RESULTS

RESULTS

Table (1) and Figure ( ) :

- Showed the mean values ±S.D. of plasma urea and creatinine in undialyzed, dialyzed and renal transplant groups compared with control group.

Plasma Urea :

- In undialyzed group, the mean value was 175.9±37.8 mg/dl which was significantly increased (P<0.0005) when compared with the mean value of the normal control group which was 25.5 ± 4.86 mg/dl.

- In hemodialyzed group, the mean value of urea was 201.9±68.9 mg/dl. There was significantly increased (P<0.0005) when compared with the normal controls.

- In peritoneal dialysis, the mean value was 221.3±48.5 mg/dl. This was significantly increased (P<0.0005) in comparison with the control group.

- In renal transplant group, the mean value of urea was 35.9±5.33 mg/dl which was significantly increased when compared with the control group.

Plasma Creatinine :

- In undialyzed group, the mean value was 4.42±1.18 mg/dl. There was significantly increased (P<0.0005) when compared with the controls (0.85±0.05 mg/dl).

- In hemodialyzed group, the mean value of creatinine was 5.3 ± 1.42 mg/dl. This was significantly increased ($P<0.0005$) in comparison with the control group.

- In peritoneal dialyzed group, the mean value of creatinine was 6.3 ± 1.33 mg/dl. This was significantly increased ($P<0.0005$) when compared with the normal control group.

- In renal transplant group, the mean value was 1.03 ± 0.11 mg/dl without any significant change from the control group.

Table (1) : Mean values ±S.D. of plasma urea and creatinine (mg/dl) in undialyzed, dialyzed and renal transplant groups compared with normal control group.

Biochemical parameters	Controls	undialyzed	hemodialyzed	Peritoneal dialyzed	Renal Transplant
Urea (mg/dl)	25.5±4.86	175.9±37.8 P<0.0005	201.9±68.9 P<0.0005	221.3±48.5 P<0.0005	35.9±5.33 P<0.0005
Creatinine (mg/dl)	0.85±0.05	4.42±1.18 P<0.0005	5.3±1.42 P<0.0005	6.3±1.33 P<0.0005	1.03±0.11 N.S.

N.S. = Non significant.

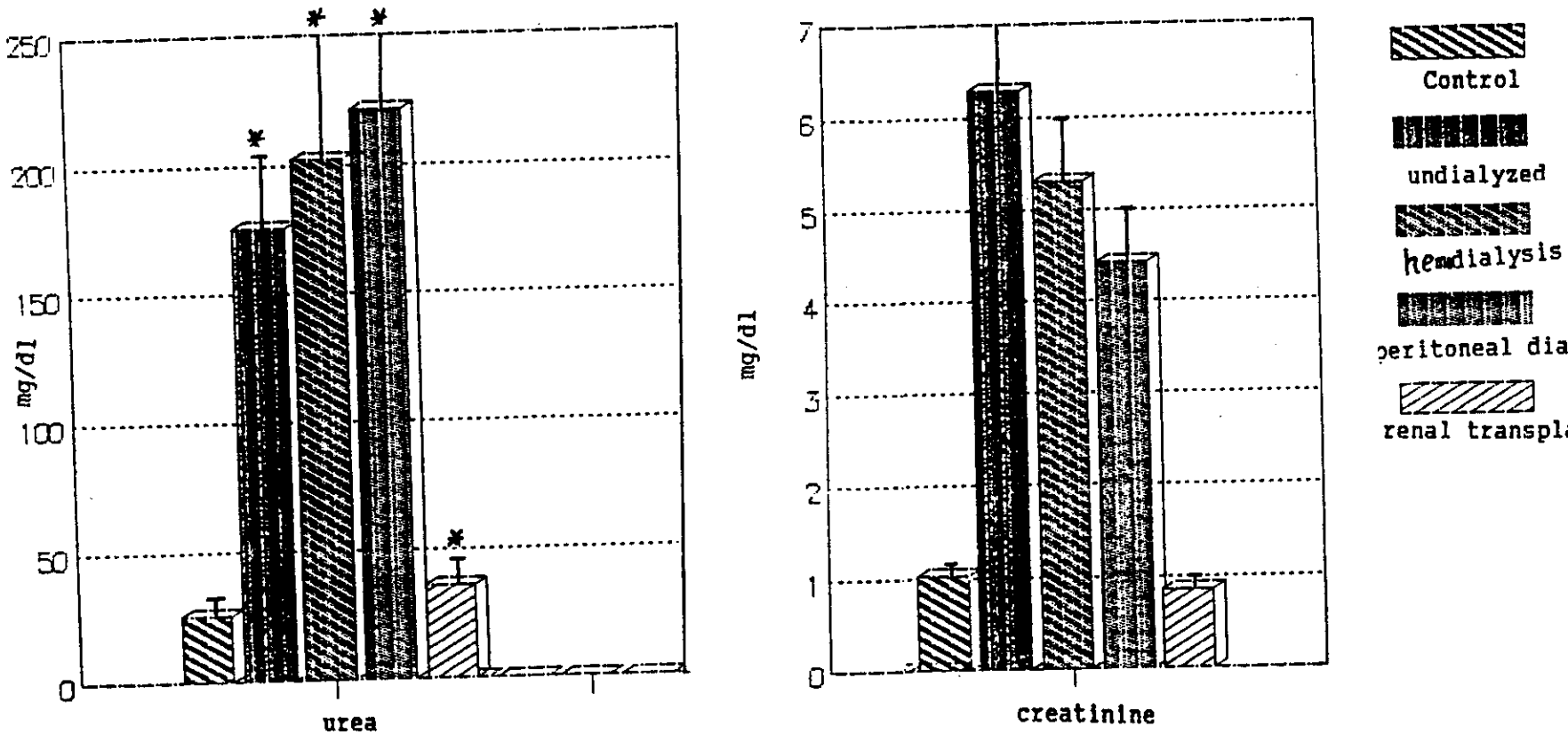

Fig. (1) :Mean values ±S.D. plasma urea and creatinine in undialyzed, dialyzd and renal transplant

Table (2) and Figure ( ) :

Showed comparative studies of the mean values ± S.D. of plasma lipids and lipoproteins in controls undialyzed, dialyzed and renal transplant groups.

Total cholesterol.

- In undialyzed group, the mean value of cholesterol was 176.77 ± 48.54 mg/dl which was significantly increased (P_1<0.01) when compared with that of the normal controls. (141.02 ± 20.37 mg/dl).

- In hemodialyzed groups, the mean value of cholesterol was 146.6 ± 27.62 mg/dl before dialysis and 145 ± 31.2 after dialysis without significant changes from the control group.

- In peritoneal dialysis, the mean value of cholesterol was 146.61 ± 30.96 mg/dl before dialysis and 144.2 ± 27.90 after dialysis without any significant change from the control group.

- In renal transplant group, the mean value of cholesterol was 190.6 ± 33.31 mg/dl. There was significantly increased (P_1<0.0005) when compared with the normal controls.

- In comparison of both dialyzed and renal transplant groups with undialyzed group, the level of cholesterol was significantly decreased before

and after hemodialysis ($P_2 < 0.025$) and also, before and after peritoneal dialysis ($P_2 < 0.05$ and $P_2 < 0.025$ respectively) and without any significant change in renal transplant group.

- There were significant decreases in the level of cholesterol ($P_3 < 0.0005$) in all dialyzed groups when compared with renal transplant group.

HDL-cholesterol

- in undialyzed group, the mean value of HDL-cholesterol was 21.44±4.60 mg/dl which was significantly decreased ($P_1<0.0005$) when compared with that of the normal control group (46.89 ± 4.48 mg/dl).

- In hemodialyzed groups, the mean value of HDL-cholesterol was 27.56 ± 5.09 mg/dl before dialysis and 30.02 ± 4.6 mg/dl after dialysis. These were significantly decreased ($P_1<0.0005$) in comparison with the controls.

- In peritoneal dialysis. The mean Value of HDL-cholesterol was 25.3 ± 3.61 mg/dl, before dialysis and 26.93 ± 4.38 mg/dl after dialysis. These were significantly decreased ($P_1<0.0005$) when compared with the normal controls.

