	P
PRA controls	1.06	0.43	5.30	0.06
compensated. (ng/ml/h)	2.15	0.59		
ANP controls	15.56	5.69	2.84	0.03
compensated (ng/ml)	21.13	3.90		
SA controls	7.68	2.18	7.35	000
compensated (pg/ml)	61.76	26.4		

This table shows a high significant increase of aldosterone, significant increase in ANP and insignificant increase of PRA in the compensated adult group in comparison to the control adult group.

Table(12):

**Statistical analysis of PRA, ANP, and Aldosterone in
decompensated adults (7) and control adults (13)groups.**

	Mean	S.D	t-value	P
PRA controls	1.06	0.43	5.11	0.035
decompensated (ng/ml/h)	2.68	0.77		
ANP controls	15.69	5.69		
decompensated (ng/ml)	23.28	1.32	4.58	000
SA controls	7.68	2.18	6.00	000
decompensated (pg/ml)	66.84	26.03		

This table shows a high significant increase of ANP and aldosterone but significant increase of PRA in decompensated cirrhotic adult group in comparison to control adult group.

Table(13):

**Statistical analysis of PRA, ANP, and Aldosterone in
compensated adult (13) and decompensated adult(7) groups.**

	Mean	S.D	t-value	P
PRA compensated	2.15	0.59	- 1.72	0.36
decompensated (ng/ml/h)	2.68	0.77		
ANP compensated	21.13	3.90	- 1.40	0.19
decompensated (ng/ml)	23.28	1.32		
SA compensated	61.76	26.42	- 0.41	0.77
decompensated (pg/ml)	66.84	26.03		

This table shows insignificant increase of ANP, PRA and aldosterone in compensated adult group in comparison to decompensated adult group.

Table(14):

Correlation coefficient in cirrhotic children patients group.

	ALD	ANP	PRA
ALD	1.0000 p = (0.000)	-0 .3435 p = (0.138)	0.6282 p = (0.03)
ANP	- 0.3435 p = (0.772)	1.0000 p = (0.000)	-0.1146 p = (0.630)
PRA	0.6282 p = (0.03)	-0 .1146 p = (0630)	1.0000 p = (0.000)

This table shows significant positive correlation between PRA and aldosterone .

Table(15):

Correlation coefficient in compensated cirrhotic children.

	ALD	ANP	PRA
ALD	1.0000 p = (0.00)	-0 .6806 p = (0.063)	0.6104 p = (0.108)
ANP	-0 .6806 p = (0.063)	1.0000 p = (0.00)	-0 .4754 p = (0.234)
PRA	0.6104 p = (0.108)	- 0.4754 p = (0.234)	1.0000 p = (0.000)

This table shows insignificant correlation .

Table(16):

Correlation coefficient in decompensated cirrhotic children group.

	ALD	ANP	PRA
ALD	1.0000 p = (0.00)	- 0.0938 p = (0.772)	0.6070 p = (0.036)
ANP	- 0.0938 P = (0.772)	1.0000 p = (0.00)	0.0311 p = (0.924)
PRA	0.6070 p = (0.36)	0.0311 p = (0.924)	1.0000 p = (0.00)

This table shows positive correlation between aldosterone and ANP.

Table(17):

Correlation coefficient in cirrhotic adult patients group.

	ALD	ANP	PRA
ALD	1.0000 p = (0.00)	0.5208 p = (0.019)	0.1863 p = (0.432)
ANP	0.5208 p = (0.19)	1.0000 p = (0.00)	0.3203 p = (0.169)
PRA	0.1863 p = (0.432)	0.3203 p = (0.169)	1.0000 p = (0.000)

This table shows significant positive correlation between aldosterone and ANP .

Table(18):

Correlation coefficient in compensated cirrhotic adult group.

	ALD	ANP	PRA
ALD	1.0000 p = (0.00)	0.4919 p = (0.088)	-0.0910 p = (0.768)
ANP	0.4919 P = (0.088)	1.0000 p = (0.00)	0.1803 p = (0.556)
PRA	-0.0910 p = (0.768)	0.1803 p = (0.556)	1.0000 p = (0.000)

This table shows insignificant correlation

Table(19):

Correlation coefficient in cirrhotic decompensated adult group.

	ALD	ANP	PRA
ALD	1.0000 p = (0.00)	0.9498 p = (0.001)	0.5628 p = (0.188)
ANP	0.9498 P = (0.001)	1.0000 p = (0.00)	0.6403 p = (0.121)
PRA	0.5628 p = (0.188)	0.6403 p = (0.121)	1.0000 p = (0.000)

This table shows significant positive correlation between aldosterone and ANP.

Table(20):

Individual clinical data of cirrhotic children .

No	Age	Sex	Spleen	Liver	Ascites
1	13	F	-	+	-
2	13	M	+	+	-
3	1	F	+	-	-
4	3.5	F	-	+	+
5	1	M	+	-	-
6	6	M	-	+	+
7	1	M	+	+	+
8	10	M	+	-	-
9	11	M	+	+	+
10	6	F	-	+	+
11	3	M	+	-	+
12	9	F	+	-	-
13	7	M	-	+	+
14	12	M	+	+	+
15	12	M	-	+	+
16	13	M	-	+	-
17	14	F	+	+	+
18	15	M	+	-	+
19	11	F	+	+	+
20	1	F	-	+	-

Table(21):

Individual clinical data of cirrhotic adults.

