

R E S U L T S

I - DATA OBTAINED FROM THE NORMAL CONTROLS

- a. The haematological examination of the controls showed :

The mean value of the average erythrocytes sedimentation rate (E.S.R.) was 4/hours; the mean haemoglobin percentage (HB %) 88 %; the mean red blood corpuscles (R.B.Cs) count 4.670.000/cmm, the mean total white blood cells 6.310/cmm., the mean neutrophil percentage 61.70 % and the mean absolute number was 3926/cmm. ; the mean lymphocytes percentage was 32.9 % and the mean absolute number 2043/cmm. (Table 6) :

Table 6 : Haematological Data of the Control Group.

No.	HB %	Average E.S.R./mm Hour	R.B.Cx/ cm. Million	Total W.B.C ₃ / c.mm.	Neutro- phil %	Neutro- phil Count/ c.mm	Lympho- cyte %	Total Lympho- cyte Count/ c.mm.
1	95	4	4.90	8.400	65	5460	30	2520
2	90	3	4.80	6.200	64	3968	33	2046
3	90	6	4.20	5.600	57	3192	35	1960
4	85	4	4.80	8.200	67	5494	29	2378
5	85	3	4.30	7.100	65	4615	26	1846
6	90	3	4.70	6.400	57	3648	37	2368
7	80	4	4.90	4.400	62	2728	34	1496
8	85	4	4.60	5.200	55	2860	41	2132
9	90	4	4.70	4.300	61	2623	33	1419
10	90	5	4.80	7.300	64	4672	31	2263
M	88	4	4.67	6.310	61.70	3926	32.90	2043
S.D.	4.22	0.89	0.24	1452.6	4.08	1091.90	4.25	370

M. : Mean

S.D. : Standard Deviation

b. The biochemical examination of the controls showed that the mean value of 24 hours urinary protein excretion was 0.29 gm.; the mean value of blood urea was 26.8 mg.%; the mean value of serum creatinine 0.72 mg.% and the mean value of creatinine clearance was 110.6 ml/min. (Table 7).

No	Age	Sex	24 Hours Protein Excretion gm	Blood Urea mg/100cc.	Serum Creatinine	Creatinine Clearance ml/min.
1	22	Female	0.31	22	0.6	105
2	33	Male	0.28	23	0.8	110
3	20	Male	0.33	30	0.7	118
4	33	Female	0.25	36	0.9	100
5	26	Male	0.27	20	1.0	120
6	26	Male	0.27	20	1.0	120
7	30	Female	0.29	32	0.6	105
8	38	Male	0.32	38	0.6	105
9	20	Male	0.33	21	0.6	120
10	36	Female	0.22	20	0.6	115
M.	28	-	0.29	26.8	0.72	110.6
S.D.	6.6	-	0.04	6.76	0.14	7.18

Table 7 : Biochemical Data of the Control Group.

The mean value of urine specific gravity was 1020.5, the mean value of pus cells was 3.3/H.P.F., the mean value of serum uric acid was 3.3 mg.% , the mean value of fasting blood sugar was 75.5 mg. % and the post prandial blood sugar mean value was 102 mg. % (Table 8).

Table 8 : Biochemical Data for the Control

No	U r i n e					Serum Uric Acid mg %	Blood Sugar	
	Aspect	Sp. Gravity	Reaction	Albu-min	Pus Cells /H.P.F.		Fasting mg %	Post Prandial mg %
1	Clear	1020	Acidic	Nil	3	3	70	95
2	Clear	1020	Acidic	Nil	2	2.5	70	105
3	Clear	1022	Acidic	Nil	5	3.5	85	105
4	Clear	1021	Acidic	Nil	3	3	80	100
5	Clear	1020	Acidic	Nil	3	3	80	105
6	Clear	1020	Acidic	Nil	3	2.5	75	95
7	Clear	1020	Acidic	Nil	4	4	75	90
8	Clear	1022	Acidic	Nil	2	4	75	115
9	Clear	1020	Acidic	Nil	3	4	75	115
10	Clear	1020	Acidic	Nil	5	3.5	70	95
M		1020.5	-	-	3.3	3.3	75.5	102
S.D.		0.85	-	-	1.05	0.56	4.7	8.56

M : Mean Value

S.D. : Standard Deviation.

II - Data obtained from the Patients with Chronic Renal Failure before Regular Haemodialysis

- a. Renal biopsy was done for two patients and revealed that they had chronic pyelonephritis (Table 10).
- b. The haematological examination of chronic renal failure patients before starting regular haemodialysis showed : the mean value of average erythrocytes sedimentation rate for patients of chronic renal failure before starting haemodialysis was 23.32 mm/h.; the mean haemoglobin percentage (HB %) was 58.14 %; the mean value of red blood corpuscles (R.B.Cs) count 2.890.000/c.mm.; the mean value of total white blood corpuscles (W.B.Cs) was 6429/c.mm.; the mean neutrophils percentage 67.93 % and the mean absolute number 4349/c.mm. and the mean lymphocyte percentage was 22.79 % and the mean absolute number was 1451/c.mm. (Table 9).

- c. The biochemical examination of the chronic renal failure patients before regular haemodialysis showed :

The mean value of 24 hours urine protein excretion for patients before starting haemodialysis was 6.87 mg.; creatinine clearance mean value was 13.45 ml/min., serum uric acid mean value was 7.44 mg. %, fasting blood sugar mean value was 86.8 mg. % and post prandial blood sugar was 122.33 mg. %, the mean value of urine specific gravity was 1010.5 and the mean value of urine pus cells was 25.87/H.P.F. (Table 10). Blood urea mean value was 317.66 mg. % and serum creatinine was 13.45 mg. % (Table 29, 32).

- d. The results of clinical diagnosis of chronic renal failure patients before starting regular haemodialysis showed 3 patients with chronic pyelonephritis, 5 patients with bilateral polycystic kidneys and 7 patients with essential hypertension. Sonogram for both kidneys was done and the results were on Table 11.

Table 9 : Haemogram for Chronic Renal Failure Patients before Starting Regular haemodialysis.

No	Red Blood Cells Parameter			White Blood Cells Parameter (W.B.Cs.)				
	E.S.R./ Hour	H.B. %	R.B.Cs/ C.mm Million	Total W.B.Cs. /C.mm x 1000	Neutro- phil %	Neutrophil Count/C.mm. x 1000	Lymphocy- te %	Lymphocyte Count/C.mm x 1000
I	16	65	3.10	9.3	66	6.138	23	2.139
2	71	48	2.68	5.4	61	3.294	32	1.728
3	24	46	2.78	8.4	65	5.460	22	1.848
4	34	50	2.68	3.8	76	2.888	18	0.684
5	5	62	3.21	5.6	80	4.480	13	0.728
6	7	65	2.89	7.0	67	4.690	23	1.610
7	5	70	2.59	6.4	74	4.736	16	1.024
8	17	45	3.19	5.6	62	3.472	30	1.680
9	65	3.19	5.5	60	3.300	33	1.815	
10	25	75	2.59	6.8	71	4.828	21	1.428
11	25	62	2.89	8.2	74	6.068	15	1.230
12	6	56	2.49	3.9	75	2.925	19	0.741
13	36	55	3.29	7.7	72	5.544	16	1.232
14	48	50	3.38	6.4	48	3.072	38	2.432
15	24	58	2.40	6.429	68	4.349	30	1.451
M	23.32	58.14	2.89	6.429	67.93	4.349	22.79	1.451
S.D.	17.89	8.81	0.68	16.16	8.40	1.180	7.66	538.88

M. : Mean Value

S.D. : Standard Deviation.

Table 10 : Biochemical Data of Chronic Renal Failure Patients before Starting Haemodialysis.

No	U r i n e						24h. Protein Excretion gm	Creatinine Clearance ml./min.	Serum Uric Acid mg. %	Blood Sugar	
	Aspect	Sp. Gravity	Reaction	Alb. min	Pus Cells/H.P.F.	Casts				Fasting mg. %	Post Prandial mg. %
1	Clear	1010	Acidic	+	45	Hyalin	7.5	13.80	6.5	90	112
2	Turbid	1012	Acidic	+++	80	Hyal+gran.	6.68	12.50	7.3	85	120
3	Clear	1010	Acidic	++	8	Hyal+gran.	0.50	12.8	6.0	90	123
4	Clear	1010	Acidic	++	30	Granular	12.71	15.0	7.0	88	110
5	Clear	1010	Acidic	++	5	Hyalin	1.0	12.9	5.8	95	128
6	Clear	1011	Acidic	++	15	Granular	10.12	11.0	6.5	93	116
7	Clear	1011	Acidic	+	5	Hyal+gran.	2.53	14.0	7.5	101	130
8	Clear	1010	Acidic	++	25	Hyal+gran.	3.62	14.8	7.9	76	118
9	Clear	1010	Acidic	++	15	Hyal+gran.	5.6	15.0	7.8	80	125
10	Turbid	1013	Acidic	+++	70	Hyal+gran.	15.24	13.0	9.0	82	121
11	Clear	1010	Acidic	+	10	Hyalin	17.5	13.6	8.2	98	120
12	Clear	1010	Acidic	+	15	Hyalin	6.50	14.0	8.0	78	130
13	Clear	1010	Acidic	++	40	Granular	5.40	11.0	9.2	80	132
14	Clear	1010	Acidic	++	10	Granular	4.40	12.8	8.0	87	122
15	Clear	1010	Acidic	+	15	Granular	3.80	10.0	6.9	79	128
M.		1010.5			25.87		6.87	13.45	7.44	86.8	122.33
S.D.		0.9			22.55		4.64	0.5	0.97	7.43	6.39

M. : Mean Value

S.D. : Standard Deviation.

Table 11 : Clinical and Radiological Data for Chronic Renal Failure Patients before Starting Haemodialysis.

No	Age	Sex	Clinical Diagnosis	Renal Biopsy	Sonogram	Radiogram	
						Plain X Ray Urinary tract	I.V.P.
1	40	Male	Chronic Pyelonephritis	N.D.	Bilateral small kid.	N.A.D.	N.D.
2	33	Male	Chronic pyelonephritis	C.P.N.	Normal size kid.+ir.surf.	N.A.D.	N.D.
3	22	Female	Polycystic kidney	N.D.	Bilat.polycyst. kidneys	Enl. kid. shadows	N.D.
4	35	Male	Essential hypertension	N.D.	Bilat. small kidneys	N.A.D.	N.D.
5	40	Male	Essential hypertension	N.D.	Bilat. small kidneys	N.D.D.	N.D.
6	41	Male	Essential hypertension	N.D.	Bilat. small kidneys	N.D.D.	N.D.
7	37	Male	Essential hypertension	N.D.	Bilat. small kidneys	N.D.D.	N.D.
8	54	Male	Essential hypertension	N.D.	Bilat.polycyst. kidneys	N.A.D.	N.D.
9	38	Male	Essential hypertension	N.D.	Bilat. small kidneys	N.A.D.	N.D.
10	55	Male	Polycystic kidney	N.D.	Bilat.polycyst.kidneys	Enl.kidn. shadows	N.D.
11	38	Female	Polycystic kidney	N.D.	Bilat. small kidneys	N.A.D.	N.D.
12	40	Female	Polycystic kidney	N.D.	Bilat.polycyst. kidneys	N.A.D.	N.D.
13	40	Female	Chronic pyelonephritis	C.P.N.	Bilat.polycyst. kidneys	Enl.kidn. shadows	N.D.
14	42	Male	Polycystic kidney	N.D.	Normal size+small cortex	N.A.D.	N.D.
15	45	Male	Essential hypertension	N.D.	Bilat.polycyst. kidneys	N.A.D.	N.D.
M.	40		-	-	-	-	-
S.D.	7.6		-	-	-	-	-

M. : Mean Value
N.D. : Not done.

S.D. : Standard Deviation.