- In renal transplant group, the mean value was

40.46 ± 6.05 mg/dl. There was significantly decreased (P_1<0.005) when compared with the normal control group.

- There was significant increase in the level of HDL-cholesterol in both hemodialyzed groups, and in renal transplant group with P_2<0.0005 and also before and after peritoneal dialysis (P_2<0.01 and P_2<0.0025 respectively) when compared with undialyzed group.

- In comparison of both dialyzed groups with renal transplant group, HDL-cholesterol was significantly decreased (P_3<0.0005) in dialyzed groups except after peritoneal dialysis P_3 value < 0.0025.

LDL-cholesterol

- In undialyzed group, the mean value of LDL-cholesterol was 130 ± 30.68 mg/dl which was significantly increased (P_1<0.005) when compared with that of the control group (105 ± 10.1 mg/dl).

- In hemodialyzed groups, the mean value of LDL-cholesterol was 91.66 ± 17.93 mg/dl before dialysis and 81.50 ± 17.71 mg/dl after dialysis. These were significantly decreased (P_1<0.01, P_1<0.0005 respectively) when compared with the control group.

- In peritoneal dialysis, the mean value of LDL-cholesterol was 83.76 ± 12.95 mg/dl before dialysis and 74.8 ± 12.11 mg/dl after dialysis. These were significantly decreased (P_1<0.0005) when compared with the control group.

- In renal transplant group, the mean value of LDL-cholesterol was 102.59 ± 14 mg/dl without any significant change from the control group.

- There were significant decreases, in levels of LDL-cholesterol in all dialyzed groups (P_2 <0.0005) and renal transplant group (P_2<0.0005) when compared with undialyzed group.

- LDL-cholesterol was significantly decreased in dialyzed groups (P_3 <0.005) but before hemodialysis P_3 value < 0.05 in comparison with renal transplant group.

Phospholipids

- In undialyzed group, the mean value of phospholipids was 204.44 ± 27.12 mg/dl. This was significantly increased (P_1<0.05) when compared with that of the normal controls (185.31 ± 24.19 mg/dl).

- In hemodialysis, the mean value of phospholipids was 185.94 ± 24.39 mg/dl before dialysis and

197.02 ± 33.38 mg/dl after dialysis without any significnat changes from the normal controls.

- In peritoneal dialysis, the mean value of phospholipids was 182.76 ± 28.50 mg/dl before dialysis and 179.73 ± 29.91 mg/dl after dialysis without significant changes from the control group.

- In renal transplant group, the mean value of phospholipids was 233.38 ± 49.50 mg/dl. There was significantly increrased (P_1<0.0025) in comparison with the control group.

- In comparison of both dialyzed groups and renal transplant group with undialyzed group the level of phospholipids was significantly increased in renal transplant group (P_2<0.05) and also decreased before hemodialysis and peritoneal dialysis (P_2<0.025) and was significantly decreased after peritoneal dialysis (P_2 < 0.01).

- In comparison of both dialyzed groups with renal transplant group, total phospolipids were significnatly decreased in prehemodialyzed group, and preperitoneal dialysis (P_3<0025) and also after hemodialysis but P_3<0.01 and after peritoneal dialysis (P_3<0.0005).

HDL-phospholipids

- In undialyzed group, the mean value was 75.67 ± 13.72 mg/dl which was significantly decreased (P_1<0.0005) when compared with that of the, normal controls (102.79 ± 5.18 mg/dl).

- In hemodialyzed groups, the mean value of HDL-phospholipids was 80.27 ± 8.37 mg/dl before dialysis and 80.81 ± 9.07 mg/dl after dialysis. These were significantly decreased (P_1<0.0005) when compared with the normal control.

- In the peritoneal dialysis, the mean value of HDL-phospholipids was 80 ± 5.76 mg/dl before dialysis and 81.33 ± 7.34 after dialysis. These were significantly decreased (P_1<0.0005) when compared with the normal controls.

- In renal transplant group, the mean value of HDL-phospholipids was 87.01 ± 11.03 mg/dl. There was significantly decreased (P_1<0.0005) when compared with the normal controls.

- There were non significant changes in the levels of HDL-phospholipids in dialyzed groups in comparison with undialyzed group, while there was significant increase in the level of HDL-phospholipids (P_2 <0.01) in renal transplant group.

- In comparison of both dialyzed groups with renal transplant group, HDL-phospholipids was significantly decreased before and after hemodialysis ($P_3<0.05$) and also before peritoneal dialysis ($P_3<0.025$) but without any significant change after peritoneal dialysis

LDL-phospholipids

- In undialyzed group, the mean value of LDL-phospholipids was 96.60 ± 14.29 mg/dl. This was significantly increased ($P_1<0.0005$) when compared with that of the control group (79.4 ± 6.80 mg/dl).

- In hemodialysis, the mean value of LDL-phospholipids was 69.02 ± 14.17 mg/dl before dialysis and 66.03 ± 13.92 mg/dl after dialysis. These were significantly decreased ($P_1<0.01$, $P_1<0.0025$ respectively) when compared with the normal controls.

- In peritoneal dialysis, the mean value of LDL-phospholipids was 72.4 ± 14.73 mg/dl before dialysis without significant change, and 70.26 ± 10.17 mg/dl after dialysis with significant decrease ($P_1<0.01$) when compared with control group.

- In renal transplant group, the mean value of LDL-

phospholipids was 68.94 $\pm$ 13.98 mg/dl. There was significantly decreased ($P_1<0.01$) when compared with the normal control group.

- The level of LDL-phopholipids was significantly decreased ($P_2<0.0005$) in dialyzed and renal transplant groups when compared with undialyzed group.

- There was non significant change, in the level of LDL-phospholipid between both dialysis groups and renal transplants.

Table (2) : comparative studies of mean values ±S.D. of plasma lipids and lipoproteins (mg/dl) in control, undialyzed, dialyzed and renal transplant group.

Biochemical parameters	Control	Undialyzed	Hemodialyed		Peritoneal dialyzed		Renal transplant
			Pre-dialysis	Post-dialysis	Pre-dialysis	post-dialysis	
* Total cholesterol (mg/dl)	141.02±20.37	176.77±48.54	146.6±27.62	145.0±31.2	146.61±30.96	144.2±27.9	190.6±33.31
		P_1<0.01	N.S.	N.S.	N.S.	N.S.	P_1<0.0005
			P_2<0.025	P_2<0.025	P_2<0.05	P_2<0,025	N.S.
			P_3<0.0005	P_3<0.0005	P_3<0.0005	P_3<0.0005	
* HDL-cholesterol (mg/dl)	46.89±4.48	21.44±4.6	27.56±5.09	30.02±4.6	25.3±3.61	26.93±4.38	40.46±6.05
		P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.005
			P_2<0.0005	P_2<0.0005	P_2<0.01	P_2<0.0025	P_2<0.0005
			P_3<0.0005	P_3<0.0005	P_3<0.0005	P_3<0.0025	
* LDL-cholesterol (mg/dl)	105.0±10.1	130.0±30.68	91.66±17.93	81.50±17.71	83.76±12.95	74.8±12.11	102.59±14.00
		P_1<0.005	P_1<0.01	P_1<0.0005	P_1<0.0005	P_1<0.0005	N.S.
			P_2<0.0005	P_2<0.0005	P_2<0.0005	P_2<0.0005	P_2<0.0025
			P_3<0.05	P_3<0.0005	P_3<0.0005	P_3<0.0005	
* Total phospholipid (mg/dl)	185.31±24.19	204.44±27.12	185.94±24.39	197.02±33.38	182.76±28.5	179.73±29.91	233.38±49.5
		P_1<0.05	N.S.	N.S.	N.S.	N.S.	P_1<0.0025
			P_2<0.025	N.S.	P_2<0.025	P_2<0.01	P_2<0.05
			P_3<0.0025	P_3<0.01	P_3<0.025	P_3<0.0005	
* HDL-Phospholipid (mg/dl)	102.79±5.18	75.67±13.72	80.27±8.37	80.81±9.07	80.0±5.76	81.33±7.34	87.01±11.03
		P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.0005	P_1<0.0005
			N.S.	N.S.	N.S.	N.S.	P_2<0.01
			P_3<0.05	P_3<0.05	$P_3$0.025	N.S.	
* LDL-Phospholipid (mg/dl)	79.4±6.8	96.6±14.29	69.02±14.17	66.03±13.92	72.4±14.73	70.26±10.17	68.94±13.98
		P_1<0.0005	P_1<0.01	P_1<0.0025	N.S.	P_1<0.01	P_1<0.01
			P_2<0.0005	P_2<0.0005	P_2<0.0005	P_2<0.0005	P_2<0.0005
			N.S.	N.S.	N.S.	N.S.	