No	Age	Sex	Spleen	Liver	Ascitis
1	54	M	-	+	-
2	46	M	-	+	-
3	43	M	-	+	-
4	42	M	-	-	+
5	35	M	-	-	+
6	36	F	-	+	-
7	50	F	-	+	-
8	56	M	-	-	-
9	32	M	+	+	-
10	43	M	+	+	-
11	51	M	+	-	+
12	59	M	+	+	-
13	42	M	+	+	+
14	35	F	-	+	-
15	45	M	+	+	-
16	55	F	+	+	-
17	58	M	+	-	+
18	50	M	+	-	+
19	48	F	+	+	-
20	40	M	-	+	+

Table (22) :

**Liver and kidney function tests of the decompensated
cirrhotic children and the control children groups.**

	Decompensated	Control	t- value	p
Prothrombin %	71.5 ± 10.2	95.2 ± 5.3	23.97	<0.001
T. protein g/dl	6.6 ± 0.31	7.2 ± 0.35	12.26	>0.05
Albumin g/dl	2.7 ± 0.31	4.5 ± 0.33	12.46	<0.001
S. bilirubin ml/dl	2.3 ± 0.64	0.7 ± 0.16	24.1	<0.001
GPT U/dl	63 ± 5.8	9.8 ± 1.2	25.7	<0.001
GOT U/dl	59 ± 6.9	10.9 ± 1.0	29.6	<0.001
S. ALP KA / dl	32 ± 4.7	17.0 ± 2.4	7.73	<0.001
S. creatinine ml/dl	0.8 ± 0.35	0.54 ± 0.21	4.37	>0.05
S. sodium mml/l	128 ± 4.5	140 ± 1.9	0.07	<0.05

Table (23):

Liver and kidney function tests in compensated cirrhotic children group and the control children group.

	Compensated	Control	t- value	p
Prothrombin %	75.3 ± 10.2	95.2 ± 5.3	23.97	<0.001
T. protein g/dl	6.9 ± 0.24	7.2 ± 0.35	1.18	>0.05
Albumin g/dl	3.8 ± 0.45	4.5 ± 0.33	3.54	<0.01
S. bilirubin ml/dl	1.4 ± 0.33	0.7 ± 0.16	4.38	<0.001
GPT U/dl	19 ± 2.7	9.8 ± 1.2	3.56	<0.01
GOT U/dl	18 ± 4.5	10.9 ± 1.0	2.27	<0.05
S.ALP KA / dl	24 ± 2.5	17.0 ± 2.4	2.82	<0.05
S. creatinine ml/dl	0.7 ± 0.21	0.54 ± 0.21	1.43	>0.05
S. sodium mml/l	137 ± 3.8	140 ± 1.9	0.27	>0.05

Table (24):

Liver and kidney function tests of the compensated cirrhotic adults group and the control adult group.

		Compensated	Control	t- value	P
Prothrombin	%	90.1 ± 3.41	93.4 ± 3.13	24.52	<0.001
T. protein	g/dl	6.95 ± 0.24	7.4 ± 0.29	1.20	>0.05
Albumin	g/dl	3.69 ± 0.42	4.3 ± 0.38	3.40	<0.001
S. bilirubin	ml/d	1.02 ± 0.2	0.69 ± 0.15	4.30	<0..001
GPT	U/dl	14.8 ± 3.4	10.3 ± 2.54	3.50	<0.01
GOT	U/dl	12.5 ± 2.5	10.5 ± 1.58	2.20	<0.05
S.ALP	KA/dl	10.4 ± 2.1	7.5 ± 2.54	2.80	<0.05
S. creatinine	ml/dl	0.9 ± 0.24	0.71 ± 0.32	1.38	>0.05
S. sodium	mml/l	136 ± 3.6	139 ± 3.47	0.20	>0.05

Table (25):

Liver and kidney function tests the decompensated cirrhotic adult group and the control adult group.

		Decompensated	Control	t- value	P
Prothrombin	%	80.8± 6.58	93.4 ± 3.13	29.38	<0.001
T. protein	g/dl	6.80 ± 0.29	7.4 ± 0.29	13.01	>0.05
Albumin	g/dl	2.4 ± 0.27	4.3 ± 0.38	13.3	<0.001
S. bilirubin	ml/d	2.68 ± 0.21	0.69 ± 0.15	23.9	<0.001
GPT	U/dl	55.1 ± 3.44	10.3 ± 2.54	24.02	<0.001
GOT	U/dl	51.6 ± 4.08	10.5 ± 1.58	27.7	<0.001
S.ALP	KA/dl	18.9 ± 3.9	7.5 ± 2.54	7.70	<0.001
S. creatinine	ml/dl	1.1 ± 0.35	0.71 ± 0.32	4.32	>0.05
S. sodium	mml/l	124 ± 5.2	139 ± 3.47	0.08	<0.05

