RESULTS

Results

The results of this work will be summarized in the following tables including personal, clinical and laboratory data of the studied groups:

Table (1): Is a descriptive table for the different groups included in this work regarding to sex and age.

Table (2): Describes the percentage of hypertension in the studied groups. In group II, 8 cases presented by hypertension (80%) and 2 cases showed no hypertension (20%). In group III, 12 cases presented by hypertension (40%) and 18 cases showed no hypertension (60%).

Also (table 9) describes the percentage of infection in the studied groups. In group II, 6 cases presented by infection (60%) and 4 cases showed no infection (40%). In group III, 16 cases presented by infection (53.3%) and 14 cases showed no infection (46.7%).

Table (3): Describes the result of urine analysis among patients under conservative treatment, which reveals that all the patients have proteinuria with different degree of severity. Meanwhile 90% of patients have different type of casts.

Table (4): Describes the mean and standard deviation and statistical significant difference of Hb %, urea, creatinine, creatinine clearance, albumin, GSR and GSH. In group II ($\bar{x}$ ±S.D) of Hb is 7.4 ± 0.9 g%, urea is 80.4 ± 30.8 mg/dL, creatinine is 9.23 ± 0.75 mg/dL, creatinine clearance is 8.8 ± 2.2 ml/min, albumin is 2.6 ± 0.5 g/dL, GSR is 33.5 ± 5.2 U/l and GSH is 4.6 ± 0.5 U/l.

In group III ($\bar{x}$ ±S.D) of Hb is 10.0 ± 1.0 g%, urea is 39.9± 13.8 mg/dL, creatinine is 2.2 ± 1.1mg/dL, creatinine clearance is 74.9 ± 9.9 ml/min, albumin is 4.0 ± 1.1 g/dL, GSR is 55.2± 6.2 U/l and GSH is 6.2 ± 0.8 U/l. So that ($\bar{x}$ ±S.D) of urea and creatinine are significantly higher in group II and group III when compared with control group ($P < 0.01$) whereas Hb, creatinine clearance, albumin, GSR and GSH are significantly lower in group II and group III when compared with control ($P < 0.01$).

Table (5): Describes the comparison between group II and group III regarding age, duration of disease, Hb %, urea, creatinine, creatinine clearance, albumin, GSH and GSR which shows no significant difference in age and duration of disease ($p > 0.05$). Also the table shows that Hb, creatinine clearance, albumin, GSR and GSH are significantly higher in group III when compared with group II ($P < 0.01$). Whereas urea and creatinine are significantly lower in group III when compared with group II ($P < 0.01$).

Table (6): Describes correlation between GSH and duration of disease, Hb %, urea, creatinine, creatinine clearance, albumin, GSR, hypertension, infection and proteinuria. There are a significant positive correlation ($P < 0.05$) between GSH and Hb %, creatinine clearance, albumin and GSR whereas a significant negative correlation ($P < 0.05$) exists between GSH and urea, creatinine, duration of disease, hypertension, infection and proteinuria

Table (7): Describes correlation between GSR and duration of disease, Hb %, urea, creatinine, creatinine clearance, albumin, hypertension, infection and proteinuria which show significant positive correlation ($P < 0.05$) between GSR and Hb %, creatinine clearance and albumin whereas a significant negative correlation ($P < 0.05$) exists between GSR

and urea, creatinine, duration of disease, hypertension, infection and proteinuria

Table (8): Describes the effect of treatment in group II which show a significant elevation oh Hb %, GSH and GSR ($P< 0.01$).

Table (9): Describes the effect of treatment in group III which show a significant elevation on Hb %, GSH, GSR, creatinine clearance and albumin ($P< 0.01$). Whereas antioxidant result in a significant decrease in creatinine ($P < 0.01$) and urea ($P< 0.05$).

Table (1): Sex and age distribution of the studied groups.

Studied group / Parameters	Control group (G. I) n =10	Dialysis group (G. II) n =10	Conservative group (G.III) n = 30	Total
Sex:				
Females: No.	5	4	14	23
%	50.0	40.0	46.7	46.0
Males: No.	5	6	16	27
%	50.0	60.0	53.3	54.0
Age (years):				
$\overline{X}$	38.0	39.3	37.9	-
±S.D	±4.8	±9.4	±7.3	-
t	-	0.390	0.027	-
p	-	> 0.05	>0.05	-

Fig.(1): Percent Distribution of the studied groups.