P_1 : Compared with control group. P_3 : Compared with renal transplant.
P_2 : Compared with undialyzed group. N.S. : Non significant,

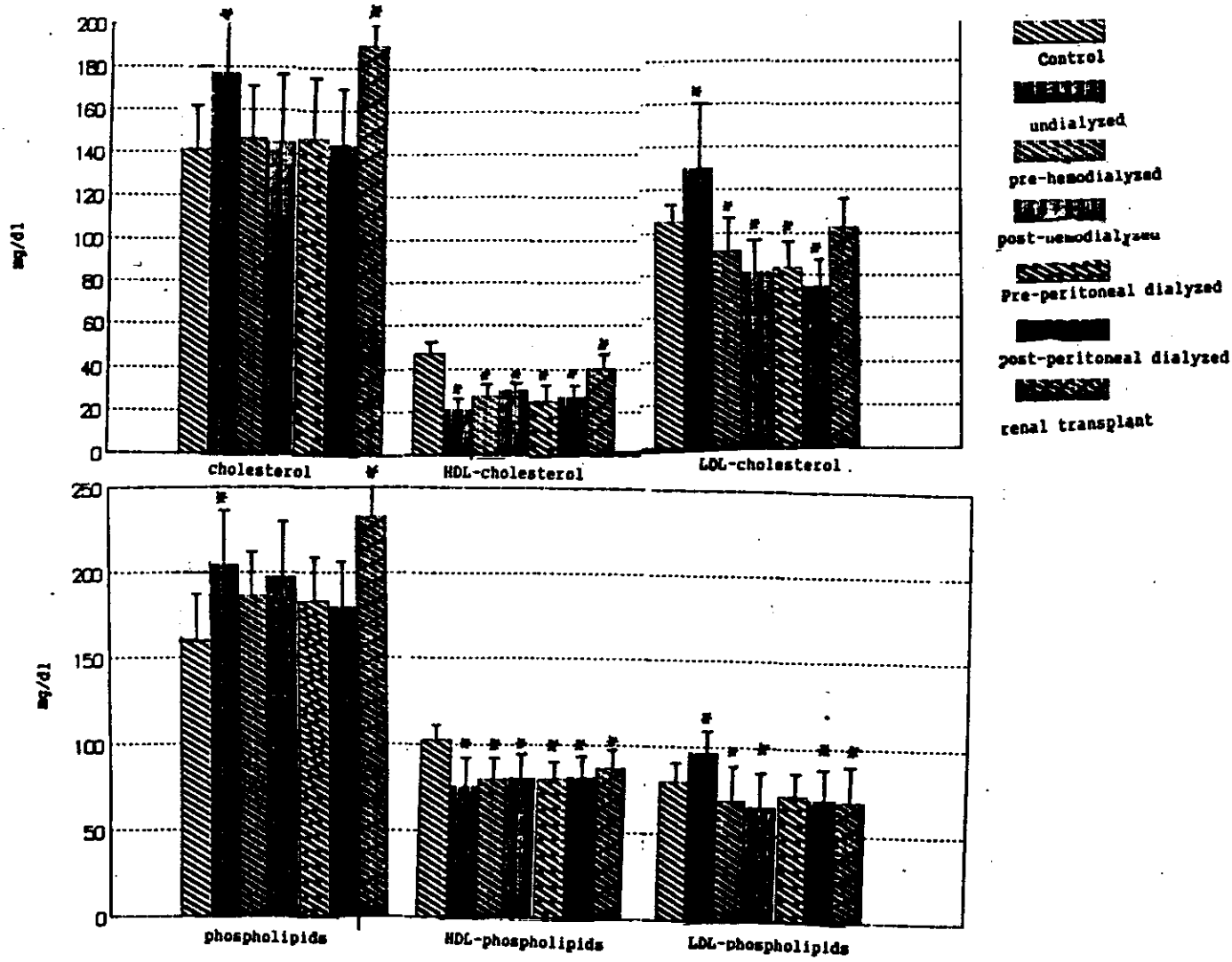

Fig. (2a) : Mean values ± S.D. of plasma lipids and lipoproteins in undialyzed and renal transplant groups compared with controls.
* Significant

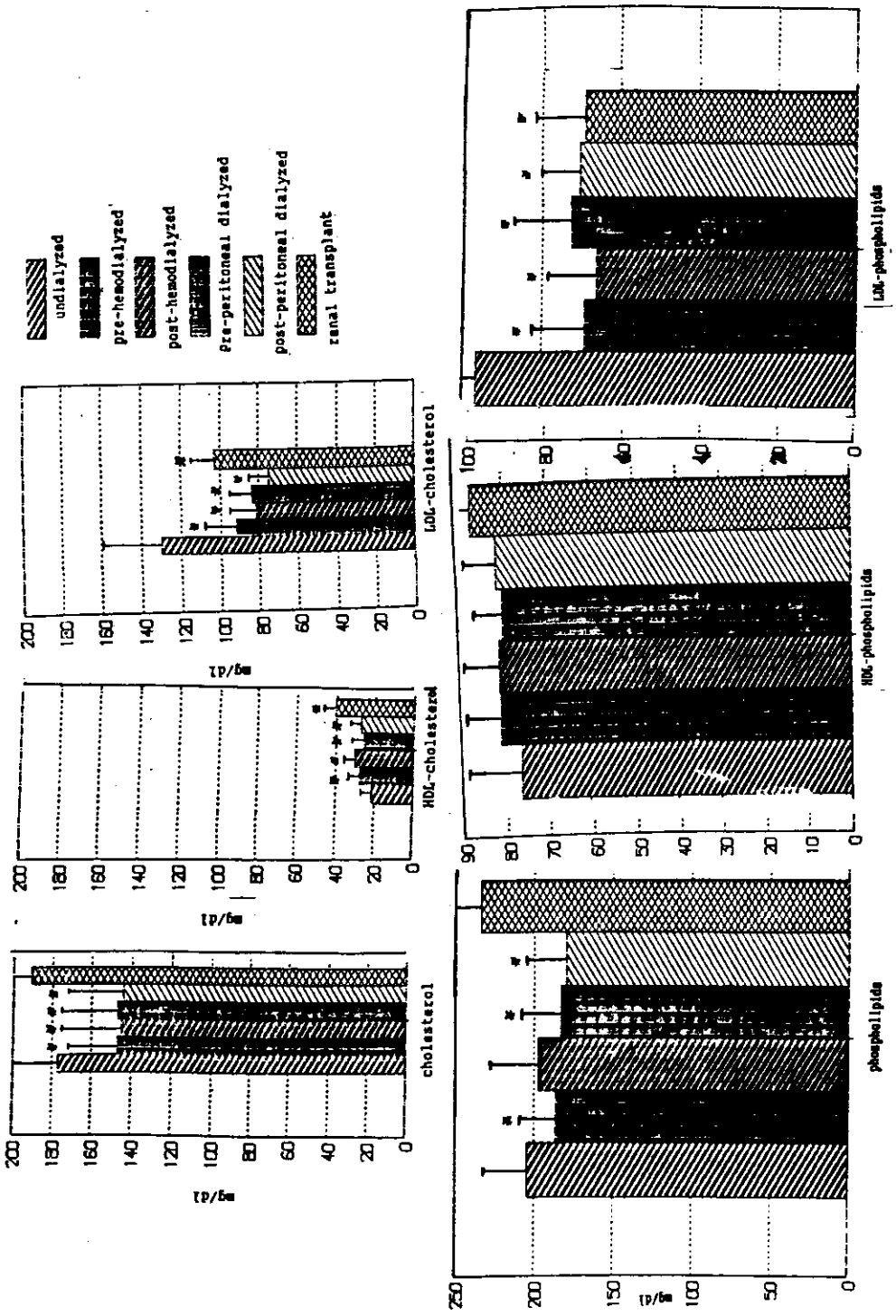

Fig. (2b) :Mean values ± S.D. of plasma lipids and lipoproteins in dialyzed and renal transplant groups compared with undialyzed group.