Figure: (5)

Mean of PRA in children

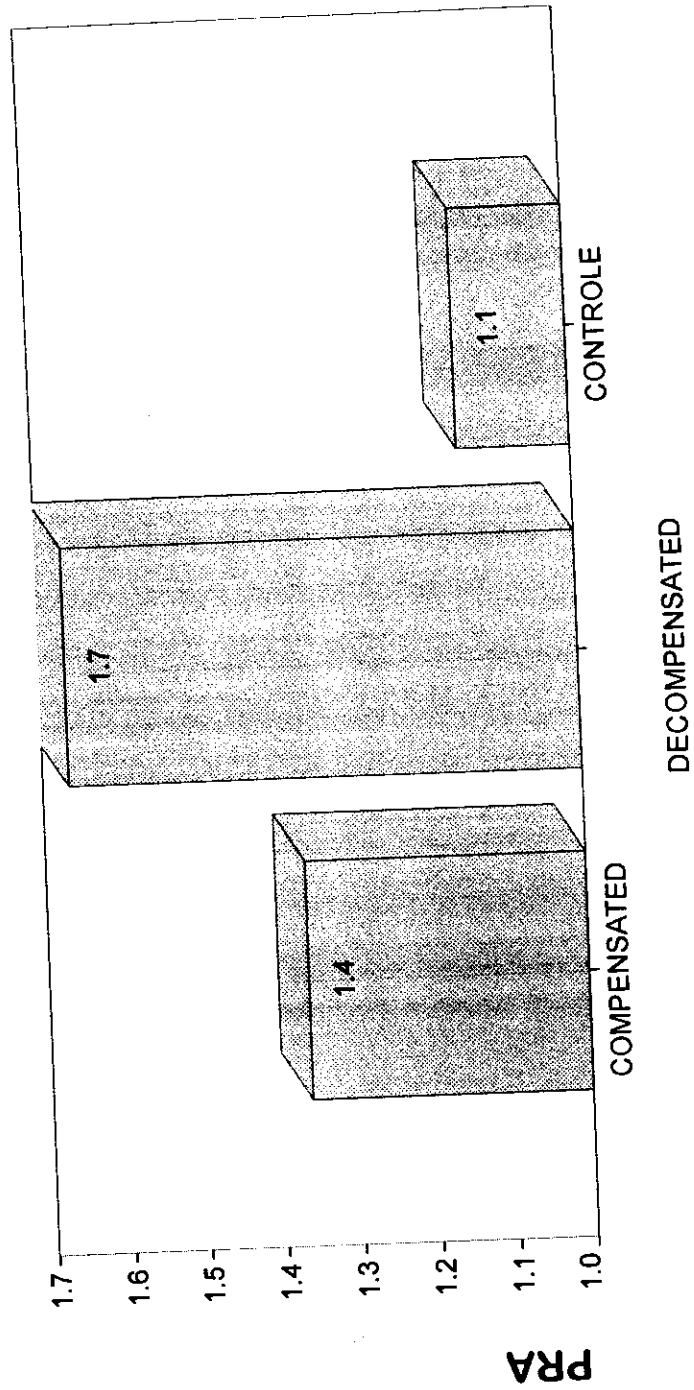
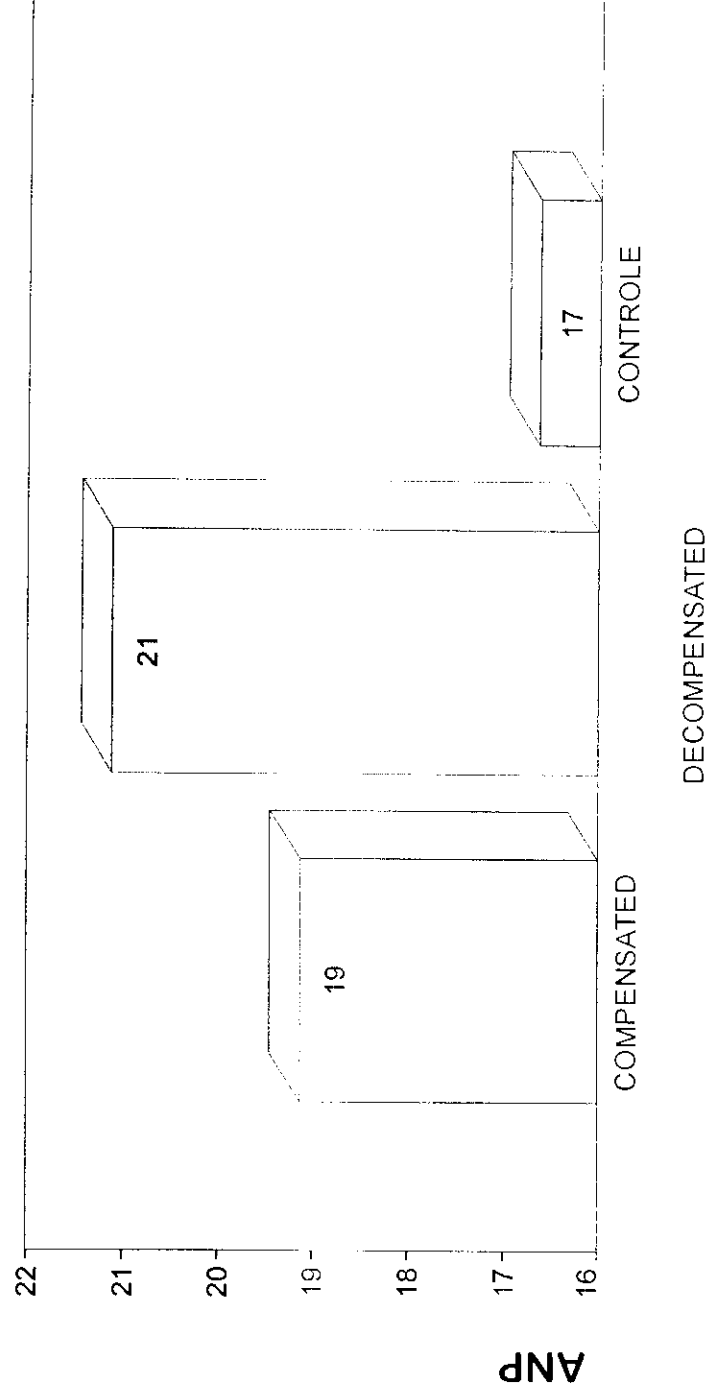