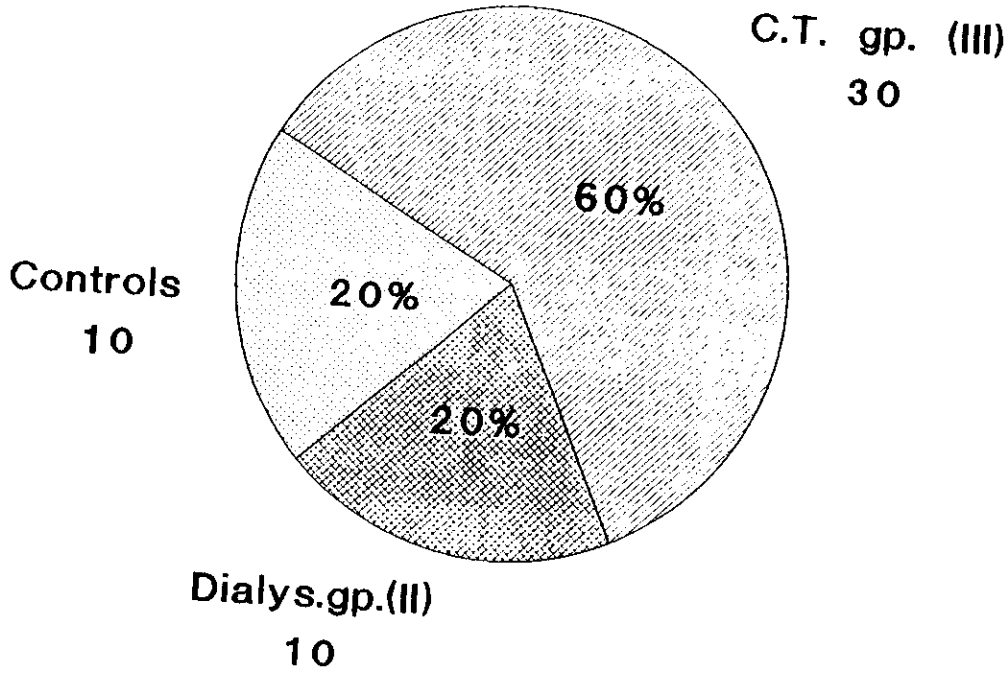

Table (2): Clinical data among the studied patients.

Clinical data	Present		Absent		Total		Adjusted X^2	P
	No.	%	No.	%	No.	%		
Hypertension								
-Dialysis G. II	8	80.0	2	20.0	10	100.0	3.33	>0.05
-C. t. G. III	12	40.0	18	60.0	30	100.0		
Infection								
-Dialysis G. II	6	60.0	4	40.0	10	100.0	0.135	>0.05
-C. t. G. III	16	53.3	14	46.7	30	100.0		

This table reveals that 80% of studied patients under dialysis have hypertension meanwhile the remaining 20% are normotensive. On the other hand 40% of patients under conservative treatment have hypertension while the remaining 60% are normotensive.

This table also shows that 60 % of the patients under dialysis have infection meanwhile the remaining 40% have no infection. On the other hand 53.3% of patients under conservative treatment have infection while the remaining 46.7% have no infection.

Table (3) results of urine analysis among patients under conservative treatment

a) Proteinuria:

Degree / Result	Absent		+		++		+++		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Proteinuria	0	0.0	5	16.7	16	53.3	9	30.0	30	100.0

This table reveals that all patients under conservative treatment have proteinuria with different degree of severity.

b) Casts:

Casts	No.	%
Leucocytic casts	12	40%
Red casts	6	20%
Hyaline casts	4	13.4%
Granular casts	5	16.6%
No casts	3	10%
Total	30	100%

This table also shows that not all the patients have casts (10%) while the other having casts with different types (40% Leucocytic casts, 20% red casts, 13.4% hyaline casts and 16.6 % granular casts).

Table (4) Results of laboratory investigations among the studied groups.