* Significant

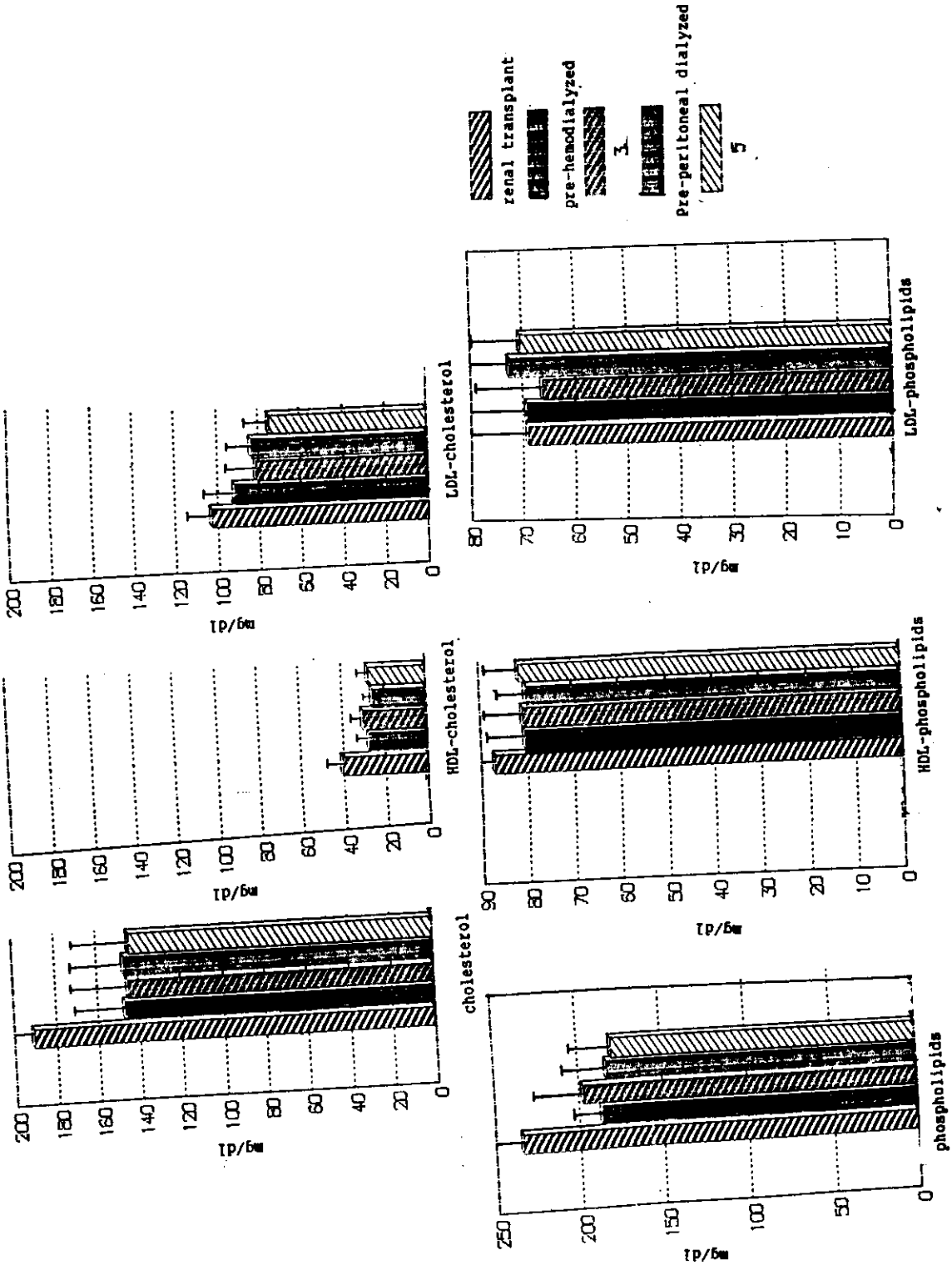

Fig. (2c) :Mean values ± S.D. of plasma lipids and lipoprotains in both dialyzed groups compared with renal transplant.

* significant

Table (3) and Figure ( ) :

Showed the effects of dialysis on plasma lipids and lipoproteins

Effects of hemodialysis.

- There was significant decrease (P_1<0.05) in the level of LDL-cholesterol immediately after dialysis when compared with predialyzed group.
- There were non significant changes in the levels of other lipids and lipoproteins before and immediately after dialysis

Effects of peritoneal dialysis.

- There was significant decrease in the level of LDL-cholesterol (P_2<0.05) in post-dialyzed group when compared with predialyzed group. While, there non significant changes in other lipids and lipoproteins before and immediately after dialysis.

Table (3) : Effect of dialysis on plasma lipids and lipoproteins (mg/dl) (Mean Values ± S.D.)

Biochemical Parameters	Hemodialysis		Peritoneal dialysis	
	Pre-dialysis	Post-dialysis	Pre-dialysis	Post-dialysis
* Cholesterol (mg/dl)	146.60±27.62	145.00±31.20 N.S.	146.61±30.96	144.2±27.9 N.S.
* HDL-cholesterol (mg/dl)	27.56± 5.09	30.02± 4.60 N.S.	25.30± 3.61	26.93±4.38 N.S.
* LDL-cholesterol (mg/dl)	91.66±17.93	81.50±17.71 $P_1<0.05$	83.76±12.95	74.80±12.11 $P_2<0.05$
* Phospholipid (mg/dl)	185.94±24.39	197.02±33.38 N.S.	182.76±28.50	179.73±29.91 N.S.
* HDL-phospholipid (mg/dl)	80.27± 8.37	80.81± 9.07 N.S.	80.00± 5.76	81.33± 7.34 N.S.
* LDL-phospholipid (mg/dl)	69.02±14.17	66.03±13.92 N.S.	72.40±14.73	70.26±10.17 N.S.

N.S. : Non Significant

P_1 : Compared between pre and post-hemodialyzed groups.

P_2 : Compared between pre and post-peritoneal dialyzed groups.

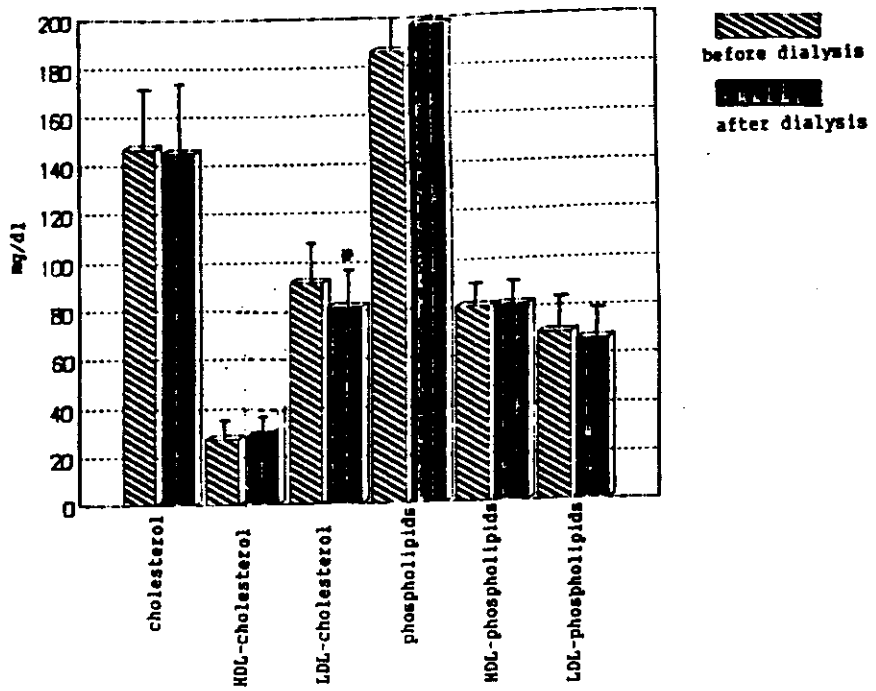

Fig. (3) : Comparative study of effects of hemodialysis on plasma lipids and lipoproteins (Mean values ± S.D.).