Figure :(6)

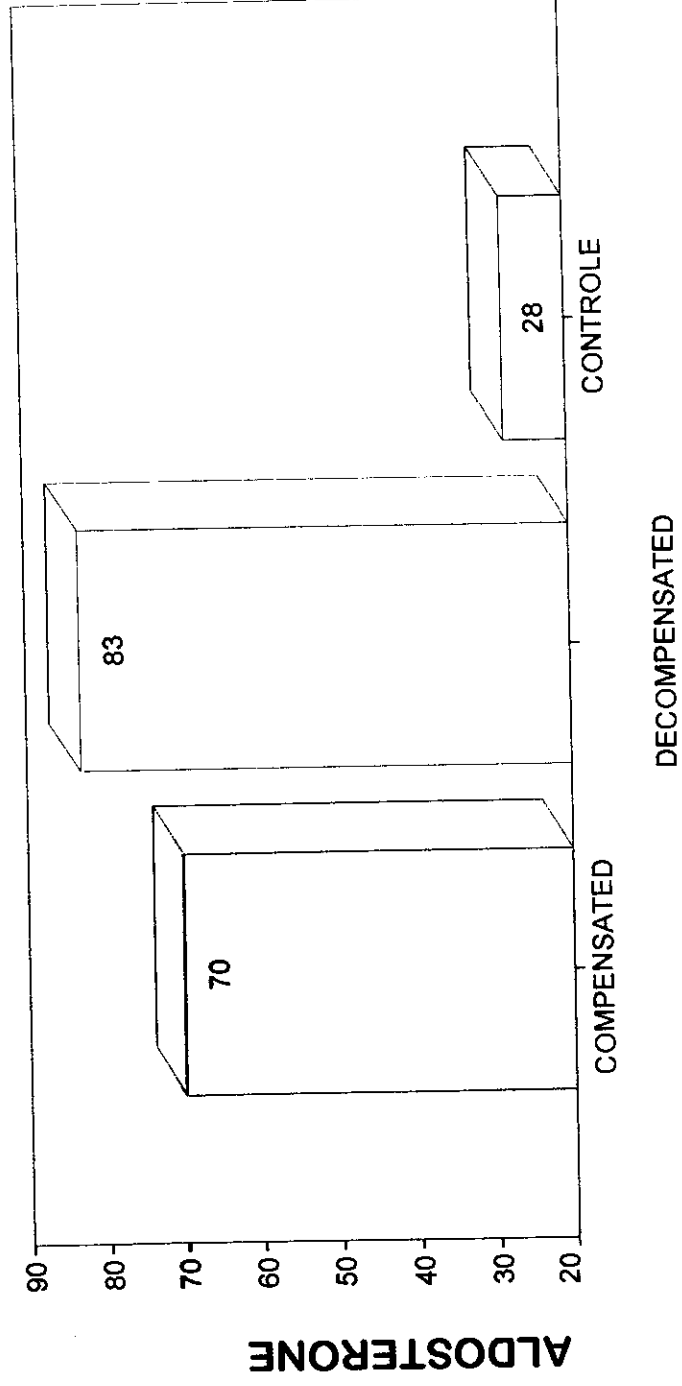
Mean of ANP in children



children group

Figure:(7)