III - Data obtained from the patients with chronic
Renal Failure before Peritoneal Dialysis :

- a. Renal biopsy was not done for any patient in this group (Table 14).
- b. The haematological examination of the chronic renal failure patients before starting peritoneal dialysis showed :

The mean value of average erythrocytes sedimentation rate was 27.31mm/h; the mean haemoglobin percentage (HB %) was 58.33 %; the mean red blood corpuscles (R.B.Cs) count was 2.890,000/c.mm.; the mean value of total white blood corpuscles (W.B.Cs) count was 6393/c.mm.; the mean value of neutrophil percentage was 64.73 %; the mean value of the neutrophil absolute count was 415/c.mm.; the mean value of lymphocyte percentage was 25.82 % and the mean value of lymphocyte absolute number was 1718/c.mm. (Table 12).

- c. The biochemical examination of the chronic renal failure patients before starting peritoneal dialysis showed :

The mean value of 24 hours urine protein excretion was 6.87 mg.; the mean value of creatinine clearance was 13.45 ml/min.; the mean value of serum uric acid was 7.44 mg. %; fasting blood sugar was 86.8 mg. % and post prandial blood sugar was 122.33 mg. % (Table 13).

Blood urea mean value was 398.66 mg. % and serum creatinine was 15.32 mg. % (Table 29,32).

- d. The results of clinical diagnosis of chronic renal failure patients before starting peritoneal dialysis showed 3 patients with essential hypertension, 5 patients with chronic pyelonephritis, 3 patients with polycystic kidneys and 4 patients with unknown aetiology. Sonogram and radiological results are shown in Table 14.

Table 12 : Haemogram for Chronic Renal Failure Patients before Starting Peritoneal Dialysis.

No.	Red Blood Cells Parameter			White Blood Cells Parameter (W.B.Cs.)				
	E.S.R. mm/hour	H.B. %	R.B.Cs/ c.mm Million	Total W.B.Cs./ c.mm x 1000	Neutro- phil %	Lympho- phil Count/ c.mm x 1000	Lympho- cyte %	Lympho- cyte Count/ c.mm x 1000
1	26	58	2.40	8.400	62	5.2000	26	2.184
2	61	50	3.38	6.400	61	3.904	29	1.664
3	18	55	3.29	8.600	65	5.590	30	2.580
4	25	56	2.49	4.800	69	3.312	22	1.056
5	22	62	2.85	6.600	66	4.356	28	1.848
6	200	75	2.59	7.500	69	5.175	21	1.575
7	18	65	3.25	6.500	70	4.550	20	1.300
8	35	45	3.15	5.600	60	3.300	32	1.792
9	22	70	2.50	5.800	63	3.654	27	1.566
10	18	65	2.89	6.900	68	4.592	23	1.587
11	26	58	3.26	9.200	67	6.164	24	2.208
12	36	50	2.68	4.200	70	2.940	26	1.092
13	30	46	2.78	6.100	66	4.026	31	1.891
14	22	52	2.69	4.100	56	2.296	38	1.558
15	28	68	3.10	5.200	59	3.068	36	1.872
M	27.13	58.33	2.89	6.393	64.73	4.153	25.82	1.718
S.D.	10.59	8.70	31.39	14.92	4.21	1048.8	8.51	397.5

M. : Mean Value

S.D. : Standard Deviation.

Table 13 : Biochemical Data for Chronic Renal Failure Patients before Peritoneal Dialysis

No	U r i n e						24 hours protein excretion gm.	Creatinine Clearance ml/min.	Serum Uric Acid mg %	Blood Sugar	
	Aspect	Sp. Gravity	Reaction	Alb. g/l	Pus Cells/H.P.T.	Casts Cells/H.P.F.				Fasting mg %	Post Prandial mg %
1	Clear	1010	Acidic	+	45	Hyalin	7.5	13.80	6.5	90	112
2	Turbid	1012	Acidic	+++	80	Hyal+gran.	6.68	12.50	7.3	85	120
3	Clear	1010	Acidic	++	8	Hyal+gran.	0.50	12.8	6.0	90	120
4	Clear	1010	Acidic	++	30	Granular	12.71	15.0	7.0	88	110
5	Clear	1011	Acidic	++	15	Granular	1.0	12.9	5.8	95	128
6	Clear	1011	Acidic	++	15	Granular	10.12	11.0	6.5	93	116
7	Clear	1011	Acidic	+	5	Hyal+gran.	2.53	14.0	7.5	101	130
8	Clear	1010	Acidic	++	25	Hyal+gran.	3.62	14.8	7.9	76	118
9	Clear	1010	Acidic	++	15	Hyal+gran.	75.6	15.0	7.8	80	125
10	Turbid	1013	Acidic	+++	70	Hyl+gran.	15.24	13.0	9.0	82	121
11	Clear	1010	Acidic	+	10	Hyalin	17.5	13.6	8.2	98	120
12	Clear	1010	Acidic	+	15	Hyalin	6.50	14.0	8.0	78	130
13	Clear	1010	Acidic	++	40	Granular	5.40	11.0	9.2	80	132
14	Clear	1010	Acidic	++	10	Granular	4.40	12.8	8.0	87	122
15	Clear	1010	Acidic	+	15	Granular	3.80	10.0	6.9	79	128
M					25.87		6.87	13.45	7.44	86.8	122.33
S.D.					22.55		4.64	0.5	0.97	7.43	6.39

M. : Mean Value

S.D. : Standard Deviation.

Table 14 : Clinical, Radiological and Sonogram of Patients of Chronic Renal Failure Patients before Starting Peritoneal Dialysis.

No	Age	Sex	Clinical Diagnosis	Renal Biopsy	Sonogram	Radiogram	
						Plain X-Ray	I.V.P.
1	38	Male	Essential Hypertension	N.D.	Shrunked both kidneys	N.A.D.	N.D.
2	34	Male	Chronic Pyelonephritis	N.D.	Irregular surf. Shrunk both kidneys	N.A.D.	N.D.
3	45	Female	Polycystic kidney	N.D.	Bilat. polycyst.kidneys	N.A.D.	N.D.
4	42	Male	Chronic pyelonephritis	N.D.	Shrunked kidneys	N.A.D.	N.D.
5	38	Male	Essential Hypertension	N.D.	Shrunked both kidneys	N.A.D.	N.D.
6	55	Male	Chronic Pyelonephritis	N.D.	Shrunked both kidneys	N.A.D.	N.D.
7	43	Male	Polycystic kidney	N.D.	Bilat. polyc. kidneys	N.A.D.	N.D.
8	54	Male	Unproved Aetiology	N.D.	Shrunked kidneys	N.A.D.	N.D.
9	35	Male	Unproved Aetiology	N.D.	Shrunked both kidneys	N.A.D.	N.D.
10	40	Male	Unproved Aetiology	N.D.	Shrunked both kidneys	N.A.D.	N.D.
11	22	Female	Polycystic kidney	N.D.	Enlarg both kid. bil. polyc. kidneys	N.A.D.	N.D.
12	41	Male	Unproved Aetiology	N.D.	Shrunked both kidneys	N.A.D.	N.D.
13	40	Male	Chronic Pyelonephritis	N.D.	Shrunked both kidneys	N.A.D.	N.D.
14	40	Male	Essential Hypertension	N.D.	Shrunked both kidneys	N.A.D.	N.D.
15	33	Female	Chronic Pyelonephritis	N.D.	Shrunked both kidneys	N.A.D.	N.D.

RESULTS OF IMMUNOLOGICAL TESTS

A. Cellular Immunity

1. Skin Test

a. Tuberculin Test (PPD)

The mean positive percentage of tuberculin test was 80 % in the control group, for patients of chronic renal failure before starting haemodialysis was 20 %, one month after haemodialysis the positive patients for tuberculin test were 20 %, three months after dialysis was 33.33 % and one year after haemodialysis was 40 %.

There was marked reduction of percentage of positive tuberculin test in non dialysed and dialysed uraemic patients compared to normal controls.

There was marked increase of percentage of positive tuberculin test in uraemic patients

after 3 months and one year of haemodialysis (Table 15) compared to non dialysed uraemic patients.

The mean positive percentage of tuberculin test in uraemic patients before peritoneal dialysis was 13.33 %, one month after peritoneal dialysis was 13.33 %. three months after peritoneal dialysis was 53.33 % and one year after dialysis was 66.67 % (Table 15).

There was marked reduction of percentage of positive tuberculin test in non dialysis and dialysed uraemic patient compared to normal controls.

There was marked increase of positive percentage of tuberculin test after 3 months and one year in uraemic patients on peritoneal dialysis compared to non dialysis uraemic patients.

B. Dinitrochlorobenzene (DNCB) Test

The mean positive percentage of DNCB test was 80 % in the normal healthy individual group, 13.33 % in uraemic patients before starting haemodialysis, 13.33 % in uraemic patients one month after regular haemodialysis, 26.67 % in uraemic patients three months after haemodialysis and 40 % in uraemic patients one year after regular haemodialysis.

There was marked reduction of percentage positive DNCB test in uraemic patients in non-dialysed and dialysed uraemic patients compared to normal control.

There was marked increase of percentage of positive DNCB test in uraemic patients after three months and one year of haemodialysis .

The mean positive percentage of DNCB in uraemic patients before peritoneal dialysis was 20 %, in uraemic patients one month after peritoneal dialysis 26.67 %, three months after

peritoneal dialysis 46.67 % and one year after peritoneal dialysis 66.67 % (Table 15).

There was marked reduction of percentage positive DNCB test in uraemic non dialysed and dialysed uraemic patients compared to normal control.

There was marked increase of percentage positive DNCB test in uraemic patients after three months and one year of peritoneal dialysis (Fig. 2).

2. E. Rosette Test

The mean percentage of E. Rosette percentage was 55.3 % in the normal healthy individual, 27.93 % in uraemic patients before haemodialysis, 28.87 % in uraemic patients one month after haemodialysis, 29.93 % in uraemic patients 3 months after haemodialysis, and 28.80 % one year after haemodialysis (Table 18).