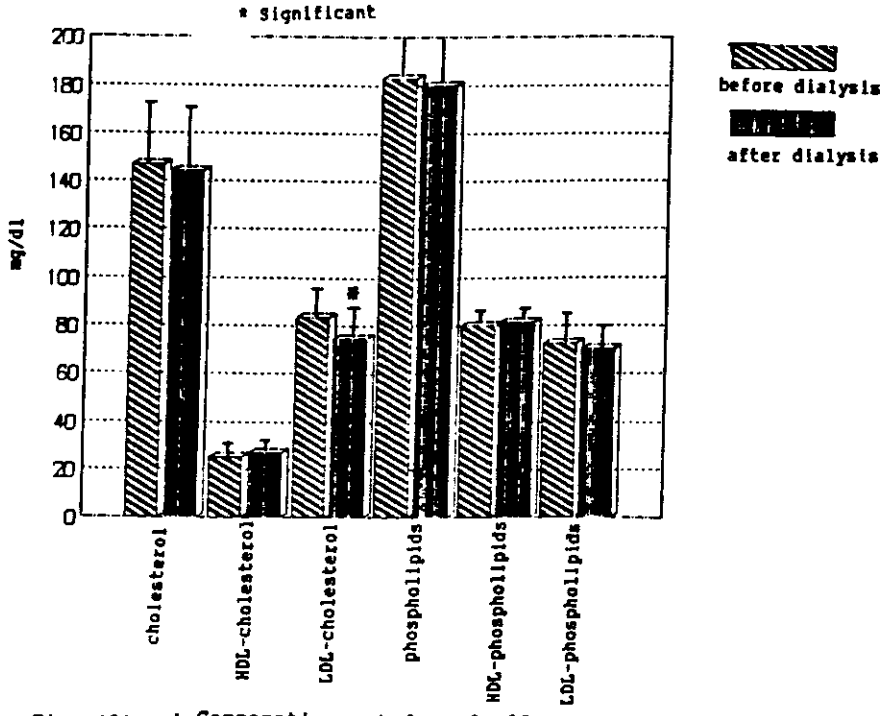

Fig. (3) : Comparative study of effects of peritoneal dialysis on plasma lipids and lipoproteins (Mean values ± S.D.).

* Significant

Table (4) and Figure ( ) :

showed the mean values ±S.D. of predialyzed plasma lipids and lipoproteins in both peritoneal and hemodialyzed groups.

- There were non significant changes in the levels of plasma lipids and lipoproteins between both dialyzed groups.

Table (4) : Comparative study of mean values ± S.D. of plasma lipids and lipoproteins (mg/dl) in both hemo and peritoneal dialyzed groups before dialysis.

Biochemical Parameters	Pre-hemodialyzed	Pre-peritoneal dialyzed
* Cholesterol (mg/dl)	146.60 ± 27.62	146.61 ± 30.96 N.S.
* HDL-cholesterol (mg/dl)	27.56 ± 5.09	25.30 ± 3.61 N.S.
* LDL-cholesterol (mg/dl) (mg/dl)	91.66 ± 17.93	83.76 ± 12.95 N.S.
* Phospholipid (mg/dl)	185.94 ± 24.39	182.76 ± 28.50 N.S.
* HDL-phospolipid (mg/dl)	80.27 ± 8.37	80.00 ± 5.76 N.S.
* LDL-Phospholipid (mg/dl)	69.02 ± 14.17	72.40 ± 14.73 N.S.

N.S. : Non Significant

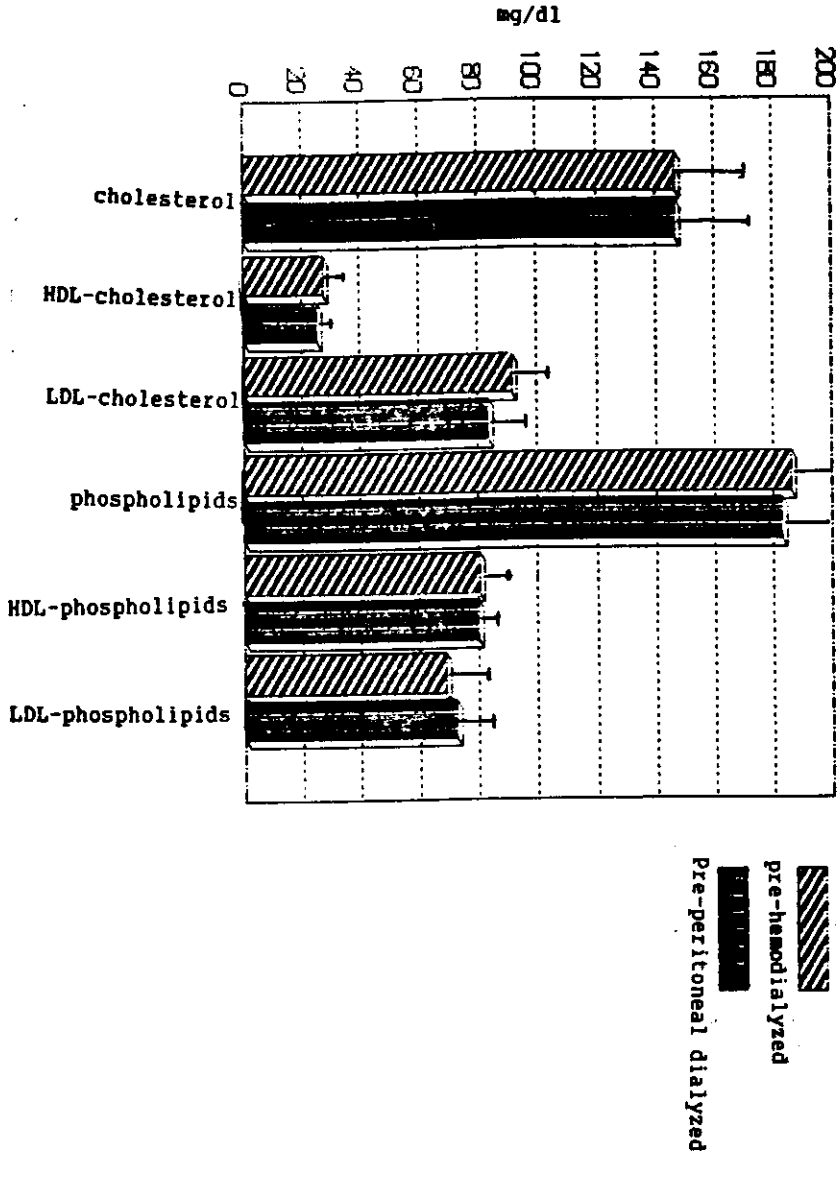

Fig. (4) :Comparative study of mean values ± S.D. of plasma lipids and lipoproteins in both dialyzed groups before dialysis.

Table (5) and Figure ( ) :

showed the mean values ±S.D. of postdialyzed plasma lipids and lipoproteins in both peritoneal and hemodialyzed groups.

- There was significant decrease in the level of HDL-cholesterol ($P<0.05$) in postperitoneal dialyzed group when compared with the post-hemodialyzed group. But there were non significant changes in other lipids and lipoproteins between both groups.

Table (5) : Comparative study of mean values ± S.D. of plasma lipids and lipoproteins (mg/dl) in both hemo and peritoneal dialyzed groups after dialysis.

Biochemical Parameters	Post-hemodialyzed	Post-peritoneal dialyzed
* Cholesterol (mg/dl)	145.00 ± 31.20	144.20 ± 27.90 N.S.
* HDL-cholesterol (mg/dl)	30.02 ± 4.60	26.93 ± 4.38 $p<0.05$
* LDL-cholesterol (mg/dl)	81.50 ± 17.71	74.80 ± 12.11 N.S.
* Phospholipid (mg/dl)	197.02 ± 33.38	179.73 ± 29.91 N.S.
* HDL-phospholipid (mg/dl)	80.81 ± 9.07	81.33 ± 7.34 N.S.
* LDL-Phospholipid (mg/dl)	66.03 ± 13.92	70.26 ± 10.17 N.S.