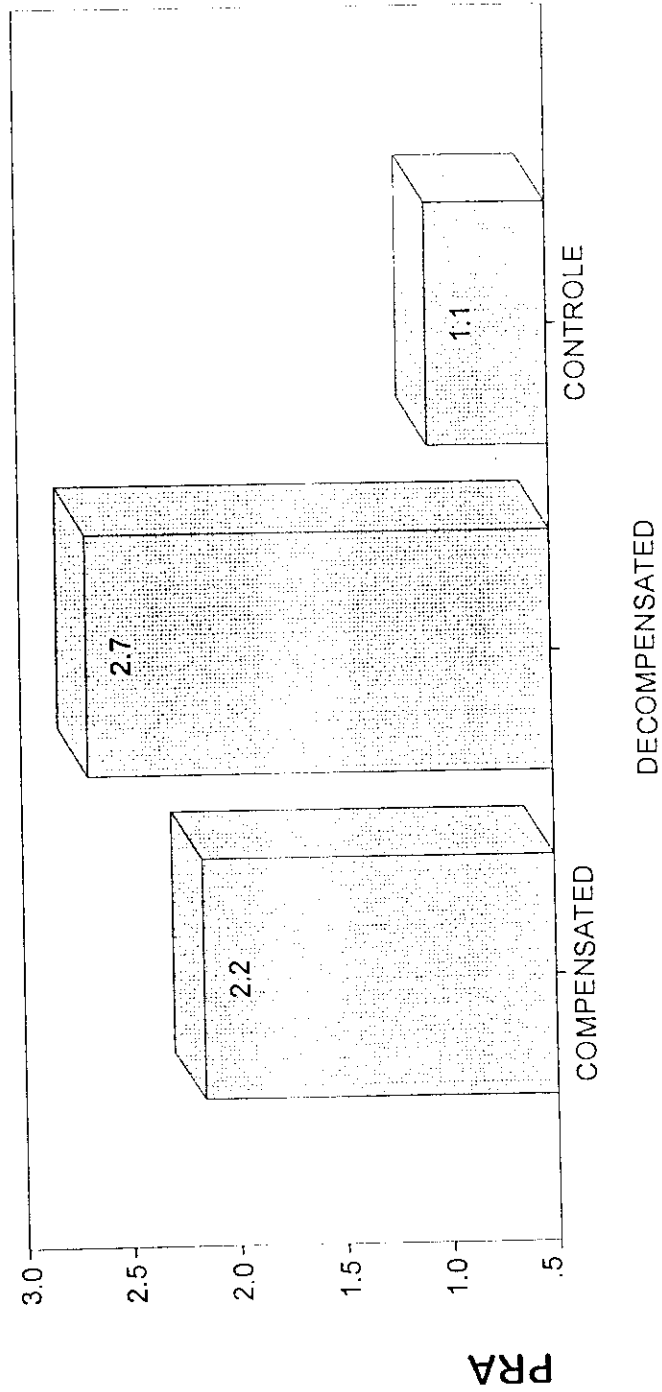
Mean of aldosterone in children



children group

Figure:(8)

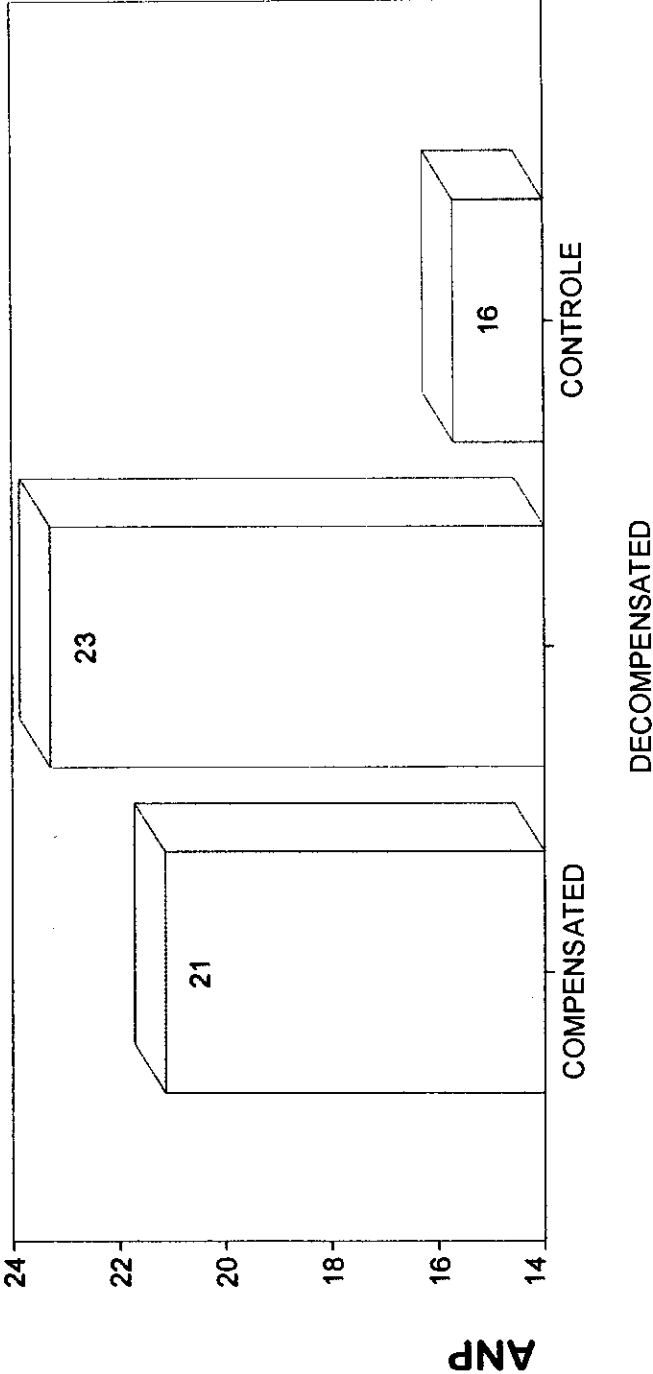
Mean of PRA in adults



Adult groups

Figure : (9)