Table 15 : Percentage of skin Test in all Test Group.

a. Purified Protein Derivatives (P.P.D.) :

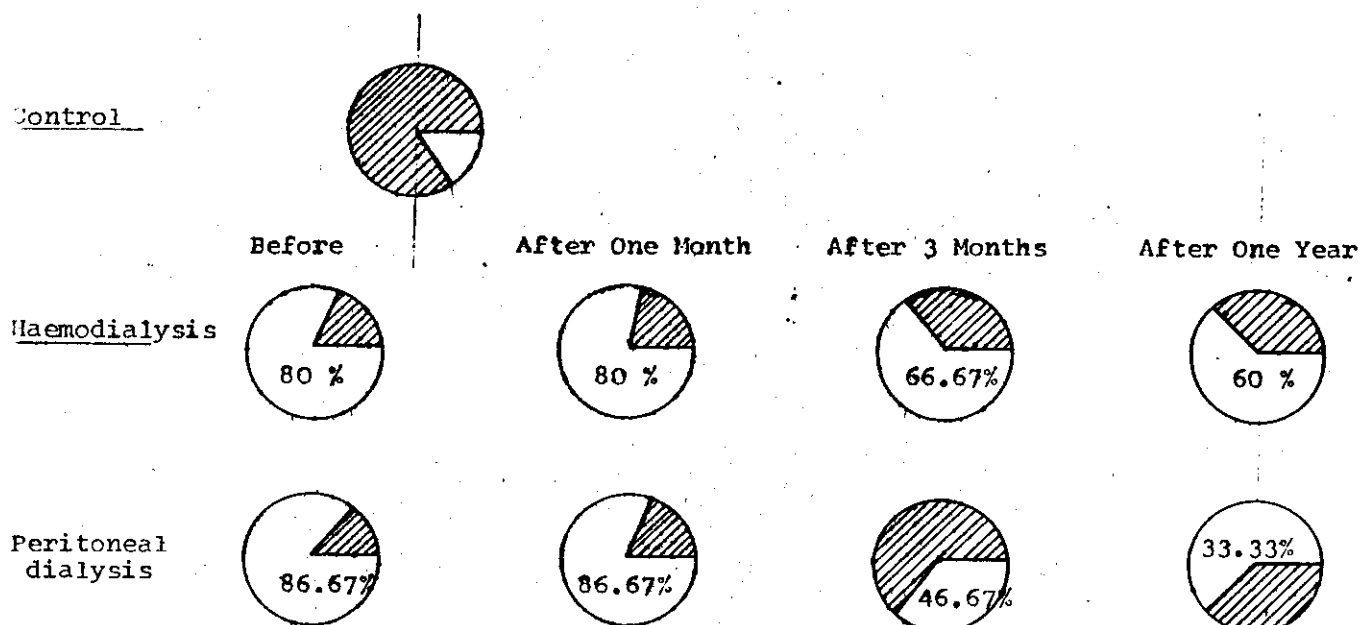
Test Sign		Contr.	Haemodialysis				Peritoneal Dialysis			
			Before	One month	three months	One year	Before	One month	three months	One year
+ ve	No	8	3	3	5	2	2	8	4	
	%	80	20		33.33	40	13.33	53.33	66.67	
- ve	No	2	12	12	10	13	13	7	2	
	%	20	80		66.67	60	86.67	46.67	33.33	
Total	No	10	15	15	15	5	15	15	6	
	%	100	100		100	100	100	100	100	

b. Dinitro Chloro Benzene (D.N.C.B.) :

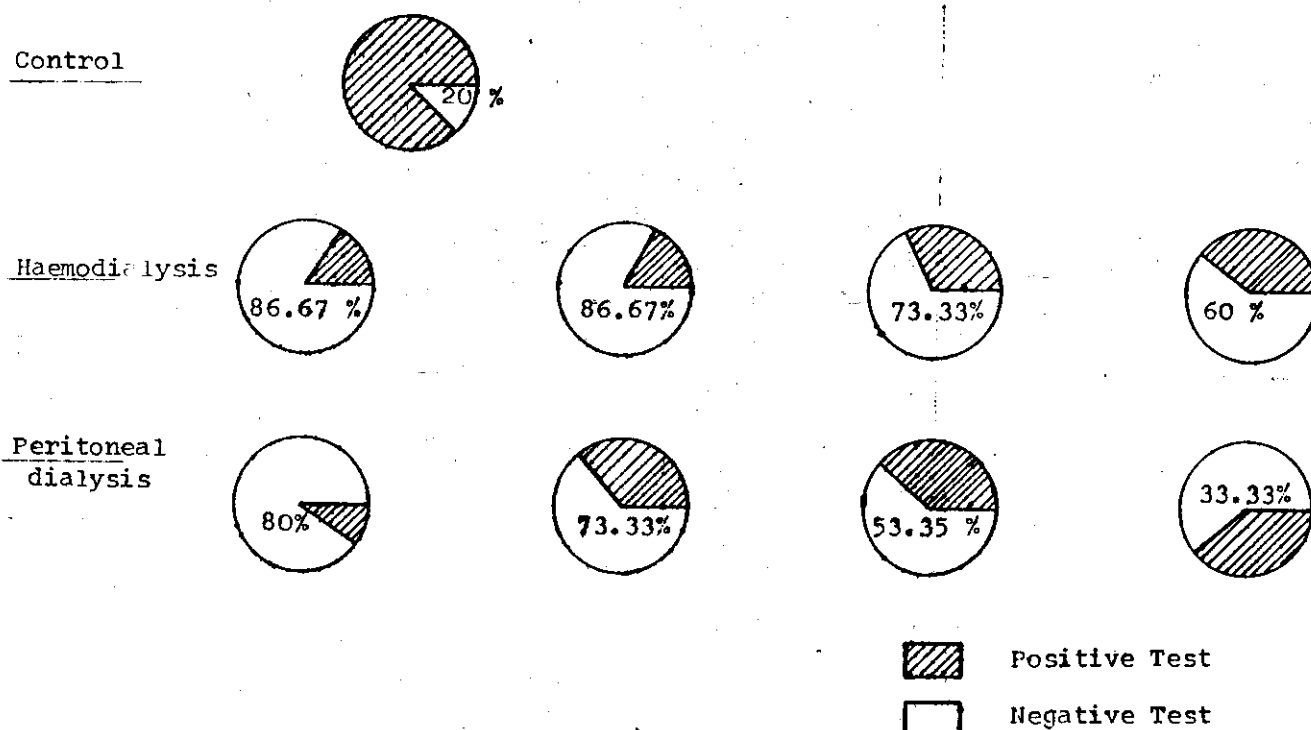
+ ve	No %	8 80	2 13.33	2 13.33	4 26.67	2 40	3 20	4 26.67	7 46.67	4 66.67
- ve	No %	2 20	13 86.67	13 86.67	11 73.33	3 60	12 80	11 73.33	8 53.33	2 33.33
Total	No %	10 100	15 100	15 100	15 100	5 100	15 100	15 100	15 100	6 100

Fig. 2 : PIE Diagrams showing the Percentage of Positive and Negative Results of Skin Tests in Test Groups.

M.P.D. Test :



D N C B Test :



There was significant reduction of E rosette forming cells percentage in uraemic non dialysed patient and haemodialysed uraemic patients compared to normal control ($P < 0.05$) (Table 16).

There was no significant change in E Rosette forming cells percentage in uraemic patients on regular haemodialysis compared to uraemic non dialysed patient ($P > 0.05$) (Table 17).

The mean percentage of E Rosette percentage was 24.67 % in uraemic patients before peritoneal dialysis, 29.73 % in uraemic patients one month after peritoneal dialysis, 43.87 % three months after peritoneal dialysis and 49.8 % one year after dialysis (Table 16).

There was significant reduction of E rosette cells percentage in uraemic non dialysed and uraemic patients on peritoneal dialysis compared to normal control ($P < 0.05$) (Table 16).

Table 16 : E Rosette Percentage with Statistical Analysis between the Control and Uraemic Dialysed and non Dialysed Patients.

No	Control	Haemodialysis				Peritoneal Dialysis			
		Before %	One mont %	3 mont. %	1 year %	Before %	one mont %	3 months %	One year %
1	44	29	30	32	32	25	30	45	50
2	47	30	30	30	N.D.	26	28	46	52
3	64	21	25	26	26	30	35	37	N.D.
4	68	30	32	31	N.D.	32	34	50	50
5	54	34	35	35	25	22	28	35	N.D.
6	50	28	30	32	N.D.	18	25	35	51
7	68	30	32	30	N.D.	20	27	32	48
8	56	25	25	27	35	23	23	29	N.D.
9	44	33	33	35	N.D.	26	30	34	N.D.
10	-	32	30	31	-	19	32	46	-
11	-	29	31	32	-	23	29	47	-
12	-	19	28	29	-	25	26	50	-
13	-	19	28	29	-	25	26	50	-
14	-	27	31	35	-	30	31	75	-
15	-	30	19	22	-	27	32	61	-
No	10	15	15	15	5	15	15	15	6
M	55.3	27.93	28.87	29.93	28.8	24.67	29.73	43.87	49.8
P.V.	-	P<0.05	P<0.05	P<0.05	P<0.5	P<0.05	P<0.05	P<0.05	P<0.05
S.E.±	2.25	1.14	1.08	1.03	1.99	1.05	0.96	1.6	0.65

P. Value < 0.05 = Significant

P. Value > 0.05 = Non Significant.

Table 17 : Statistical Analysis for E Rosette Test in all Test Groups before and after Dialysis (Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year
No	15	15	15	5	15	15	15	6
Mean $\pm$	27.93	28.87	29.9	28.80	24.67	29.73	43.87	49.8
S.ERROR								
S.E. $\pm$	1.14	1.08	1.03	1.99	1.05	0.96	1.6	0.65
P.Value and Signifi- cation	-	>0.05 N.S.	>0.05 N.S.	>0.05 N.S.	-	<0.05 H.S.	<0.05 H.S.	<0.05 H.S.

*P. < 0.05 : Significant

P > 0.05 : Non Significant.