N.S. : Non Significant

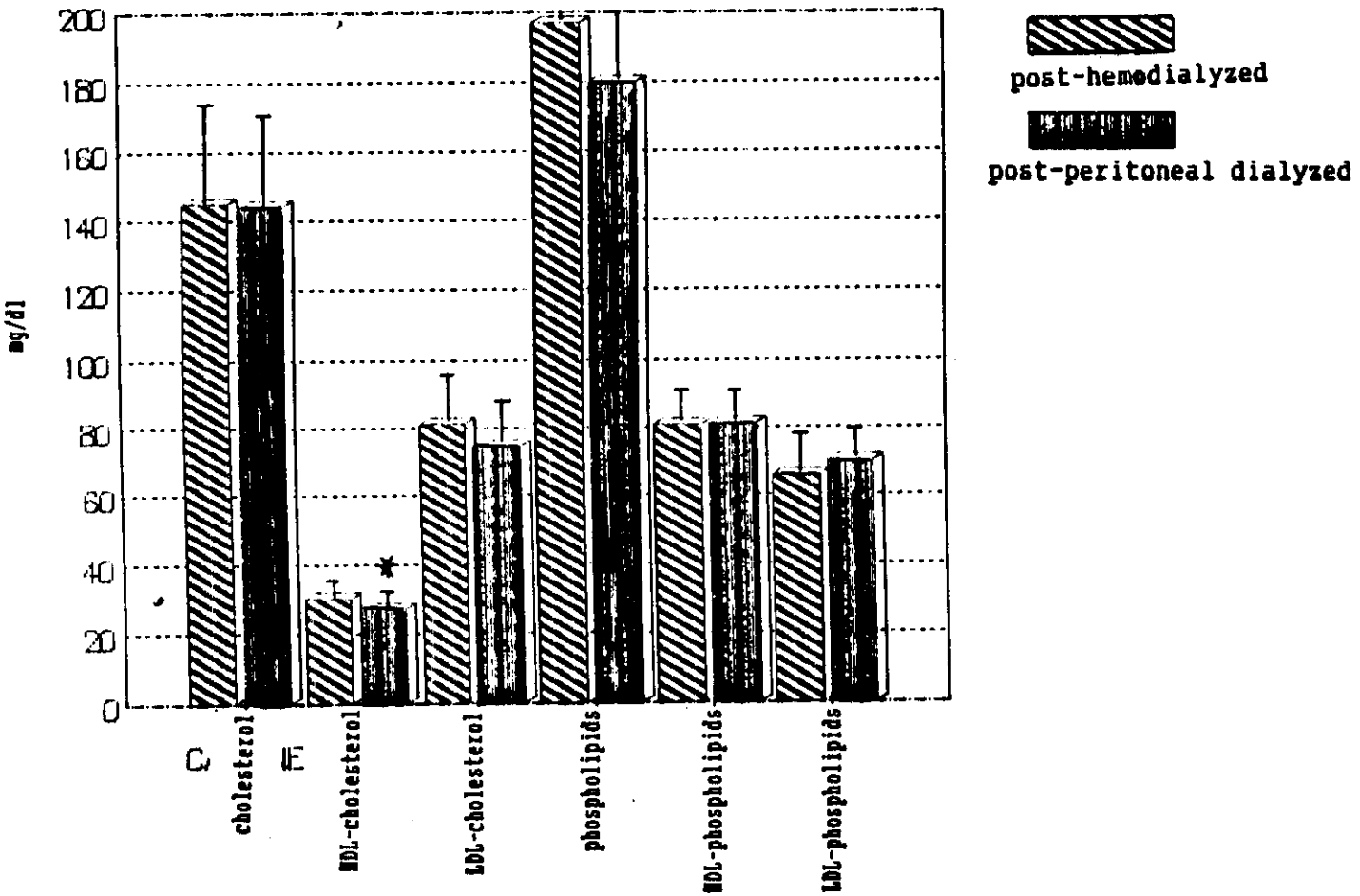

Fig. (5) :Comparative study of mean values ± S.D. of plasma lipids and lipoproteins in both dialyzed groups after dialysis.

* Significant

Table (6) and Figure ( ) :

Comparative studies of the mean values ± S.D. of apolipoprotein A and apolipoprotein B in control undialyzed, dialyzed and renal transplant groups.

- In undialyzed group, the mean value of apolipoprotein A was 122.96 ± 30.54 mg/dl. There was significantly decreased (P_1<0.0005) when compared with that of control group (189.2 ± 21.6 mg/dl). While the mean value of apolipoprotein B was 104.88 ± 33.21 mg/dl which was significantly increased (P_1<0.01) when compared with that of the normal controls (81.46 ± 13.22 mg/dl).

- In hemodialyzed group the mean value of apolipoprotein A was 142.6 ± 21.57 mg/dl before dialysis and 142.45 ± 36.77 mg/dl immediately after dialysis. These were significantly decreased (P_1<0.0005) in comparison with the control group. While, the mean value of apolipoprotein B was 58.01 ± 9.53 mg/dl before dialysis and 59.33 ± 11.53 mg/dl after dialysis. These were significantly decreased (P_1<0.0005) when compared with the normal control group.

- In peritoneal dialyzed groups, the mean value of apolipoprotein A was 140.3 ± 15 mg/dl before

dialysis and 141.9 ± 15.8 mg/dl after dialysis. These were significantly decreased (P_1<0.0005) when compared with the normal control group.

- While the mean value of apolipoprotein B was 57.5 ± 10.99 mg/dl before dialysis and 58.50 ± 10.67 mg/dl after dialysis. These were significaty decreased (P_1<0.0005) in comparison with the normal control group.

- In renal transplant group, the mean value of apolipoprotein A was 149.5 ± 27.5 mg/dl with significant decrease (P_1<0.0005) than the mean value of the control group. While the mean value of apolipoprotein B was 77.12 ± 18.51 mg/dl without any significant changed form the control group.

- Statistically, there was significant increase in the level of apolipoprotein A before and after hemodialysis (P_2<0.0005 and P_2<0.05 respectively) and also before and after peritoneal dialysis (P_2<0.05 and P_2<0.025 respectively) and in renal transplant group (P_2<0.01) when compared with undialyzed group. while, there was significant decrease in the level of apolipoprotein B before and after hemodialysis (P_2<0.0005) and before and

after peritioneal dialysis (P_2<0.0005) and also, in renal transplant group (P_2<0.005) when compared with undialyzed group.

While, in comparison between both dialyzed groups with renal transplant group, there was non significnat change in the level of apolipoprotein A. While in the apolipoprotein B, there was signifincant decreased before and after hemodialysis (P_3<0.0005 and P_3<0.0025 respectively) and also, before and after peritoneal dialysis (P_3<0.0025).

Table (6) : Comparative studies of mean values ±S.D. of apolipoproteins A and B (mg/dl) in control, undialyzed, dialyzed and renal transplant group.

Biochemical parameters	Control	Undialyzed	Hemodialyed		Peritoneal dialyzed		Renal transplant
			Pre-dialysis	Post-dialysis	Pre-dialysis	post-dialysis	
* Apolipo-protein A (mg/dl)	189.2±21.6	122.96±30.54 P<0.0005	142.6±21.57 P_1<0.0005 P_2<0.0005 N.S.	142.45±36.77 P_1<0.0005 P_2<0.05 N.S.	140.3±15.00 P_1<0.0005 P_2<0.05 N.S.	141.9±15.8 P_1<0.0005 P_2<0.025 N.S.	149.5±27.5 P_1<0.0005 P_2<0.01
* Apolipo-protein B (mg/dl)	81.46±13.22	104.88±33.21 P_1<0.01	58.01±9.53 P_1<0.0005 P_2<0.0005 P_3<0.0005	59.33±11.53 P_1<0.0005 P_2<0.0005 P_3<0.0005	57.5±10.99 P_1<0.0005 P_2<0.0005 P_3<0.0025	58.5±10.67 P_1<0.0005 P_2<0.0005 P_3<0.0025	77.12±18.51 N.S. P_2<0.005

P_1 : Compared with control group.

P_2 : Compared with undialyzed group.

P_3 : Compared with renal transplant group.

N.S.: Non significant.