Group / Parameter	Control group (G. I)	Dialysis group (G. II)	C.T. group (G. III)	Test of significance		
	$\overline{X}$ ±S.D	$\overline{X}$ ±S.D	$\overline{X}$ ±S.D	Group	t	P
Hemoglobin g%	13.3 ±1.6	7.4 ±0.9	10.0 ±1.0	II*I	10.062	<0.01
				III*I	7.915	<0.01
Urea mg /dL	21.6 ±1.1	80.4 ±30.8	39.9 ±13.8	II*I	6.028	<0.01
				III*I	4.153	<0.01
Creatinine mg /dL	0.80 ±0.07	9.23 ±0.75	2.2 ±1.1	II*I	35.549	<0.01
				III*I	4.196	<0.01
Cr. clearance ml / min.	120.5 ±7.8	8.8 ±2.2	74.9 ±9.9	II*I	43.743	<0.01
				III*I	13.251	<0.01
S.albumin g/dL	4.5 ±0.7	2.6 ±0.5	4.0 ±1.1	II*I	6.979	<0.01
				III*I	1.285	>0.05
GSR U/l	74.3 ±2.6	33.5 ±5.2	55.2 ±6.2	II*I	22.363	<0.01
				III*I	9.355	<0.01
GSH U/l	8.4 ±0.6	4.6 ±0.5	6.2 ±0.8	II*I	15.022	<0.01
				III*I	7.663	<0.01

This table shows that the S.urea, S.creatinine, are significantly higher in G. II and G. III patients when compared with controls. Whereas, hemoglobin, Cr.clearance, S.albumin glutathione reductase and total glutathione are significantly lower in G. II and G. III patients when compared with controls.

Table (5) comparison between the studied patients regarding different parameters

Studied groups / Parameters	Dialysis group (G.II)		Conservative group (G. III)		t	P
	$\bar{X}$	±S.D	$\bar{X}$	±S.D		
Age / year	39.3	±9.4	37.9	±7.3	0.478	>0.05
Duration of disease / year	2.3	±1.1	3.1	±1.9	1.105	>0.05
Hb. Before treatment / g%	7.4	±0.9	10.0	±1.0	7.310	<0.01
Urea before ttt: mg/dL	80.4	±30.8	39.9	±13.8	5.778	<0.01
S. creatinine before ttt: mg/dL	9.23	±0.75	2.2	±1.1	19.344	<0.001
Cr. clearance before ttt: ml/min	8.8	±2.2	74.9	±9.9	20.818	<0.01
S. albumin before ttt: g/dL	2.6	±0.5	4.0	±1.1	4.070	<0.01
GSR before ttt: U/l	33.5	±5.2	55.2	±6.2	9.910	<0.01
GSH before ttt: U/l	4.6	±0.5	6.2	±0.8	5. 780	<0.01

This table shows that no significant difference in age and duration of disease between G.II and G.III patients. Also the table shows that hemoglobin, Cr.clearance, S.albumin, glutathione reductase and total glutathione are significantly higher in G. III when compared to G. II. Whereas S.urea and S. creatinine are significantly lower in G. III when compared to G. II.