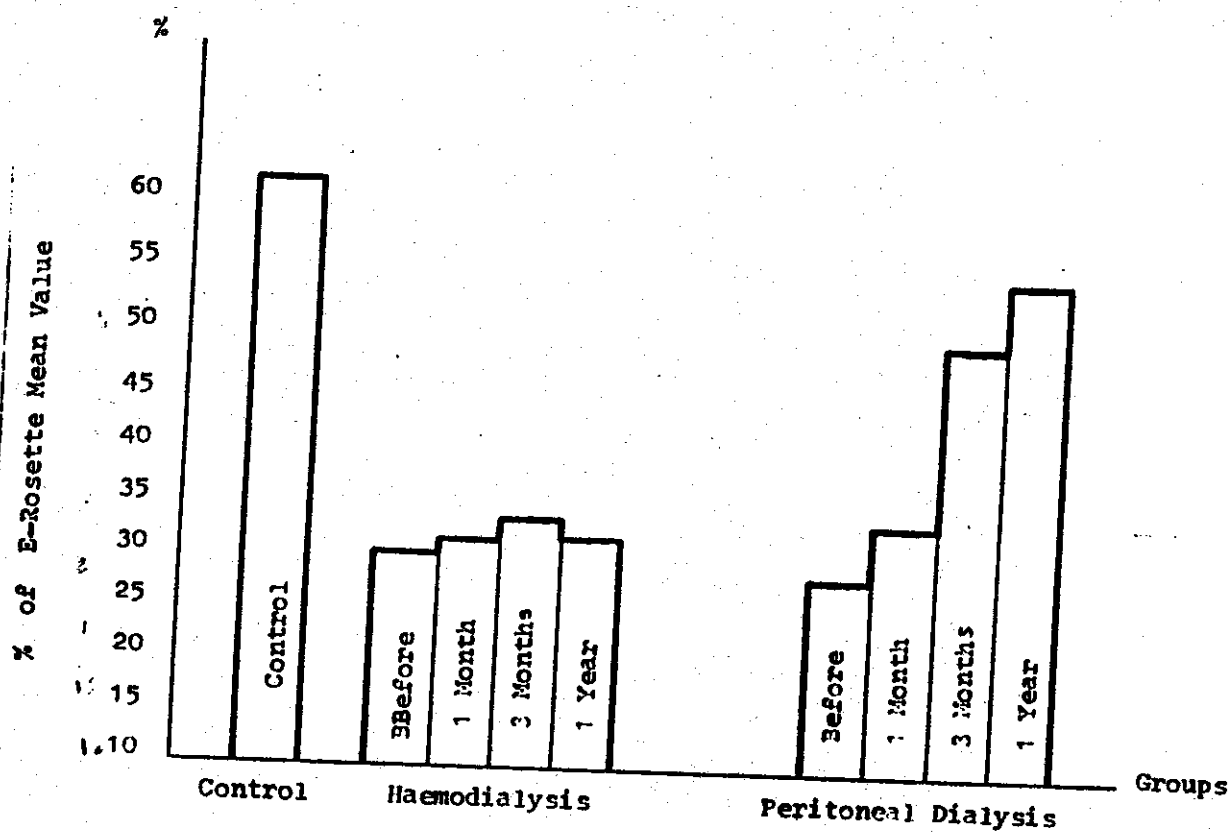


Fig. 3 : % of E-Rosette Mean Values in Groups Tested.

There was significant increase in E.Rosette forming cells in uraemic patients on peritoneal dialysis one month, three months and one year after peritoneal dialysis compared to uraemic patients before peritoneal dialysis ($P < 0.05$) (Table 17).

3. Active E.Rosette

The mean percentage of active E.Rosette percentage was 34.90 % in the normal healthy individual, 23.40 % in uraemic patients before haemodialysis, 23.73 % in uraemic patients one month after haemodialysis, 24.67% in uraemic patients three months after haemodialysis and 23.60 % in uraemic patients one year after haemodialysis (Table 18).

There was significant reduction of active E. Rosette forming cells percentage in uraemic non dialysed patients and uraemic patients on regular haemodialysis compared to normal control ($P < 0.05$) (Table 18).

There was no significant change in active E.Rosette forming cells percentage in uraemic patients on regular haemodialysis compared to uraemic non dialysed patients ($P > 0.05$) (Table 19).

The mean percentage of active E.Rosette percentage was 26.20 % in uraemic patients before peritoneal dialysis, 24.80 % in uraemic patients one month after peritoneal dialysis, 33.29 % in uraemic patients three months after peritoneal dialysis and 39.83 % in uraemic patients one year after peritoneal dialysis (Table 18).

There was significant reduction of active E.Rosette forming cells percentage in uraemic non dialysed patients and uraemic patients on peritoneal dialysis compared to normal control ($P < 0.005$) (Table 18).

There was no significant change in active E.Rosette forming cells percentage in uraemic patients on peritoneal dialysis for one month

compared to uraemic non dialysed patients ($P > 0.05$) but there was significant increase in active E.Rosette forming cells percentage in uraemic patients on peritoneal dialysis after three months and one year compared to uraemic non dialysed patients ($P < 0.05$) (Table 19).

From the study of cellular immunity we found that there was reduction of T lymphocyte number and functions in uraemic patients and also in uraemic patients either on haemodialysis or on peritoneal dialysis. There was improvement of the T lymphocyte number after one month of peritoneal dialysis but there was improvement of the T lymphocyte functions after three months and one year of peritoneal dialysis (short peritoneal dialysis improves the number of T lymphocytes but long term peritoneal dialysis improves the number and the functions of T lymphocytes).

During the study, it was observed that

Table 18 : Active E Rosette Percentage with Statistical Analysis between the Control and Uraemic Dialysed and non Dialysed Patients.

No	Control	Haemodialysis				Peritoneal Dialysis			
		Before treatm. %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. treat. %	Before treatm. %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. treat. %
1	24	22	24	24	20	25	28	30	20
2	31	18	18	20	N.D.	22	27	40	46
3	35	30	24	32	30	18	22	35	N.D.
4	23	24	24	25	N.D.	22	26	29	39
5	33	20	22	22	25	24	30	38	38
6	39	25	26	28	18	26	25	37	N.D.
7	32	28	30	30	N.D.	30	22	40	So.
8	33	24	20	21	N.D.	24	18	28	46
9	46	19	20	21	25	32	46	29	N.D.
10	53	23	23	23	N.D.	30	26	31	N.D.
11	-	18	27	24	-	32	25	38	-
12	-	25	28	28	-	21	28	29	-
13	-	30	35	34	-	27	16	31	-
14	-	17	16	18	-	28	16	30	-
15	-	28	19	20	-	32	17	34	-
No	10	15	15	15	5	15	15	15	6
S.E.	2.9	1.13	1.29	1.23	2.11	1.14	1.93	1.13	4.38
Mean	34.9	23.4	23.73	24.67	23.6	26.2	24.8	33.29	39.83
P.V.	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01

P.Value < 0.05 = Significant

P.Value > 0.05 = Non Significant.

Table 19 : Statistical Analysis for Active E Rosette Test before and after Dialysis
(Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year
No	15	15	15	5	15	15	15	6
Mean $\pm$	23.40	23.73	24.67	23.60	26.20	24.80	33.27	39.83
S.ERROR	1.13	1.29	1.23	2.11	1.14	1.93	1.13	4.38
S.E. $\pm$	-	> 0.05	> 0.05	> 0.05	-	> 0.05	< 0.05	< 0.05
P.Value* and Signi- fication	-	N.S.	N.S.	N.S.	N.S.			

* P. < 0.05 : Significant

S : Significant

P > 0.05 : Non Significant

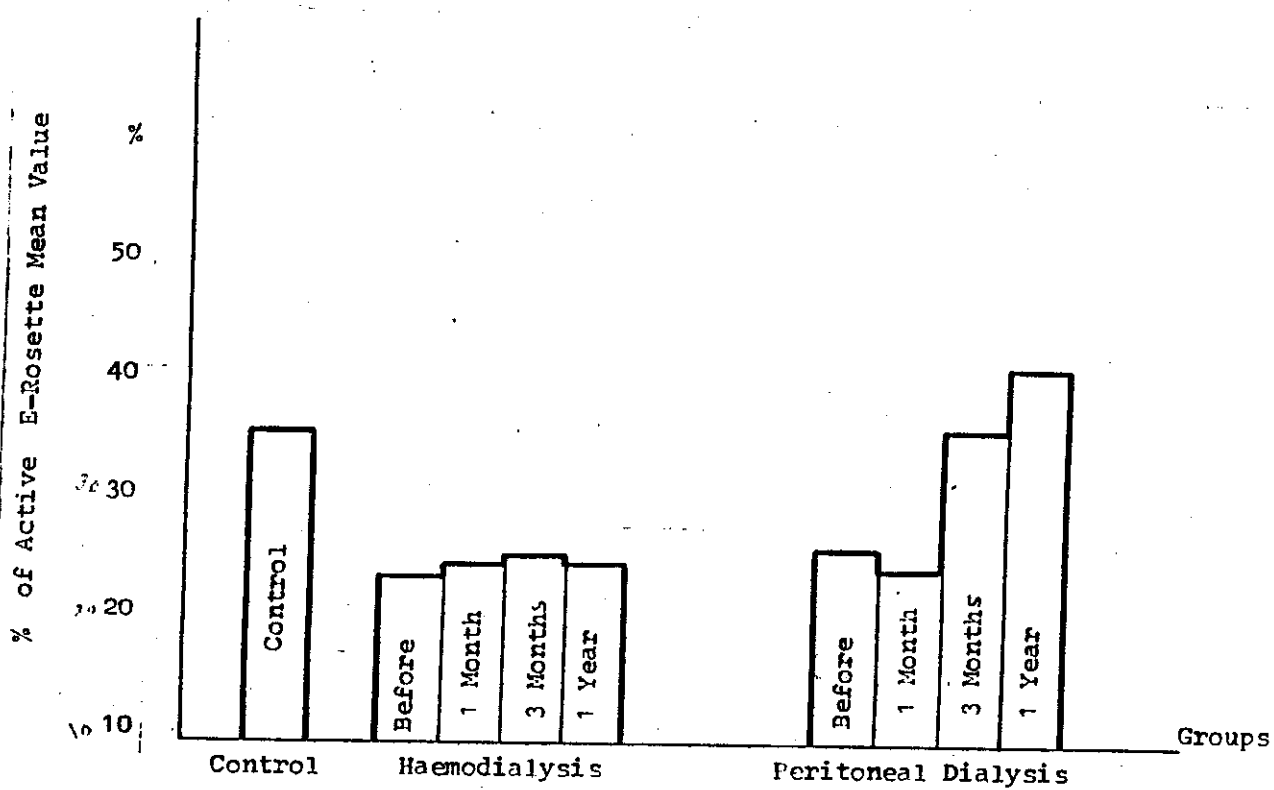
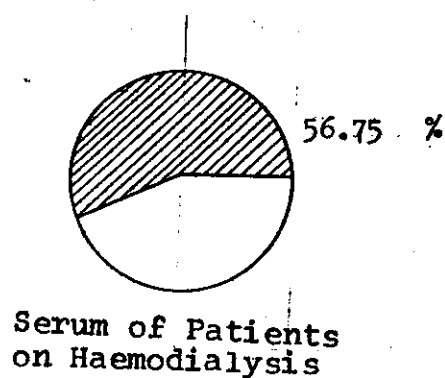
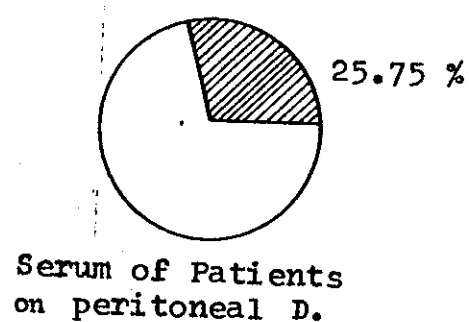


Fig. 4 : % of Active E-Rosette Mean Values in Groups Tested.

Table 20 : Results of Serum Inhibitory Action of Patients with Peritonitis on E.Rosette Compared with the Serum of Patients on Regular Dialysis.