Mean of ANP in adults



Adult groups

Figure : (10)

Mean of aldosterone in adults

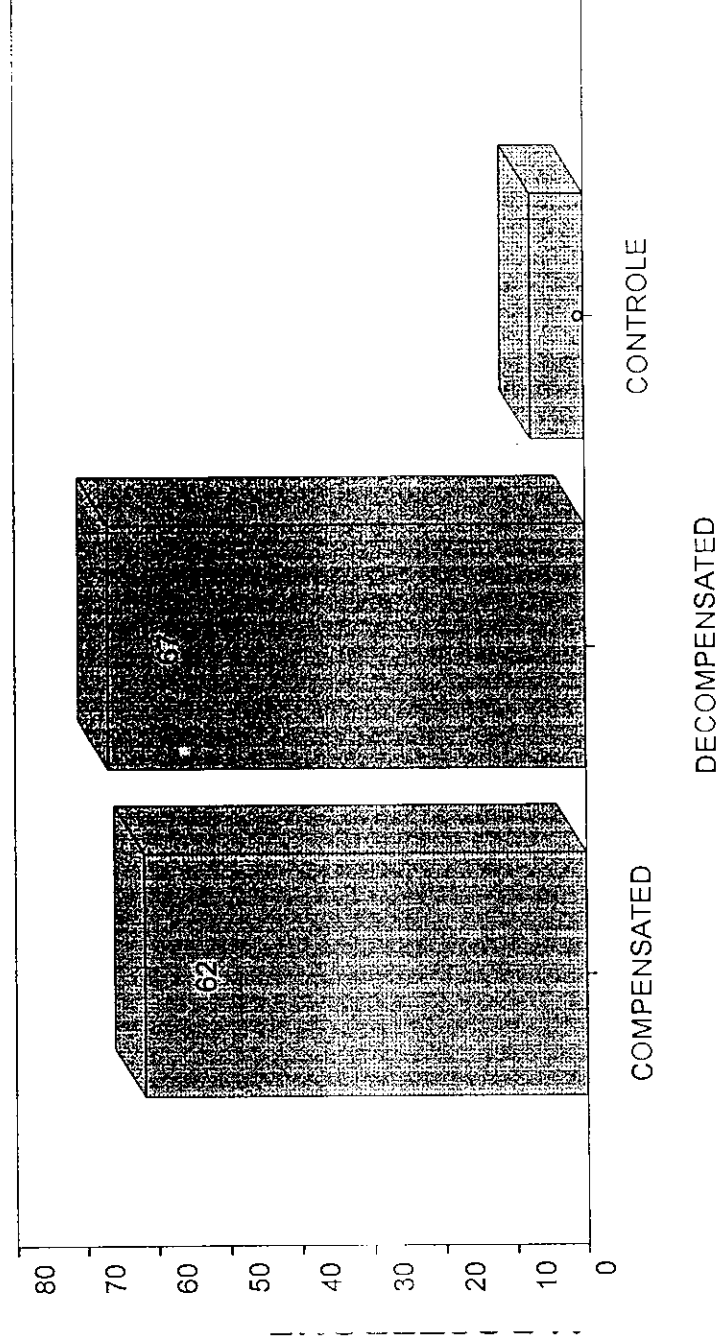


Figure-11)