Fig.(2):Comparison between the studied groups regarding hemoglobin&glutathione

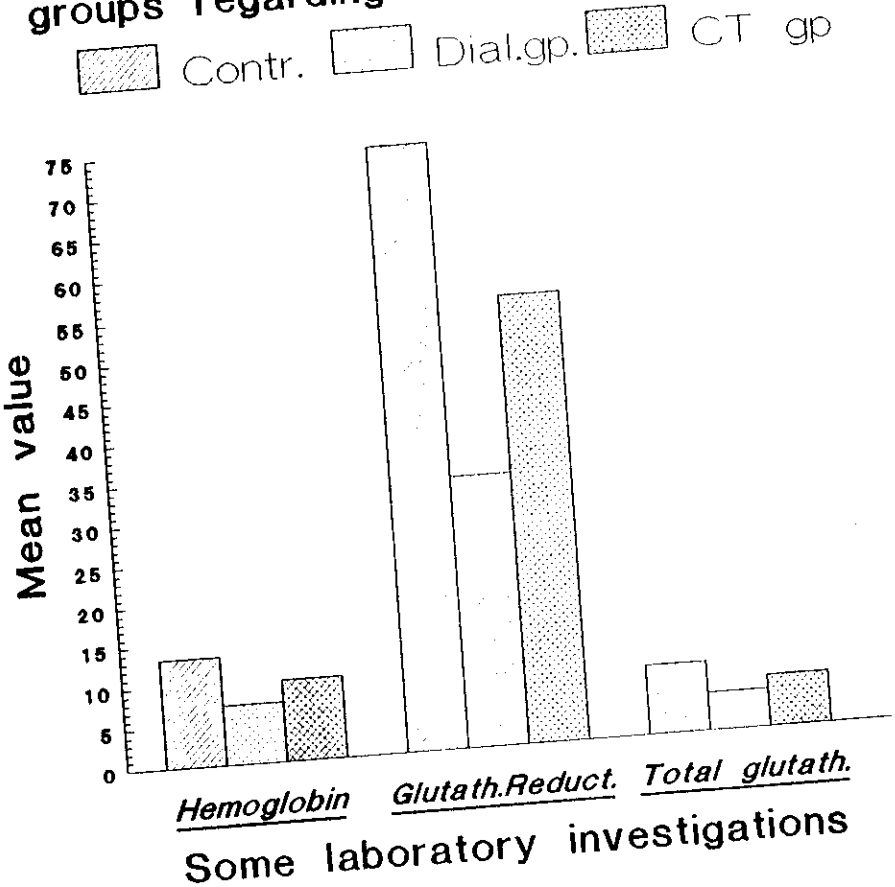

Table (6) correlation between glutathione and other parameters.

Parameters	Glutathione	
	R	P
*duration of disease	-0.292	<0.05
*Hb. Level	+0.688	<0.05
*S.urea	-0.563	<0.05
*S.creatinine	-0.709	<0.01
*Cr. clearance	+0.818	<0.01
*S.albumin	+0.400	<0.05
*GSR	+0.764	<0.01
• Hypertension	-0.475	<0.05
• Infection	-0.376	<0.05
• Proteinuria	-0.416	<0.05

This table shows a significant positive correlation between glutathione and the following parameters: hemoglobin level, creatinine clearance, S.albumin and glutathione reductase. Whereas a significant negative correlation exists between glutathione and following parameters: S.urea, S. creatinine, duration of disease, hypertension, infection and proteinuria.

Fig. (3): Correlation between duration of disease and total glutathione level.