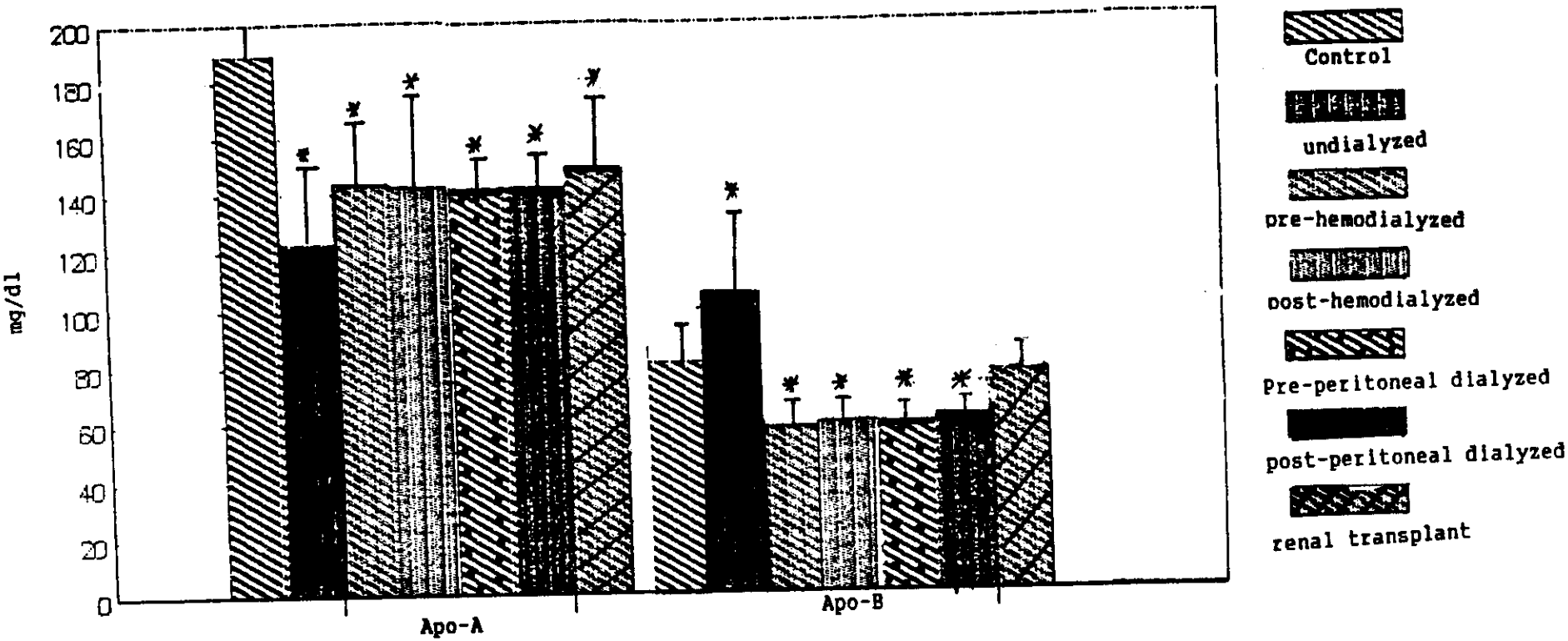

Fig. (6a) : Mean values ± S.D. of apolipoproteins A and B in undialyzed, dialyzed and renal transplant groups compared with controls.

* Significant

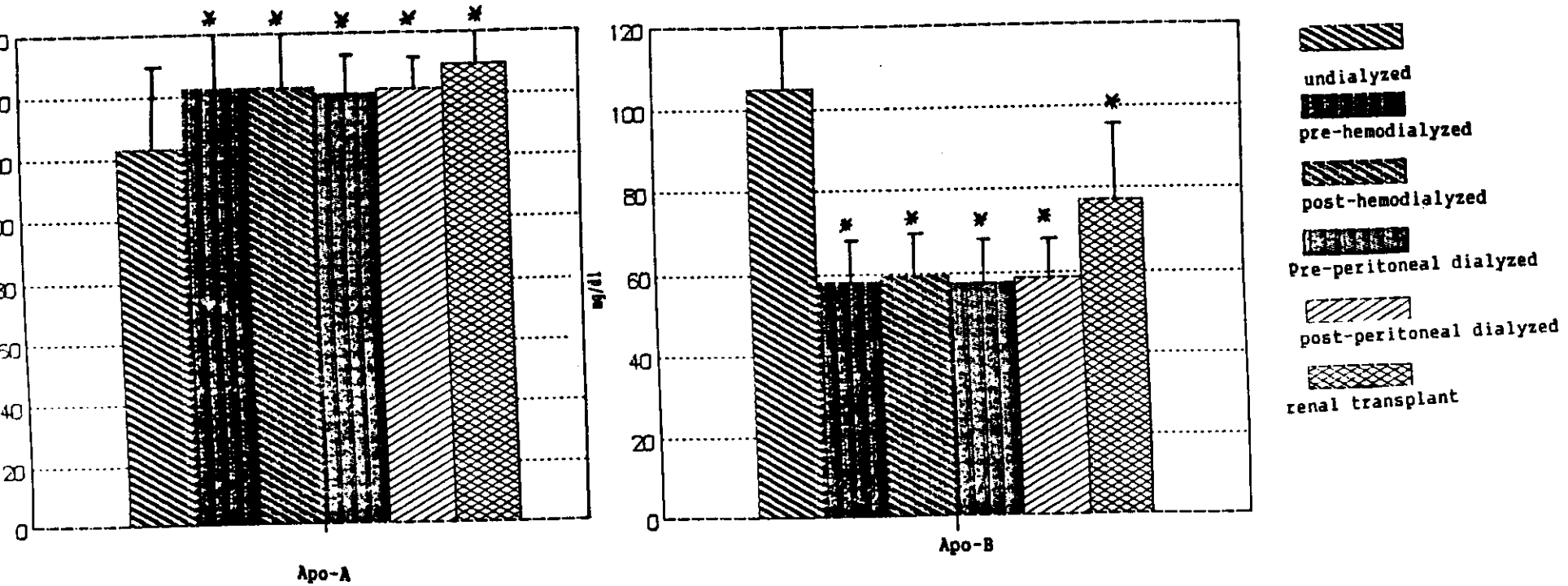

Fig. (6b) :Mean values ± S.D. of apolipoproteins A and B in dialyzed and renal transplant groups compared with undialyzed group.