No	% of E. Rosette	
	Serum of Patients on peritonitis	Serum of Patients on haemodialysis
1	25	42
2	20	46
3	26	62
4	22	70
5	30	56
6	25	61
7	26	62
8	32	55
Mean	25.75 %	56.75 %
S.ERROR S.E.t.	1.37 %	3.24 %

Fig. 4 : % of E. Rosette.



 % of E. Rosette.

8 patients on peritoneal dialysis developed peritonitis, so the effect of their sera on normal E.Rosette (percentage of T cells) was studied and compared with the effect of serum of patients on haemodialysis on the normal E.Rosette. The results showed significant reduction of E.Rosette test, with the serum of patients with peritonitis (25.25 %) compared with that of the serum of patients on haemodialysis (56.75 %) (Table 20).

B. Humoral Immunity

a. Quantitation of B Lymphocytes

The mean percentage of B lymphocyte percent was 20 % in normal healthy individual, 18.40 % in uraemic patients before haemodialysis, 19.33 % one month after haemodialysis, 19.8 % three months after haemodialysis and 19.80 % one year after haemodialysis. (Table 21).

Table 21 : Percentage of B Lymphocyte Cell Count with Statistical Analysis between the Control and Uraemic Dialysed and Non Dialysed Patients.

No	Control %	Haemodialysis				Peritoneal Dialysis			
		Before treatment %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. tr. %	Before treatment %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. treat. %
1	26	14	15	16	15	15	18	20	20
2	22	12	15	17	N.D.	12	14	15	16
3	13	18	20	21	20	10	15	18	N.D.
4	18	20	20	20	N.D.	16	20	26	25
5	20	25	22	23	24	18	20	22	23
6	16	18	20	21	25	14	15	16	N.D.
7	22	15	18	16	N.D.	15	18	18	21
8	19	30	32	30	N.D.	20	25	25	18
9	26	22	25	24	15	22	22	25	N.D.
10	18	14	15	17	N.D.	18	20	22	N.D.
11	-	16	16	18	-	15	17	21	-
12	-	22	18	20	-	18	20	23	-
13	-	15	17	17	-	20	20	22	-
14	-	18	20	21	-	22	23	25	-
15	-	17	17	16	-	19	19	21	-
No	10	15	15	15	15	15	15	15	6
Mean	20	18.4	19.33	19.8	19.8	16.93	19.07	21.27	20.50
S.E. ±	2.03	1.23	1.16	0.99	2.13	0.9	0.78	0.87	1.33
P.V.	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05

P. Value < 0.05 = Significant

P. Value > 0.05 = Non Significant.

There was no significant change in B lymphocyte percentage in uraemic non dialysed or uraemic patients on regular haemodialysis compared to normal control ($P > 0,05$). (Table 21). Also, there was no significant change in B lymphocyte percentage in uraemic patients on regular haemodialysis compared to uraemic non dialysed patients ($P > 0.05$). (Table 22).

The mean percentage of B lymphocyte percent was 16.93 % in uraemic patients before peritoneal dialysis, 19,07 % one month after peritoneal dialysis, 21.27 % three months after peritoneal dialysis and 20.50 % in uraemic patients, one year after peritoneal dialysis (Table 21).

There was no significant change in B lymphocyte percentage in uraemic non dialysed or uraemic patients on peritoneal

Table 22 : Statistical Analysis for B Lymphocyte Cell before and after Dialysis (Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year
No	15	15	15	5	15	15	15	6
Mean $\pm$	18.40	19.33	19.80	19.80	16.93	19.07	21.27	20.50
S.Error	1.23	1.16	0.99	2.13	0.90	0.78	0.87	1.33
S.E. $\pm$								
P.Value*	-	> 0.05	> 0.05	> 0.05	-	> 0.05	> 0.05	> 0.05
and Signi- fication								

* P < 0.05 : Significant

P > 0.05 : Non significant

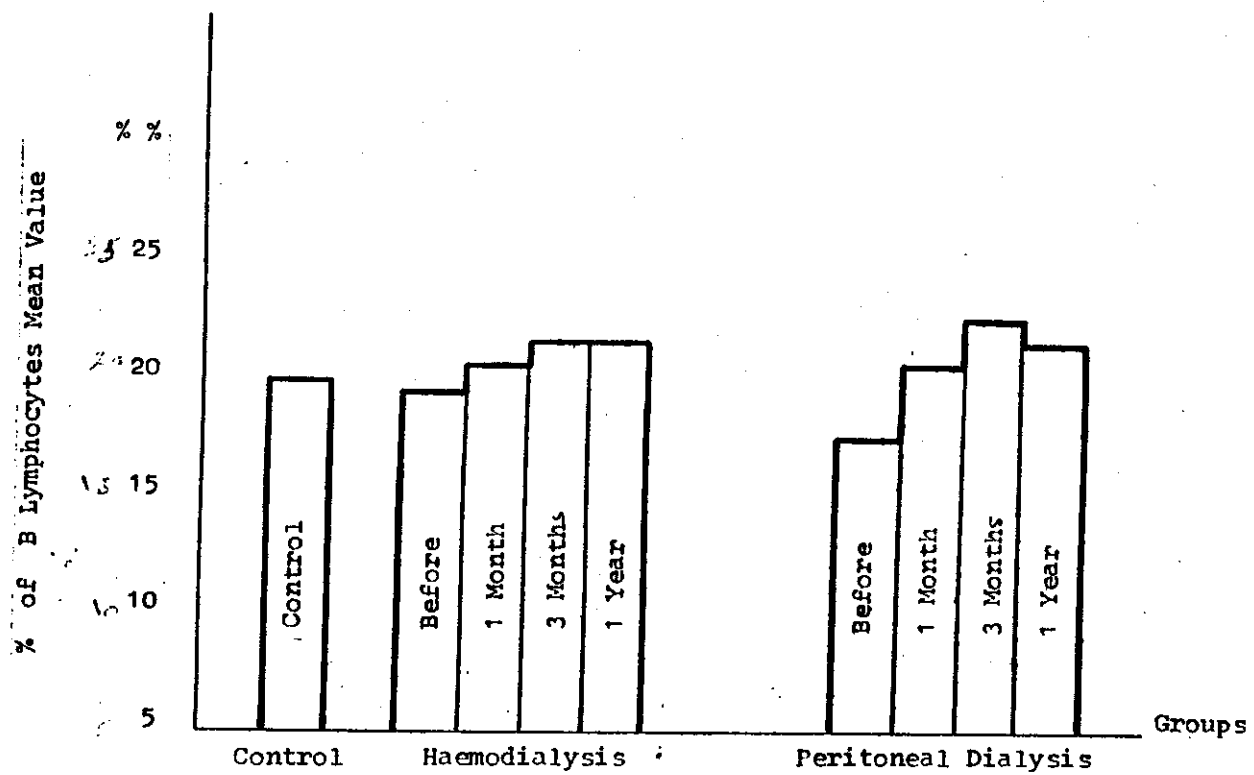


Fig. 5 : % of B Lymphocytes Mean Values in Groups Tested.

dialysis compared to control ($P > 0.05$) (Table 21).

Also there was no significant change in B lymphocyte percentage in uraemic patients one month, 3 months, one year after peritoneal dialysis compared to uraemic non dialysed patients ($P > 0.05$) (Table 22).

b. Concentration of different Classes of Immunoglobulins

1. Concentration of Immunoglobulin G

The mean value of the concentration of immunoglobulin G was 1345.20 in normal healthy individual, 1175.87 in ureamic patients before haemodialysis, 1164.20 in uraemic patients one month after haemodialysis. 1179.20 in uraemic patients three months after haemodialysis and 1151 in uraemic patients one year after regular haemodialysis. (Table 23).

The mean value of the concentration of immunoglobulin G before peritoneal dialysis was 1110; in uraemic patients one month after peritoneal dialysis 1118.33, in uraemic patients three months after peritoneal dialysis 1136 and in uraemic patients after one year of peritoneal dialysis was 1129.67. (Table 23).

There was no significant change could be observed in immunoglobulin G concentration in uraemic patients either before treatment or after haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year) compared to the control ($P > 0.05$) (Table 23).

Also, there was no significant change could be observed in immunoglobulin G in uraemic patients on regular haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year) compared to uraemic non dialysed patients ($P > 0.05$). (Table 24).

Table 23 : Concentration of Immunoglobulin G with Statistical Analysis between the Control and Uraemic Dialysed and non Dialysed Patients.

No	Control	Haemodialysis				Peritoneal Dialysis			
		Before treatm. %	One month aft. treat %	3 months aft. treat %	One year aft. treat %	Before treatment %	1 month aft. treat %	3 months aft. treat %	One year aft. treat %
1	1350	1190	1200	1250	11260	1190	1200	1200	1205
2	1050	1198	1200	1200	N.D.	1200	1090	1100	1105
3	1932	1200	1210	1220	1200	1200	1200	1210	N.D.
4	1500	1050	1100	1000	N.D.	1210	1220	1225	1220
5	1250	1110	1120	1000	1020	1010	1050	1080	1080
6	1320	1040	1050	1050	1075	1050	1050	1080	N.D.
7	1050	1320	1300	1280	N.D.	1080	1060	1160	1168
8	1110	1430	1400	1350	N.D.	950	980	1000	1000
9	1340	1120	1010	1000	1200	950	900	880	N.D.
10	-	1550	1250	1200	1220	N.D.	1050	1100	N.D.
11	-	1060	100	1105	-	1110	1200	1050	-
12	-	1105	1115	1267	-	1210	1220	988	-
13	-	1155	1216	1166	-	970	1080	1210	-
14	-	1210	1127	1280	-	1200	1200	1350	-
15	-	1190	1065	1300	-	11270	1275	1400	-
No	10	15	15	15	5	15	15	15	6
Mean X	1345.2	1175.87	1164.2	1179.2	1151	1110	1118.33	1136	1129.67
S.E. ±	84.96	26.86	97.16	30.81	44.51	28.05	27.46	35.22	34.25
P.V.		P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05

P. Value < 0.05 = Significant

P. Value > 0.05 = Non Significant

Table 24 : Statistical Analysis for Immunoglobulin G before and after Dialysis (Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	One year
No	15	15	15	15	15	15	15	6
Mean $\pm$	1175.87	1164.20	1179.20	1153.00	1110.00	1118.33	1136.00	1129.67
S.ERROR	26.86	27.16	30.81	44.51	28.05	27.46	35.22	34.25
S.E. $\pm$								
P.Value* and Signifi- fication	-	> 0.05	> 0.05	> 0.05	-	> 0.05	> 0.05	> 0.05
		N.S.	N.S.	N.S.		N.S.	N.S.	N.S.

* P < 0.05 : Significant P > 0.05 : Non Significant.