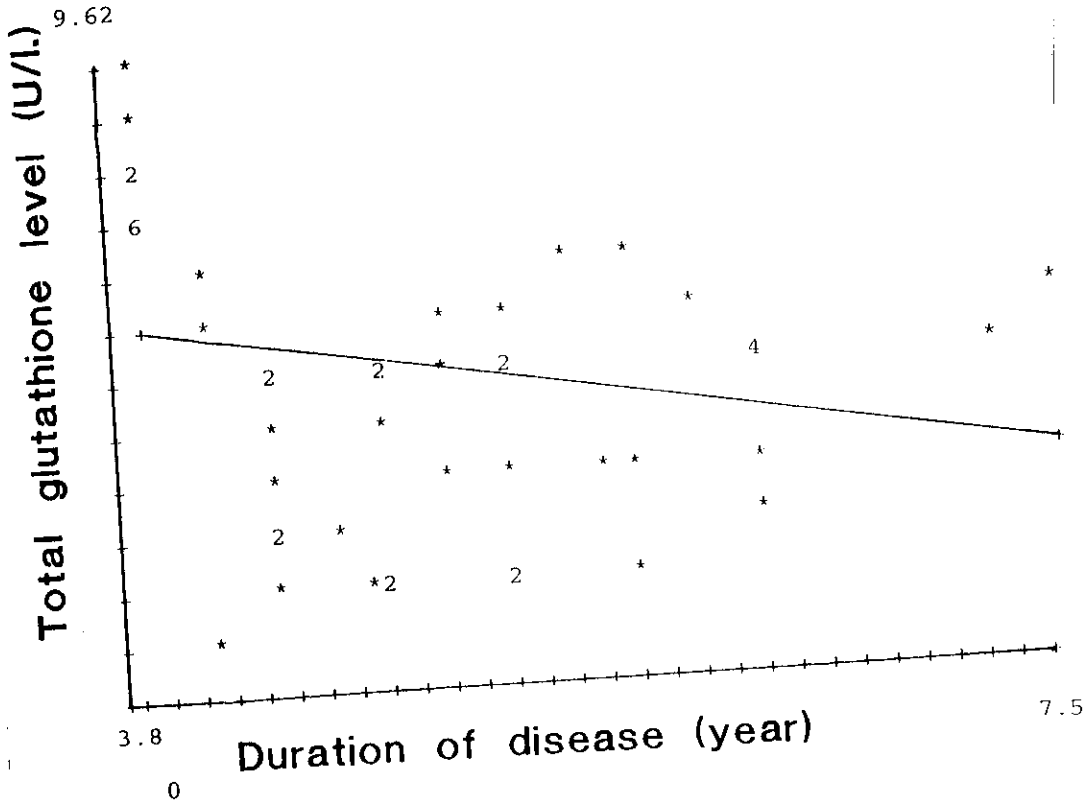

Fig. (4): Correlation between hemoglobin and total glutathione levels.

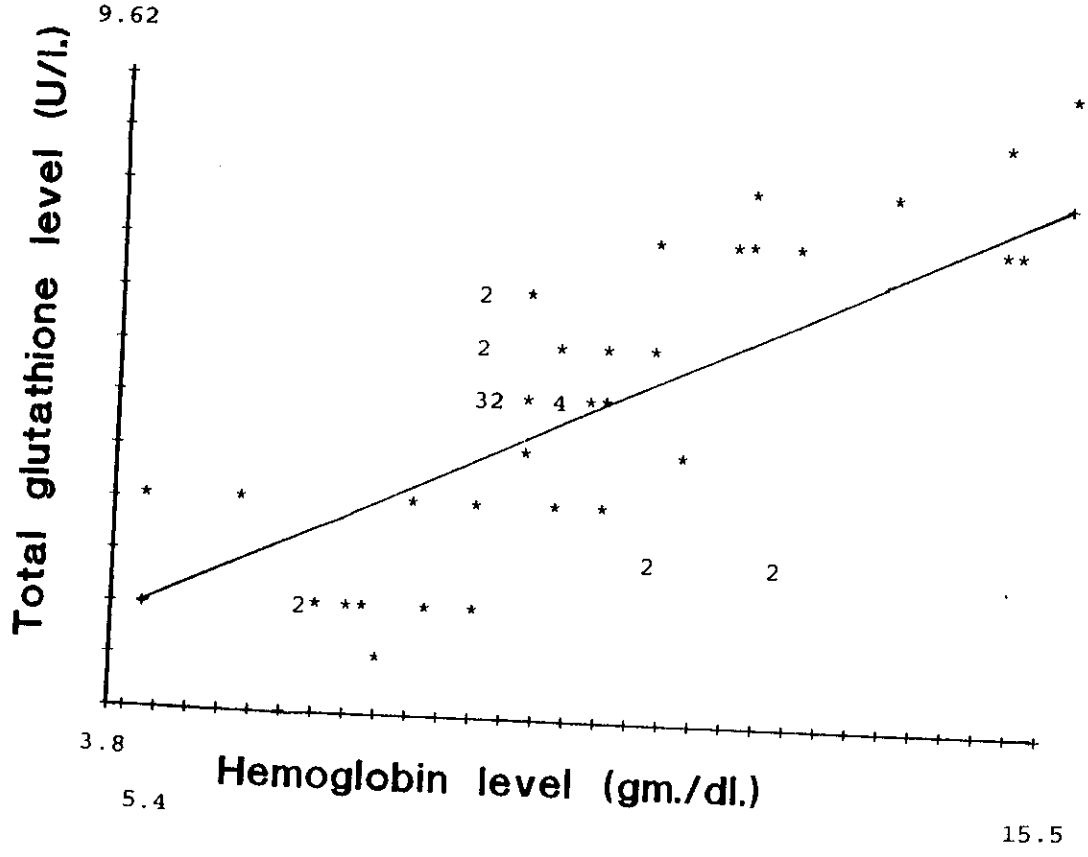

Fig. (5): Correlation between glutathione reductase and total glutathione levels.