Correlation of SA & ANP in decompensated children

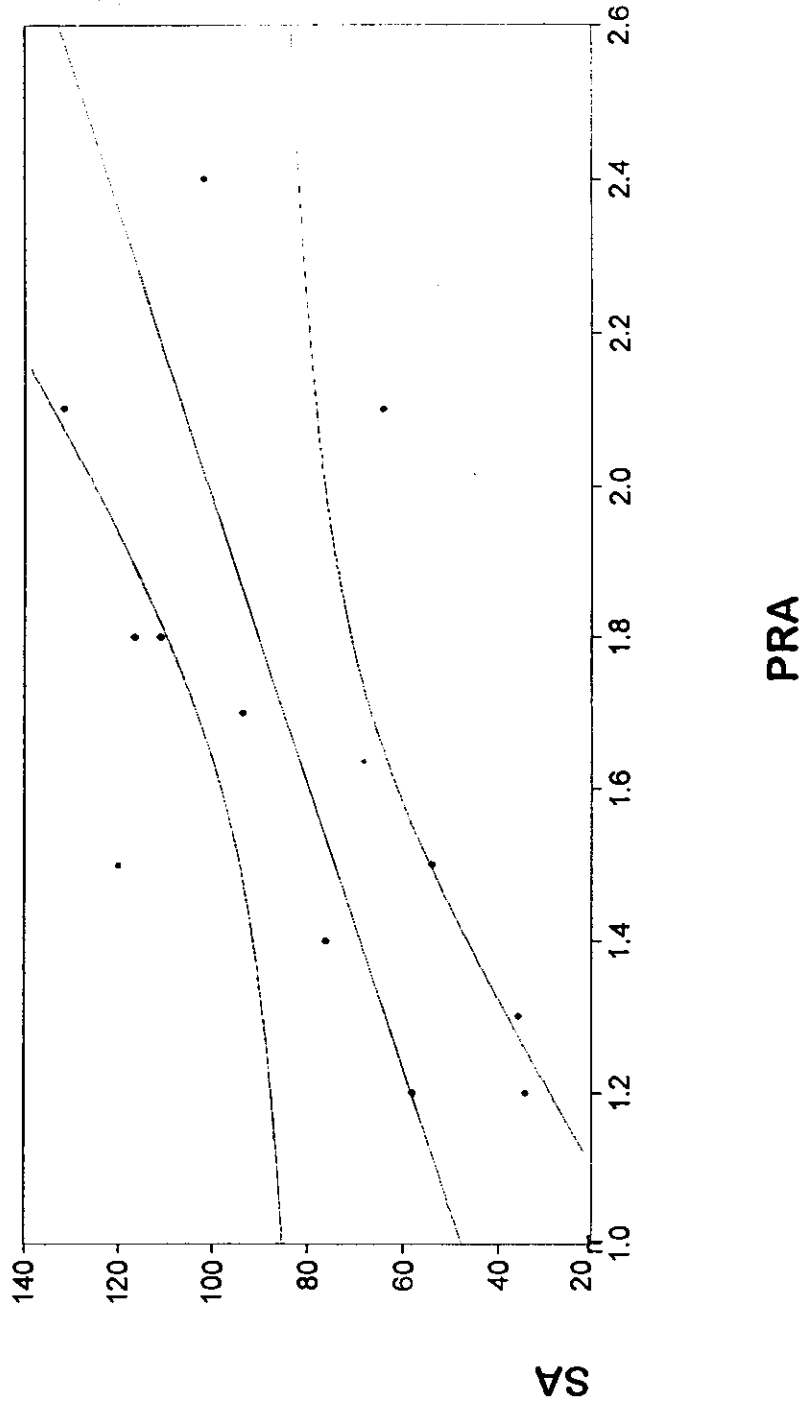


Figure 8-12

CORRELATION OF SA & PRA IN CIRRHOTIC CHILDREN

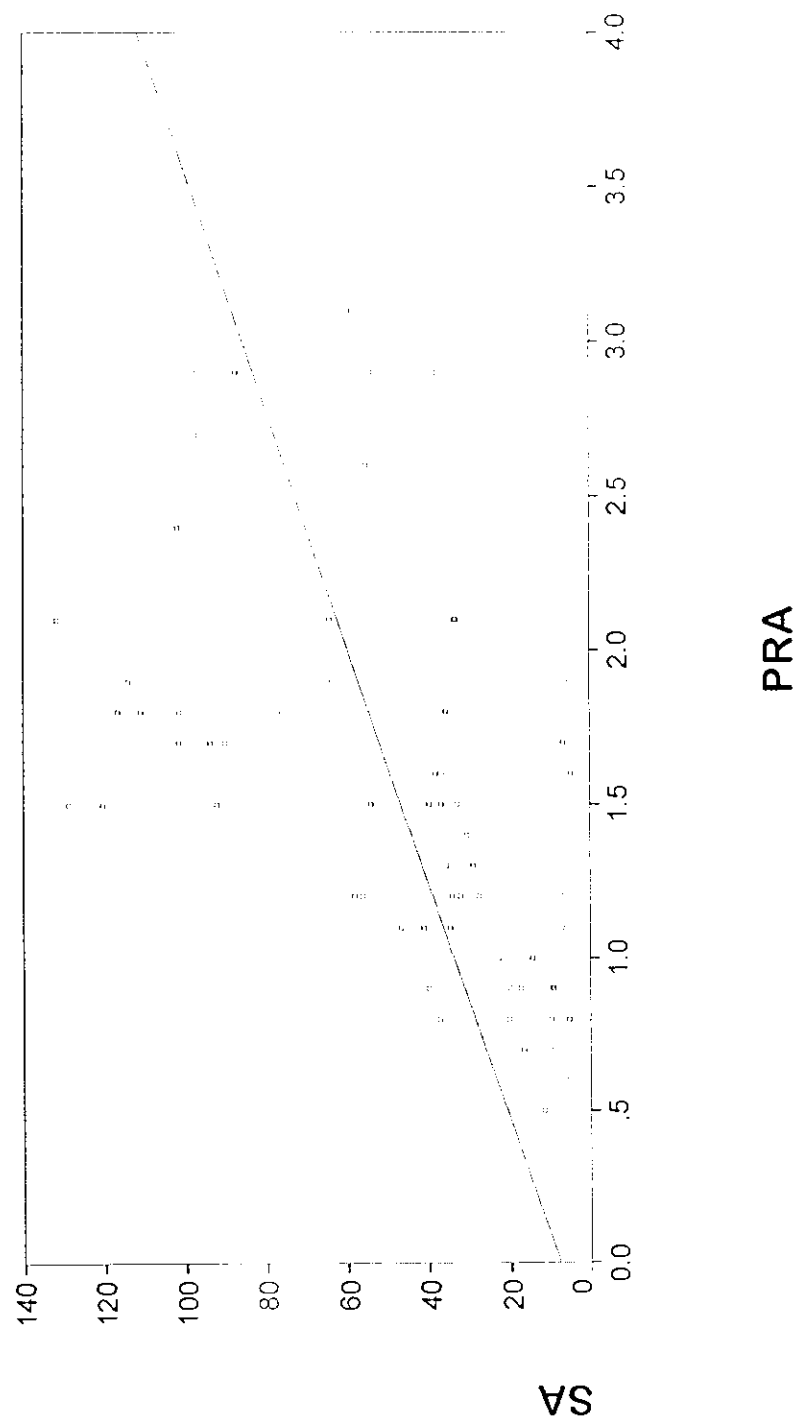