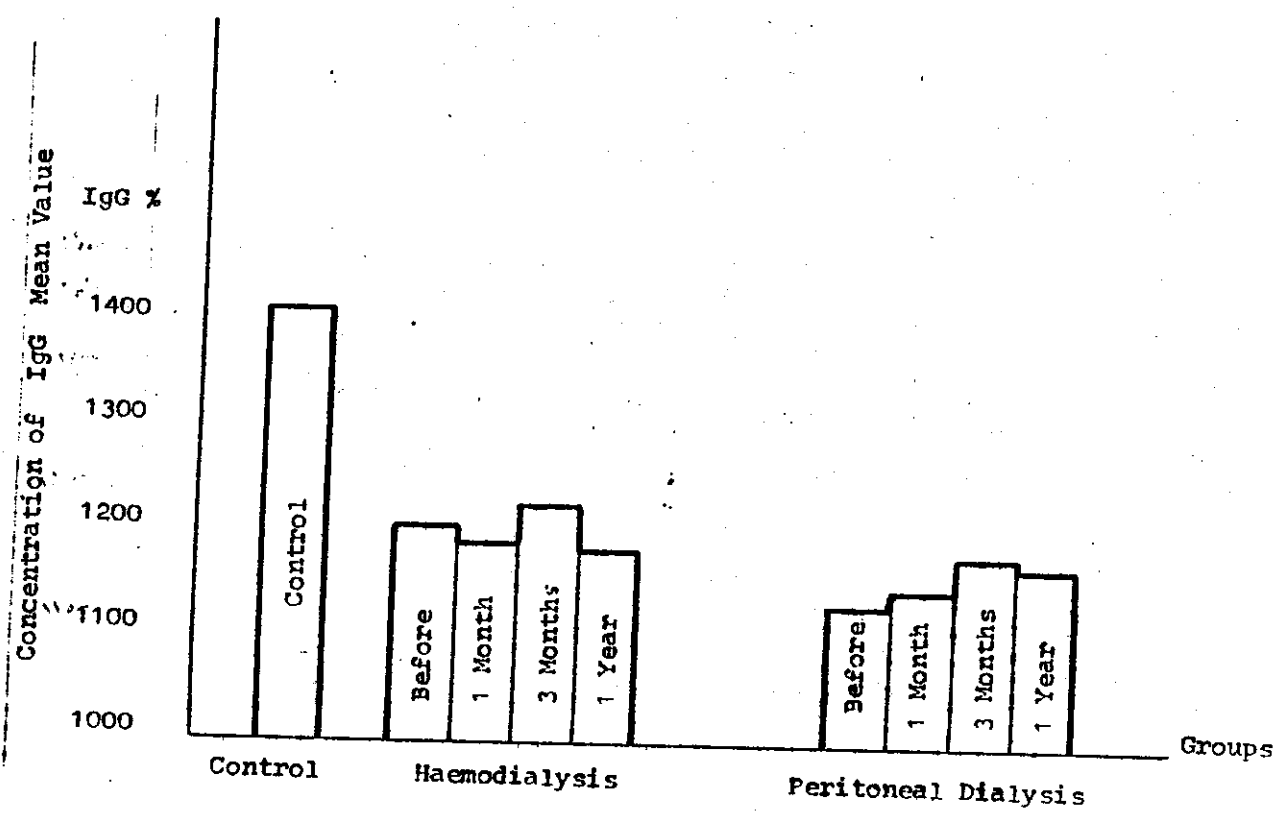


Fig. 6 : Concentration of IgG Mean Values in Groups Tested.

2. Concentration of Immunoglobulin A

The mean value of the concentration of immunoglobulin A was 195.30 in normal healthy individual, in uraemic patient before haemodialysis 220.47, in uraemic patient one month after regular haemodialysis 223.60, in uraemic patients three months after haemodialysis 220.60 and in uraemic patients one year after haemodialysis was 235.20 (Table 25).

The mean value of the concentration of immunoglobulin A was 213.67 in uraemic patients before peritoneal dialysis, in uraemic patients one month after peritoneal dialysis 221.80, in uraemic patients three months after peritoneal dialysis 227.87 and in uraemic patients one year after peritoneal dialysis was 240 (Table 25).

There was no significant change could be

Table 25 : Concentration of Immunoglobulin A with Statistical Analysis between the Control and Uraemic Dialysed and non Dialysed Patients.

No	Control %	Haemodialysis				Peritoneal Dialysis			
		Before treatm. %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. treat. %	Before treatment %	1 month aft. treat. %	3 months aft. treat. %	One year aft. treat. %
1	225	225	230	230	235	225	230	235	235
2	200	245	250	245	N.D.	230	230	240	240
3	164	230	215	220	210	210	200	210	N.D.
4	210	270	281	270	N.D.	180	190	200	210
5	220	215	215	220	215	190	190	210	215
6	200	200	210	200	276	220	215	225	N.D.
7	270	270	250	250	N.D.	260	265	270	270
8	120	300	300	300	N.D.	250	260	270	270
9	214	260	270	260	240	225	260	250	N.D.
10	130	110	130	120	N.D.	215	230	240	N.D.
11	-	215	230	241	-	200	220	217	-
12	-	160	166	180	-	170	182	195	-
13	-	165	165	170	-	185	190	201	-
14	-	230	225	203	-	215	240	225	-
15	-	212	217	200	-	230	225	230	-
No	10	15	15	15	5	15	15	15	6
Mean	195.3	220.47	223.6	220.6	235.2	213.67	221.8	227.87	240
S.E. +	13.65	12.55	11.68	11.5	11.69	6.52	7.06	6.07	10.57
P.V.	-	P>0.05	P>0.005	P>0.05	P>0.05	P>0.05	P>0.05	P>0.05	P>0.05

P.Value < 0.05 = Significant

P.Value > 0.05 = Non Significant.

Table 26 : Statistical Analysis for Immunoglobulin A before and after Dialysis (Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year
No	15	15	15	5	15	15	15	6
Mean $\pm$	220.47	223.60	220.60	235.20	213.67	221.80	227.87	240.00
S.Error	12.55	11.68	11.50	11.69	6.52	7.06	6.07	10.57
S.E. $\pm$								
P.Value*	-	> 0.05	> 0.05	> 0.05	-	> 0.05	> 0.05	> 0.05
and Signi- fication		N.S.	N.S.	N.S.		N.S.	N.S.	N.S.

* P < 0.05 : Significant P > 0.05 % : Non Significant.

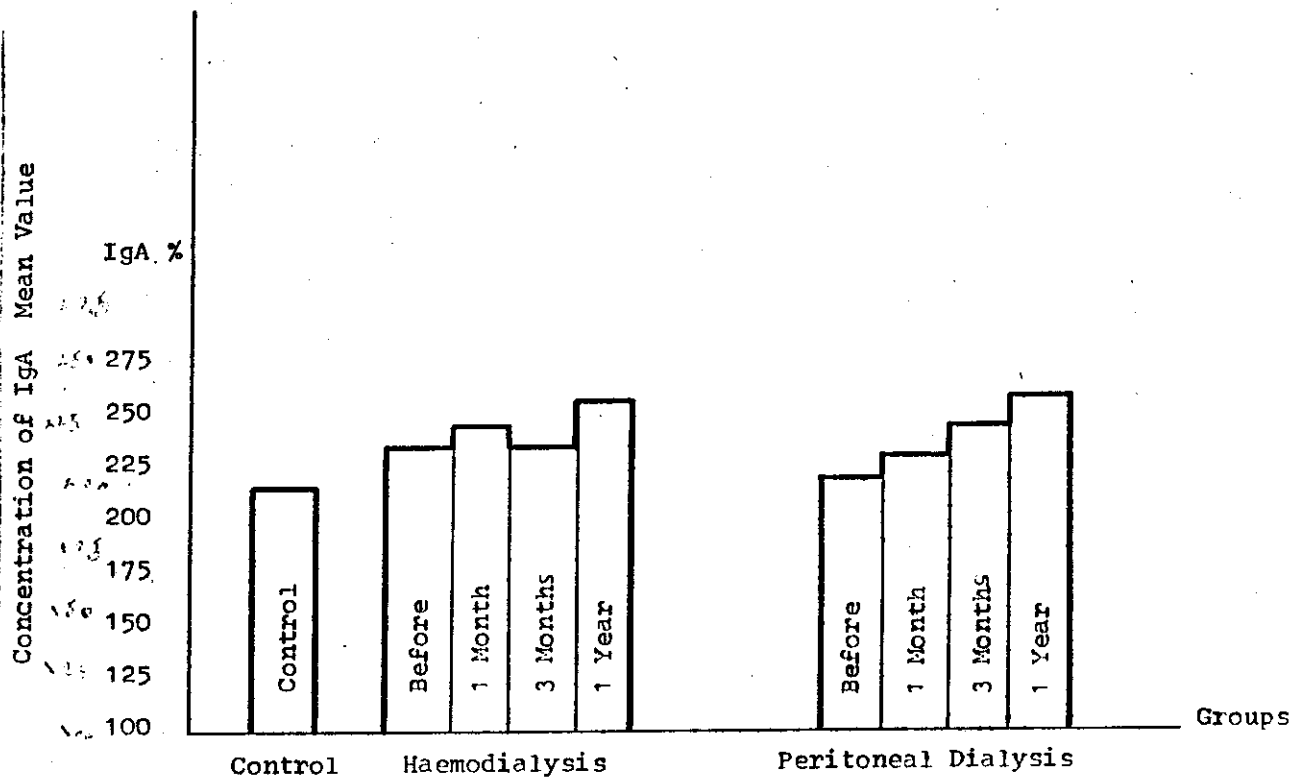


Fig. 7 : Concentration of IgA Mean Values in Groups Tested.

one year after regular haemodialysis was 106.00 (Table 27).

The mean value of the concentration of immunoglobulin M was 118.07 before peritoneal dialysis, one month after peritoneal dialysis was 122.53, in uraemic patients three months after peritoneal dialysis 125.40 and in uraemic patients one year after peritoneal dialysis was 122.17 (Table 27).

There was no significant change could be observed in the concentration of immunoglobulin M in uraemic patients either before treatment or after haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year) compared to the control ($P > 0.05$) (Table 27). Also there was no significant change could be observed in immunoglobulin M in uraemic patients on regular haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year) compared to uraemic non dialysed patients ($P > 0.05$) (Table 28).

Table 27 : Concentration of Immunoglobulin M and Statistical Analysis between the Control and Uraemic Dialysed and non Dialysed Patients

No	Control %	Haemodialysis				Peritoneal Dialysis			
		Before treatm. %	One month aft. treat %	3 months aft. treat %	One year aft. treat %	before treatm %	1 month aft. treat %	3 months aft. treat %	One year aft. treat %
1	110	110	120	120	110	95	100	105	100
2	95	130	125	122	N.D.	125	120	125	103
3	156	120	110	130	100	130	135	130	N.D.
4	105	90	95	90	N.D.	125	130	140	145
5	125	95	95	90	100	120	110	125	
6	125	123	120	115	95	105	100	115	N.D.
7	90	65	75	68	N.D.	135	140	140	135
8	66	96	100	105	N.D.	140	135	135	125
9	156	100	110	100	125	125	130	130	N.D.
10	95	156	160	140	N.D.	115	120	130	N.D.
11	-	160	175	180	-	38	100	120	-
12	-	98	105	122	-	97	130	140	-
13	-	120	126	140	-	118	125	130	-
14	-	89	85	97	-	136	140	126	-
15	-	100	105	106	-	127	100	105	-
No	10	15	15	15	5	15	15	15	6
Mean	112.3	110.07	113.73	115	106	118.07	122.53	125.4	122.17
S.E. +	9.09	5.56	6.78	6.9	5.34	3.99	3.7	3.10	7.21
P.V.	-	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05

* P. Value < 0.05 = Significant

P. Value > 0.05 = Non Significant

Table 28 : Statistical Analysis for Immunoglobulin M before and after Dialysis (Haemodialysis and Peritoneal Dialysis).