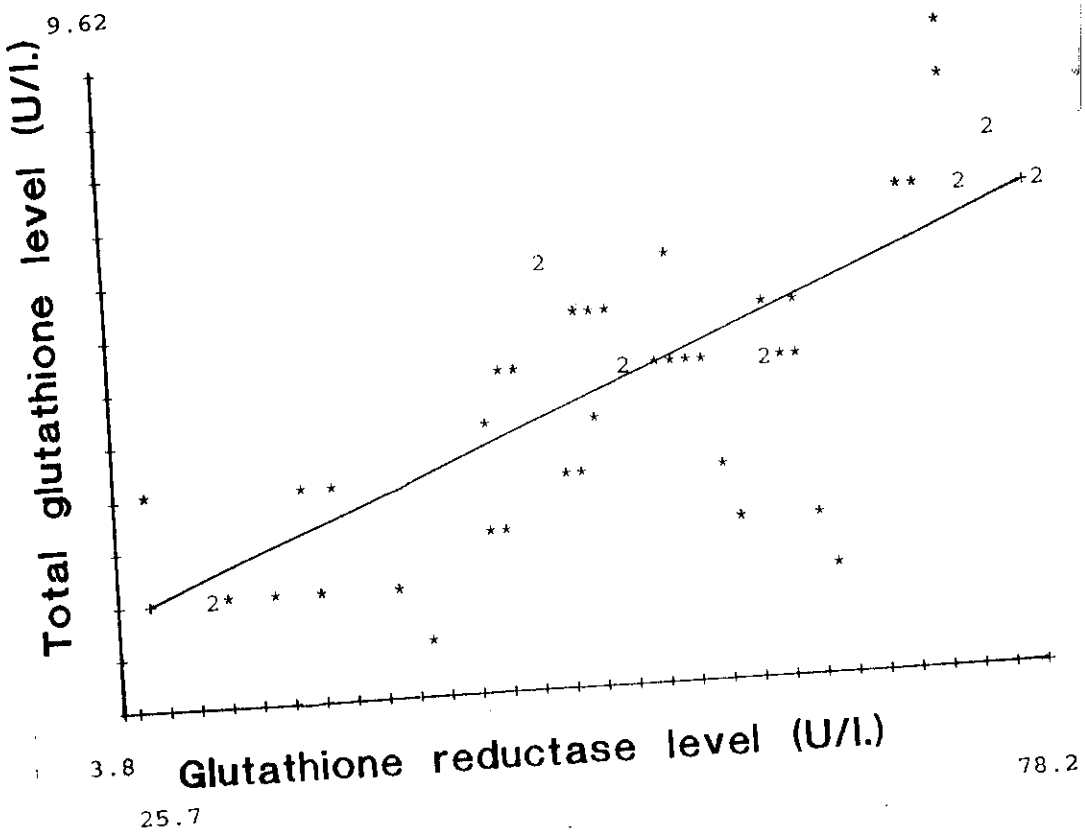

Table (7) correlation between glutathione reductase and other parameters.

Parameters	Glutathione reductase	
	R	P
*Duration of disease	-0.329	<0.05
*Hb. Level	+0.794	<0.01
*S.urea	-0.719	<0.01
*S.creatinine	-0.812	<0.01
*Cr. clearance	+0.889	<0.01
*S.albumin	+0.542	<0.05
• Hypertension	-0.521	<0.05
• Infection	-0.309	<0.05
• Proteinuria	-0.414	<0.05

This table shows a significant positive correlation between glutathione reductase and the following parameters: hemoglobin level, Cr. clearance, S.albumin. Whereas a significant negative correlation exists between glutathione reductase and following parameters: S.urea, S.creatinine, duration of disease, hypertension, infection and Proteinuria.