Figure 13

CORRELATION OF SA & ANP IN CIRRHOTIC ADULTS

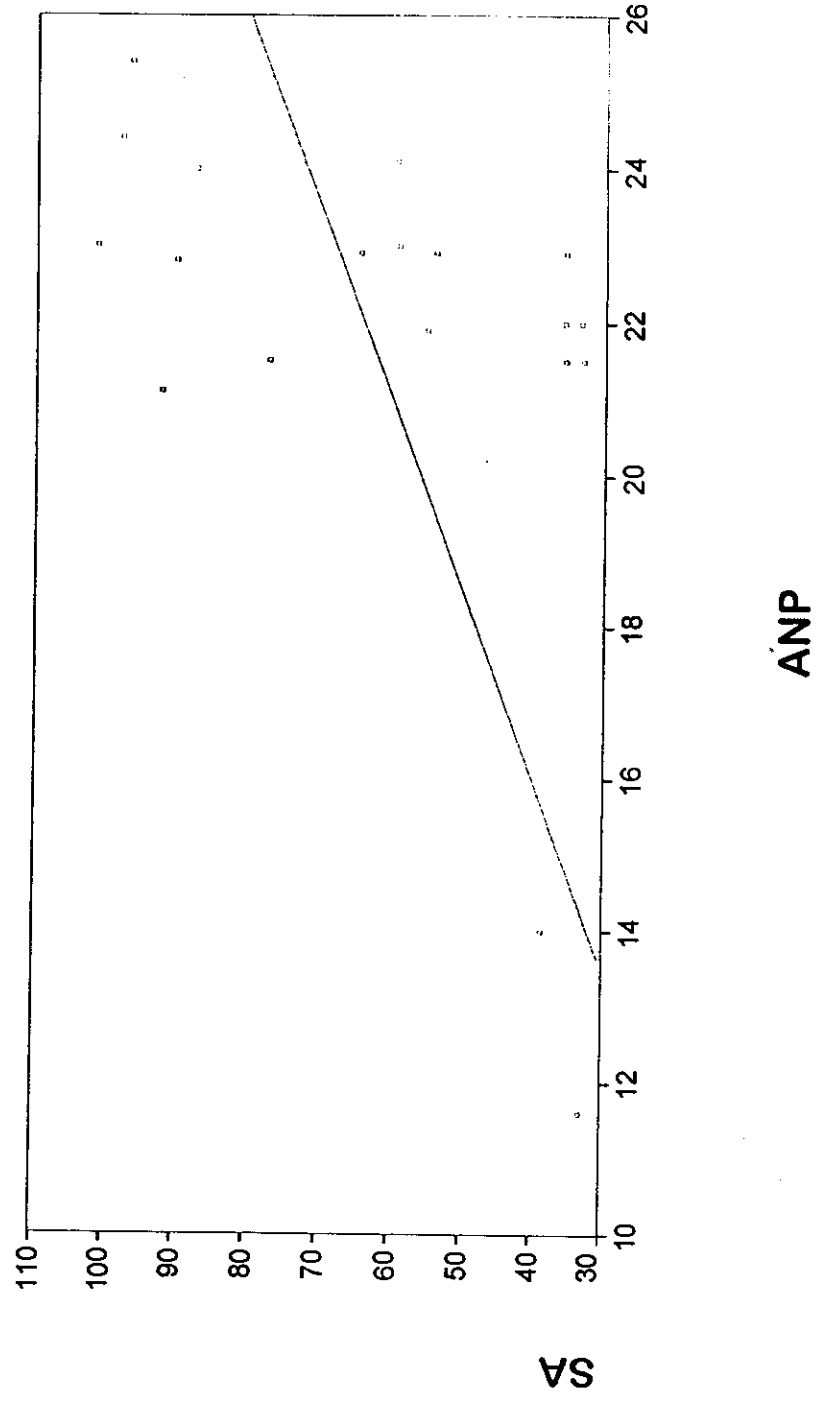


Figure-14)

Correlation of SA & ANP in decompensated adults