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	One year	Before	1 month	3 months	One year
No	15	15	15	5	15	15	15	6
Mean $\pm$	110.07	113.73	115.00	106.00	118.07	122.53	125.40	122.17
S.ERROR	6.56	6.78	6.90	5.34	3.99	3.70	3.10	7.21
S.E. $\pm$								
P.Value*	-	0.05	0.05	0.05	-	0.05	0.05	0.05
and Signi fication		> N.S.	> N.S.	> N.S.	> N.S.	> N.S.	> N.S.	> N.S.

* P < 0.05 : Significant

N.S. : Non significant.

P > 0.05 : Non significant

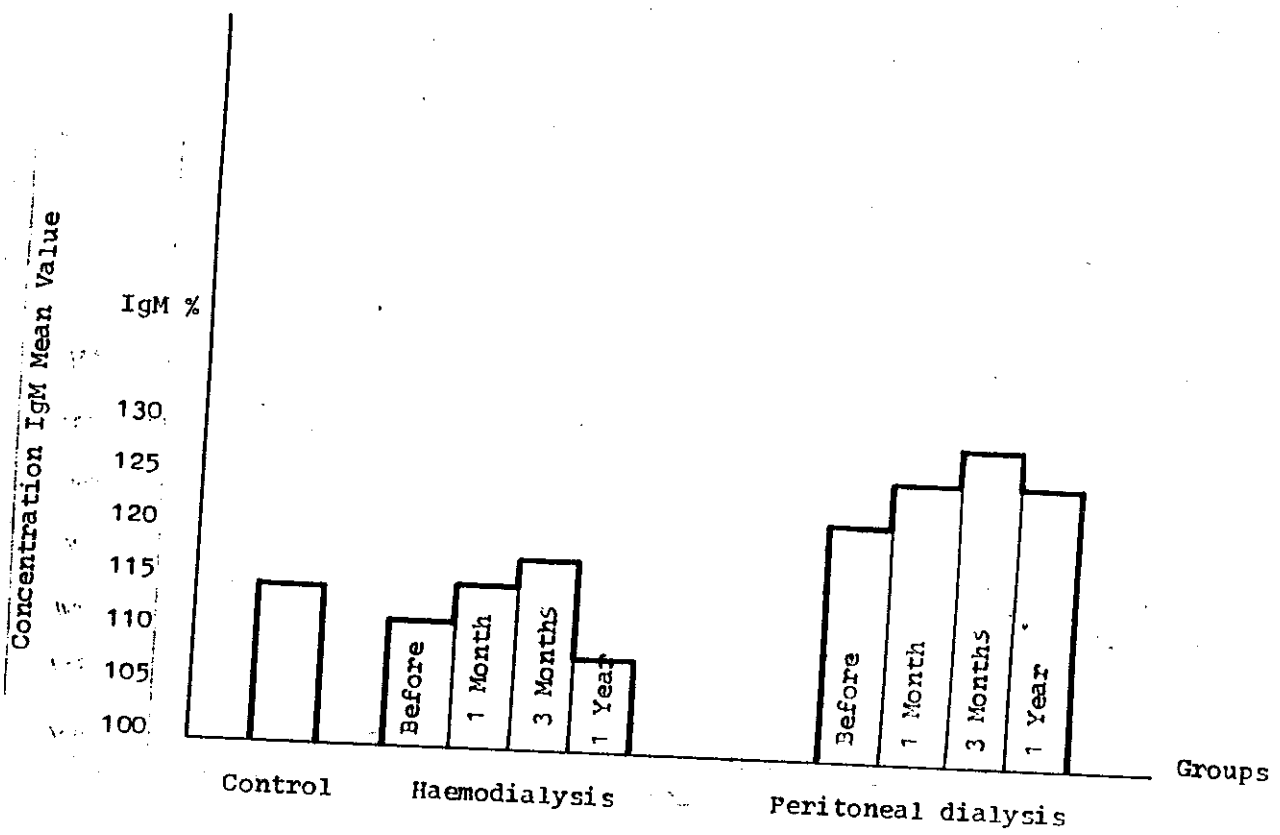


Fig. 8 : Concentration of IgM Mean Values in Groups Tested.

From the study of humoral immunity we found that there was no significant change of B lymphocyte number and functions in uraemic patients either before haemodialysis or after haemodialysis, the same result obtained with peritoneal dialysis.

Correlation between Kidney Function Tests and
Parameters of Immunity

a. Correlation between Serum Creatinine and Parameters of Immunity

Serum creatinine mean value before haemodialysis was 13.45 mg.% one month after haemodialysis serum creatinine was 9.43 mg.% three months after haemodialysis serum creatinine mean value was 8.15 mg.% and one year after haemodialysis serum creatinine mean value was 7.2 mg.% (Table 29).

Serum creatinine mean value before peritoneal dialysis was 15.32 mg.%, one month after peritoneal

dialysis serum creatinine mean value was 10.21 mg.%, three months after peritoneal dialysis was 8.51 mg.% and one year after peritoneal dialysis was 5.4 mg.% (Table 29).

There was significant increase of serum creatinine levels in uraemic patients either before treatment or after haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year) compared to the control ($P < 0.05$) (Table 29). There was significant decrease of serum creatinine levels in uraemic patients after haemodialysis and peritoneal dialysis for different intervals (one month, three months and one year) compared to uraemic non dialysed patients ($P < 0.05$) (Table 30).

Correlation between serum creatinine and parameters of cellular immunity for each period of peritoneal dialysis showed variable weak negative correlation but it showed negative correlation with E. Rosette test for patients on haemodialysis and positive

Table 29 : Serum Creatinine in all Test Groups with Statistical Analysis between Uraemic Dialysed and Uraemic non Dialysed and the Control.

No	Control %	Haemodialysis					Peritoneal Dialysis			
		Before treatm. %	One month aft. treat %	3 months aft. treat %	One year aft. treat %	Before treatm. %	One month aft. treat %	3 months aft. treat %	One year aft. treat %	
1	0.6	12	8	8.5	6	19	11	8	6.5	
2	0.8	13.5	9.5	7.5	N.D	16	10.5	8.5	4.2	
3	1.0	13	7.8	7.2	8	18.5	11.5	7.5	N.D.	
4	0.7	13.5	9	7	N.D.	17	10	9	4.6	
5	0.6	12.75	9.5	8.5	8	14	9.9	8.6	5.8	
6	0.6	11.5	8.5	7.7	7.2	13	8.5	7	N.D.	
7	0.8	11.2	9.2	8.4	N.D.	15.5	9	9	6.7	
8	0.9	12.5	7	7.5	N.D.	14	10.5	8.5	4.6	
9	0.6	13.5	9.5	6.5	7	13.5	11	7.8	N.D.	
10	0.6	13.2	8.2	8	N.D.	13.5	9.5	7.2	N.D.	
11	-	11.2	10.9	9.1	-	16.2	9	8.5	-	
12	-	14.25	12.4	8.9	-	18.5	11	9.7	-	
13	-	15.5	10.3	10	-	14.7	13	104	-	
14	-	16.4	10.7	8.6	-	13.5	10.7	8.7	-	
15	-	17.8	41	8.9	-	13	8	9.2	-	
No	10	15	15	15	5	15	15	15	6	
Mean	0.72	13.45	9.43	8.15	7.24	15.32	10.21	8.51	5.4	
S.E.	0.05	0.49	0.37	0.24	0.37	0.5	0.33	0.24	0.44	
P.V.		P < 0.05	P < 0.05	P < 0.05	P < 0.05	P < 0.05	P < 0.05	P < 0.05	P < 0.05	

P. Value < 0.05 = Significant

P. Value < 0.05 = Significant

P. Value < 0.05 = Significant

P. Value > 0.05 = Non Significant.

Table 30 : Statistical Analysis for Serum Creatinine in all Test Groups between Uraemic non Dialysed with the Uraemic Dialysed Patients on Peritoneal Dialysis and Haemodialysis.

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	One year	Before	1 month	3 months	One year
No	15	15	15	5	15	15	15	6
Mean ⁺	13.45	9.43	8.15	7.24	15.32	10.21	8.51	5.40
S.ERROR	0.49	0.37	0.24	0.37	0.50	0.33	0.24	0.44
S.E. $\pm$								
P.Value* and Signi- fication	-	< 0.05	< 0.05 S.	< 0.05 S.	- S.	< 0.05 S.	< 0.05 S.	< 0.05 S.

* P < 0.05 : Significant
H.S. : High significant.

P > 0.05 : Non significant

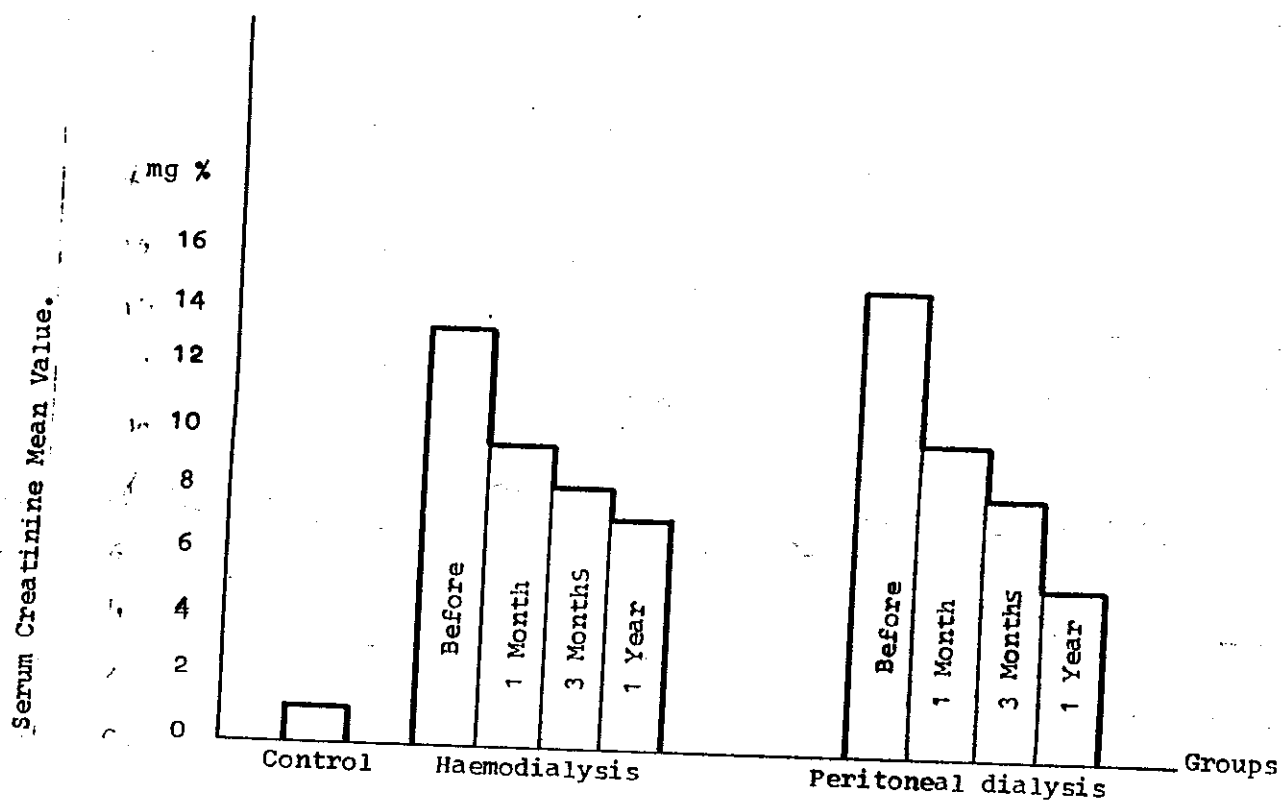


Fig. 9 : Serum Creatinine Mean Values in Groups Tested.

correlation with active E.Rosette test for patients on haemodialysis (Table 31).