Table (8) Effect of treatment in dialysis group (G. II)

Parameter	Before treatment		After treatment		Paired T	P
	$\bar{X}$	±S.D	$\bar{X}$	±S.D		
Hemoglobin g%	7.4	±0.9	8.6	±0.5	5.650	<0.01
GSR U/l	33.5	±5.2	36.3	±4.2	4.622	<0.01
GSH U/l	4.6	±0.5	5.6	±0.6	9.069	<0.01

This table shows that treatment with antioxidant results in significant elevation of hemoglobin, glutathione reductase and total glutathione.

Fig. (6):Effect of treatment on hemoglobin and glutathione among dialysis patients.

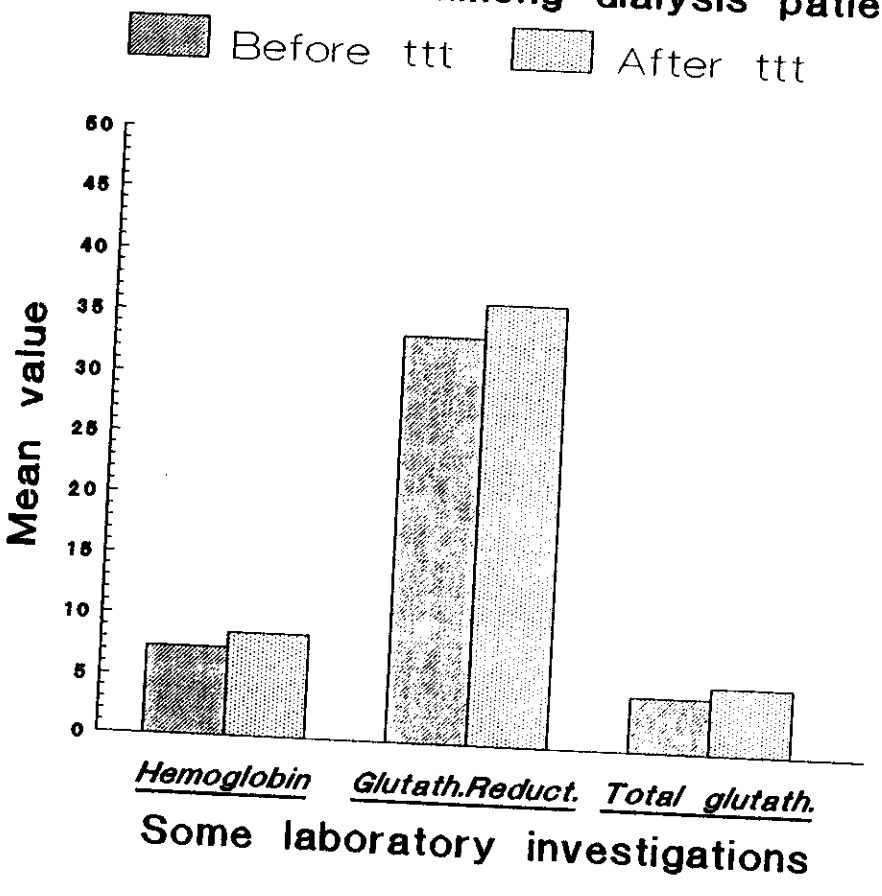

Table (9) Effect of treatment in renal patients under conservative treatment (G. III)

Parameters	Before treatment		After treatment		Paired T	P
	$\bar{X}$	±S.D	$\bar{X}$	±S.D		
Hemoglobin g%	10.0	±1.0	10.9	±1.3	6.454	<0.01
GSR U/l	55.2	±6.2	58.9	±6.0	23.740	<0.01
GSH U/l	6.2	±0.8	7.3	±0.8	23.634	<0.01
S.creatinine mg/dL	2.2	±1.1	1.9	±1.0	18.669	<0.01
Cr. clearance ml/min	74.9	±9.9	83.0	±10.2	11.935	<0.01
S. albumin g/dL	4.0	±1.1	4.22	±0.95	6.070	<0.01
S.urea mg/dL	39	±13.8	34.2	±10.9	2.436	<0.05

This table shows that treatment with antioxidant results in significant elevation in hemoglobin, glutathione reductase, total glutathione, cr. Clearance and S.albumin. Meanwhile antioxidant therapy results in significant reduction of S.creatinine & S.urea.

Fig. (7):Effect of treatment on hemoglobin & glutathione among patients under CT.