Correlation between serum creatinine and parameters of humoral immunity for each period of peritoneal dialysis showed variable weak negative and weak positive correlation. The same results obtained for patients on haemodialysis (Table 31).

b. Correlation between Blood Urea and Parameters of Immunity

Blood urea mean value before haemodialysis was 317.07 mg.%, one month after haemodialysis was 205.67 mg.%, three months after haemodialysis was 152.53 mg.% and one year after haemodialysis was 101 mg.% (Table 32). Blood urea mean value before peritoneal dialysis was 398.69 mg.%, one month after peritoneal dialysis was 213.67 mg.%, three months after peritoneal dialysis was 101 mg.% and one year after peritoneal dialysis was 93.3 mg.% (Table 32).

Table 31 : Correlation Coefficients between Serum Creatinine and Cellular, Humoral Immunity.

Between	Haemodialysis					Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year	
Cellular Imm.	Creatinine & E. Rosette %	(0.24)	(0.25)	(0.003)	(0.65)	0.15	(0.18)	0.47	(0.03)
	Creatinine & E. Rosette	0.13	0.15	0.25	0.66	0.76	0.04	(0.14)	(0.36)
	Creatinine & B cells %	(0.04)	(0.38)	(0.47)	0.65	(0.57)	0.21	0.30	0.28
Humoral Imm.	Creatinine & Immunoglobulin G	(0.003)	(0.63)	0.31	(0.62)	0.48	(0.13)	0.25	0.39
	Creatinine & Immunoglob.A	(0.22)	(0.33)	(0.43)	(0.31)	(0.25)	(0.25)	(0.32)	0.17
	Creatinine & Immunoglob.H	(0.18)	0.02	0.34	(0.46)	(0.32)	0.44	0.24	(0.04)

() Negative Figures.

There was significant increase of blood urea levels in uraemic patients either before treatment or after haemodialysis or peritoneal dialysis for different intervals (one month, three months and one year), compared to the control ($P < 0.05$) (Table 32). There was significant decrease of serum creatinine levels in uraemic patients after haemodialysis and peritoneal dialysis for different intervals (one month, three months and one year) compared to uraemic non dialysed patients ($P < 0.05$) (Table 33).

Correlation between blood urea and parameters of cellular immunity for each period of dialysis showed variable weak negative correlation for patients on peritoneal dialysis but showed variable weak negative and weak positive for patients on haemodialysis (Table 34).

Correlation between blood urea and parameters of humoral immunity showed variable

weak positive and weak negative for patients on peritoneal dialysis; the same results were obtained for patients on haemodialysis (Table 34).

Table 32 : Blood Urea in all Test Groups with Statistical Analysis between the Control and Uraemic non Dialysed and Uraemic Dialysed Patients.

No	Control %	Haemodialysis				Peritoneal Dialysis			
		Before treatm. %	1 month aft. treat. %	3 months aft. treat. %	1 year aft. treat. %	Before treatm. %	1 month aft. treat. %	3 months aft. treat. %	1 Year aft. treat. %
1	8	240.	200	160	110	440	220	110	105
2	10	280	190	175	N.D.	390	190	100	95
3	6	320	220	155	65	490	185	95	N.D.
4	5.5	380	230	170	N.D.	400	210	105	85
5	6	330	220	160	130	285	165	90	110
6	8	295	195	180	85	360	180	120	N.D.
7	8.2	265	200	140	N.D.	405	225	85	80
8	5.5	290	195	130	N.D.	365	205	125	85
9	6	305	205	125	95	365	185	105	N.D.
10	6.2	390	220	135	N.D.	410	210	100	
11		340	210	143		490	220	110	
12		360	205	162		440	270	90	
13		285	195	155		380	310	95	
14		390	190	156		390	205	100	
15		295	210	142		370	225	85	
No	10	15	15	15	5	15	15	15	6
Mean	6.94	317.07	205.67	152.53	101	398.69	213.67	101	93.33
S.E.±	0.48	11.96	3.19	4.91	8.57	13.50	9.43	3.05	4.94
P.V.		P<0.05	P<0.05	P<0.05	P>0.05	P<0.05	P>0.05	P<0.05	P<0.05

P. Value < 0.05 = Significant
S.E. : Standard Error.

P. Value > 0.05 = Non Significant

Table 33 : Statistical Analysis for Blood Urea between Uraemic non Dialysed and Uraemic Dialysed Patients on Haemodialysis and Peritoneal Dialysis.

Groups Item	Haemodialysis				Peritoneal Dialysis			
	Before	1 month	3 months	1 year	Before	1 month	3 months	1 year
No	15	15	15	5	15	15	15	6
Mean $\pm$	317.67	205.67	152.53	101.00	398.67	213.67	101.00	93.33
S.ERROR	11.96	3.19	4.21	8.57	13.50	9.43	3.05	4.94
S.E. $\pm$								
P.Value*	-	< 0.05	< 0.05	< 0.05	-	< 0.05	< 0.05	< 0.05
and sign. fication		S.	S.	S.		S.	S.	S.

* P < 0.05 : Significant

P > 0.05 : Non significant

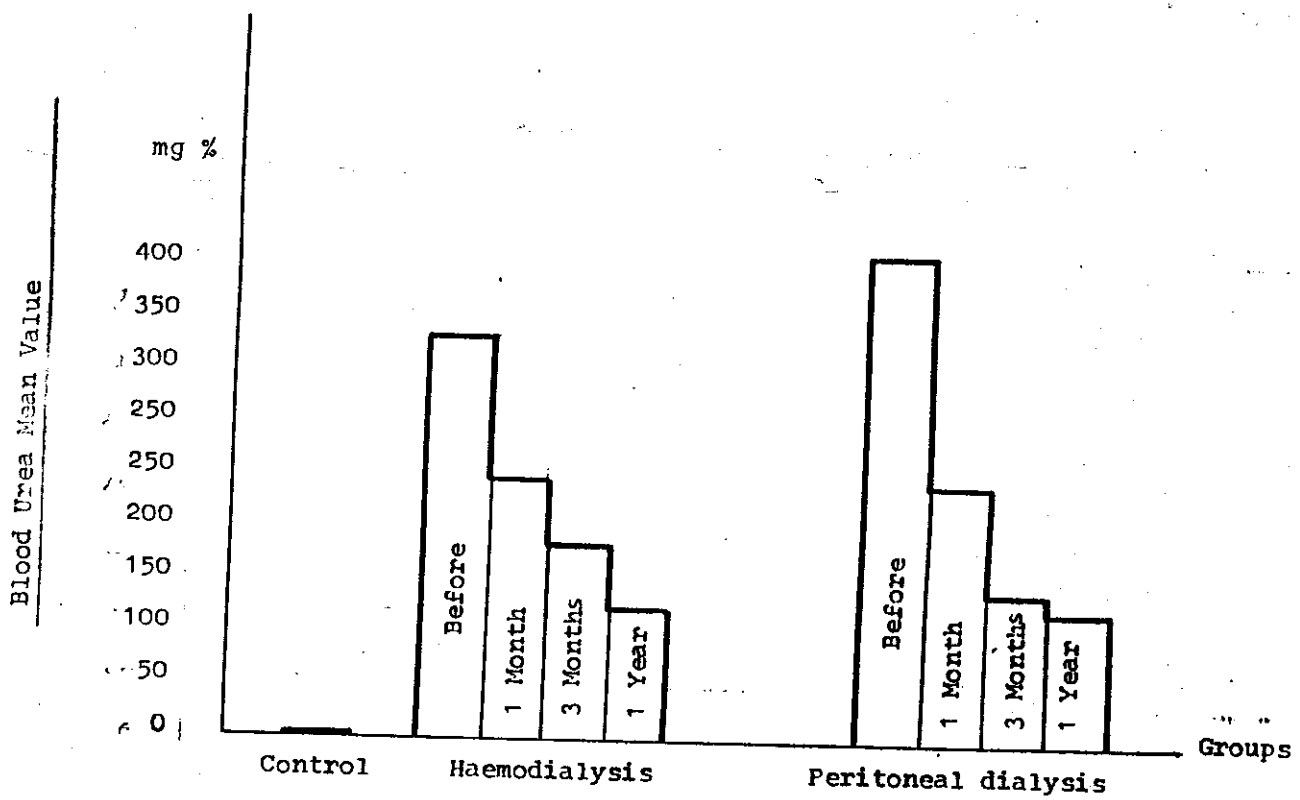


Fig. 10 : Blood Urea Mean Values in Groups Tested.

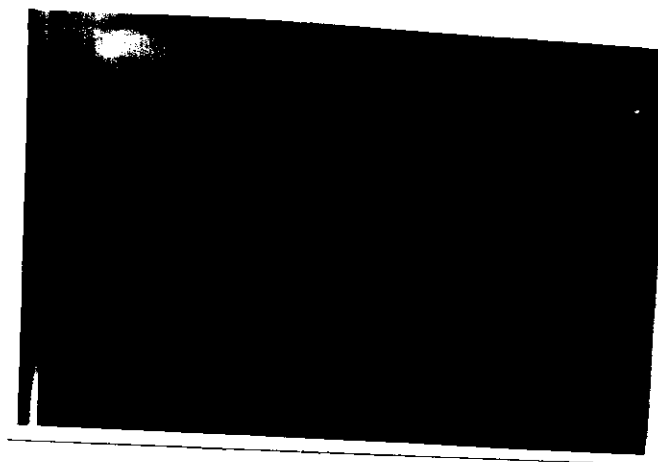


Fig. 10 : Microscopic Picture for E. Rosette Test.



Fig. 11 : Microscopic Picture for Active E. Rosette Test.