* Significant

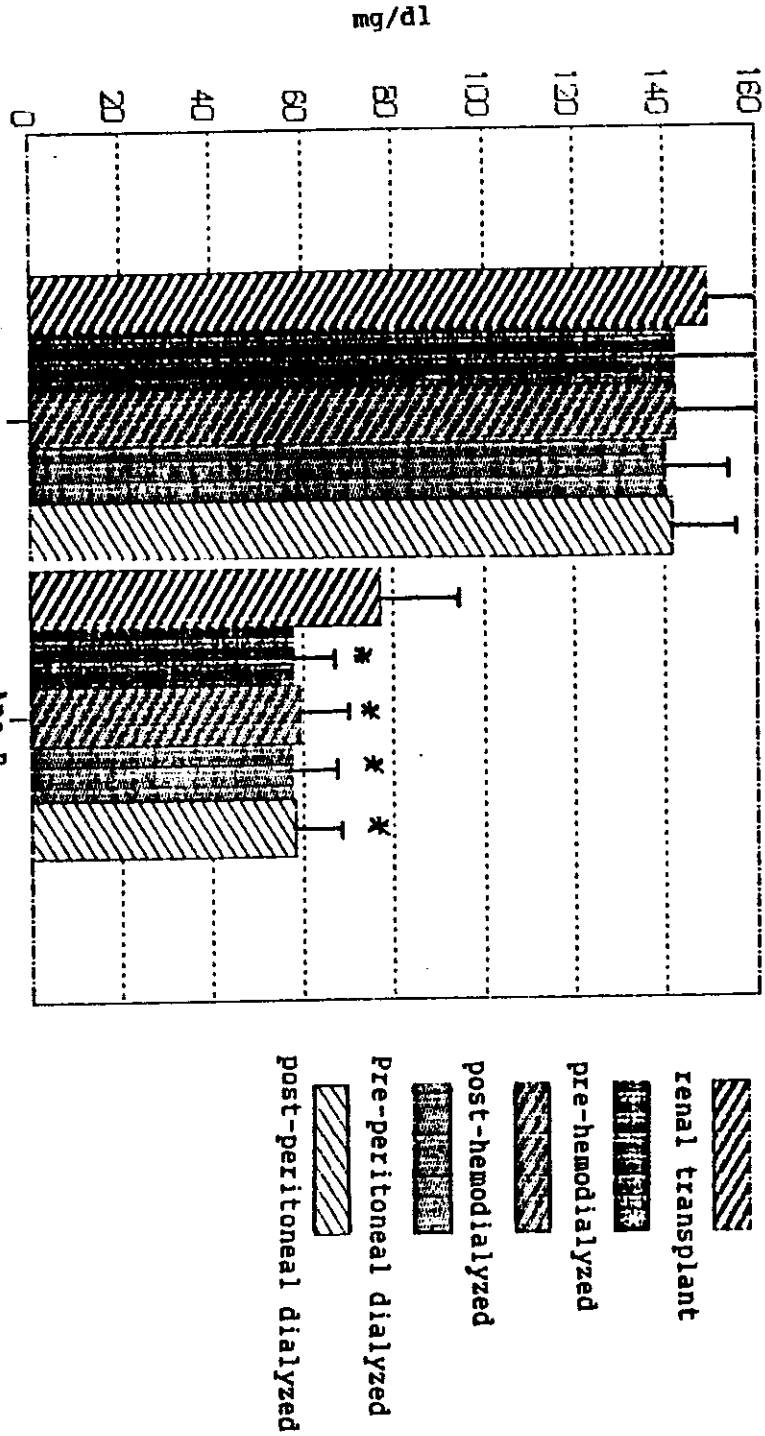

Fig. (6c) :Mean values ±S.D. of apolipoproteins A and B in both dialyzed groups compared with renal transplant group.
* Significant

Table (7) and Figure ( ) :

Showed comparative study of the effects of dialysis on plasma apolipoprotein A and apolipoprotein B.

Effects of hemodialysis.

- There was non significant change in the level of apolipoprotein A and apolipoprotein B before and after hemodialysis.

Effects of peritoneal dialysis

- There was non significant change in the level of apolipoprotein A and apolipoprotein B before and after peritoneal dialysis.

Table (7) : Comparative study of effects of dialysis on plasma apolipoproteins A and B. (mg/dl) (Mean values ±S.D.).

Biochemical Parameters	Hemodialysis		Peritoneal dialysis	
	Pre-dialysis	Post-dialysis	Pre-dialysis	Post-dialysis
* Apo - A (mg/dl)	142.6±21.57	142.45±36.77 N.S.	140.3±15.0	141.9±15.8 N.S.
* Apo - B (mg/dl)	58.01±9.53	59.33±11.53 N.S.	57.5±10.99	58.50±10.67 N.S.

N.S : Non significant

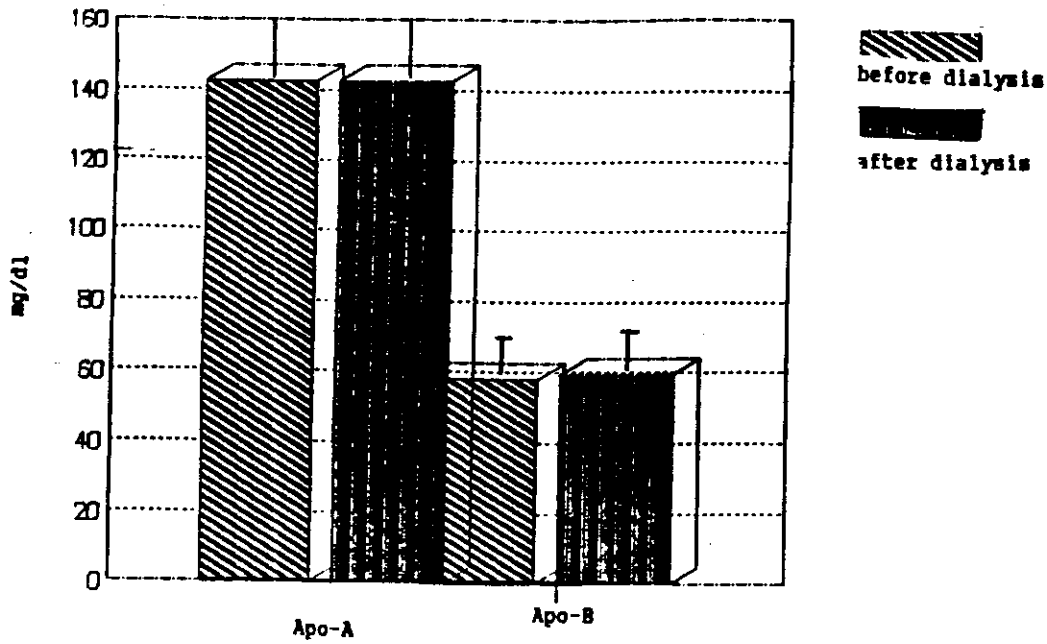

Fig. (7) :Comparative study of effects of hemodialysis on plasma apolipoproteins A and B (mean values ± S.D.).

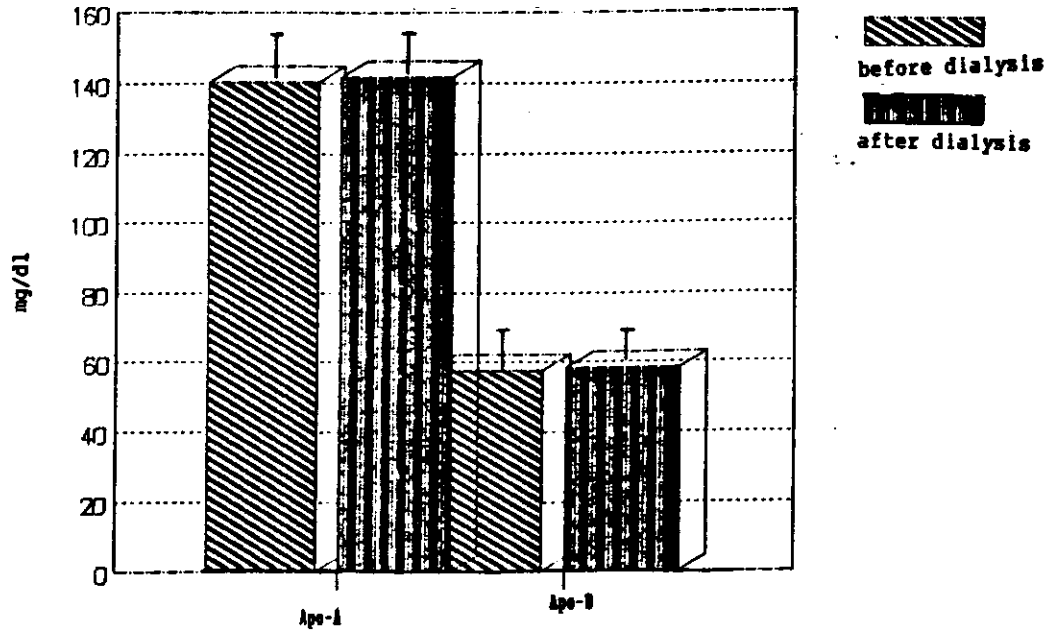

Fig. (7) :Comparative study of effects of peritoneal dialysis on plasma apolipoproteins A and B (Mean values ± S.D.)

Table (8) and Figure ( ) :

Showed the mean values ± S.D. of predialyzed apolipoprotein A and apolipoprotein B in both peritoneal and hemodialyzed groups.

- There were non significant changes in the mean values of apolipoprotein A and apolipoprotein B between both dialyzed groups.

Table (8) : Comparative study of mean values ± S.D. of apolipoproteins A and B (mg/dl) in both hemo and peritoneal dialyzed groups before dialysis.

Biochemical Parameters	Pre-hemodialyzed	Pre-peritoneal dialyzed
* Apo - A (mg/dl)	142.60 ± 21.57	140.30 ± 15.00 N.S.
* Apo - B (mg/dl)	58.01 ± 9.53	57.50 ± 10.99 N.S.

N.S. : Non Significant

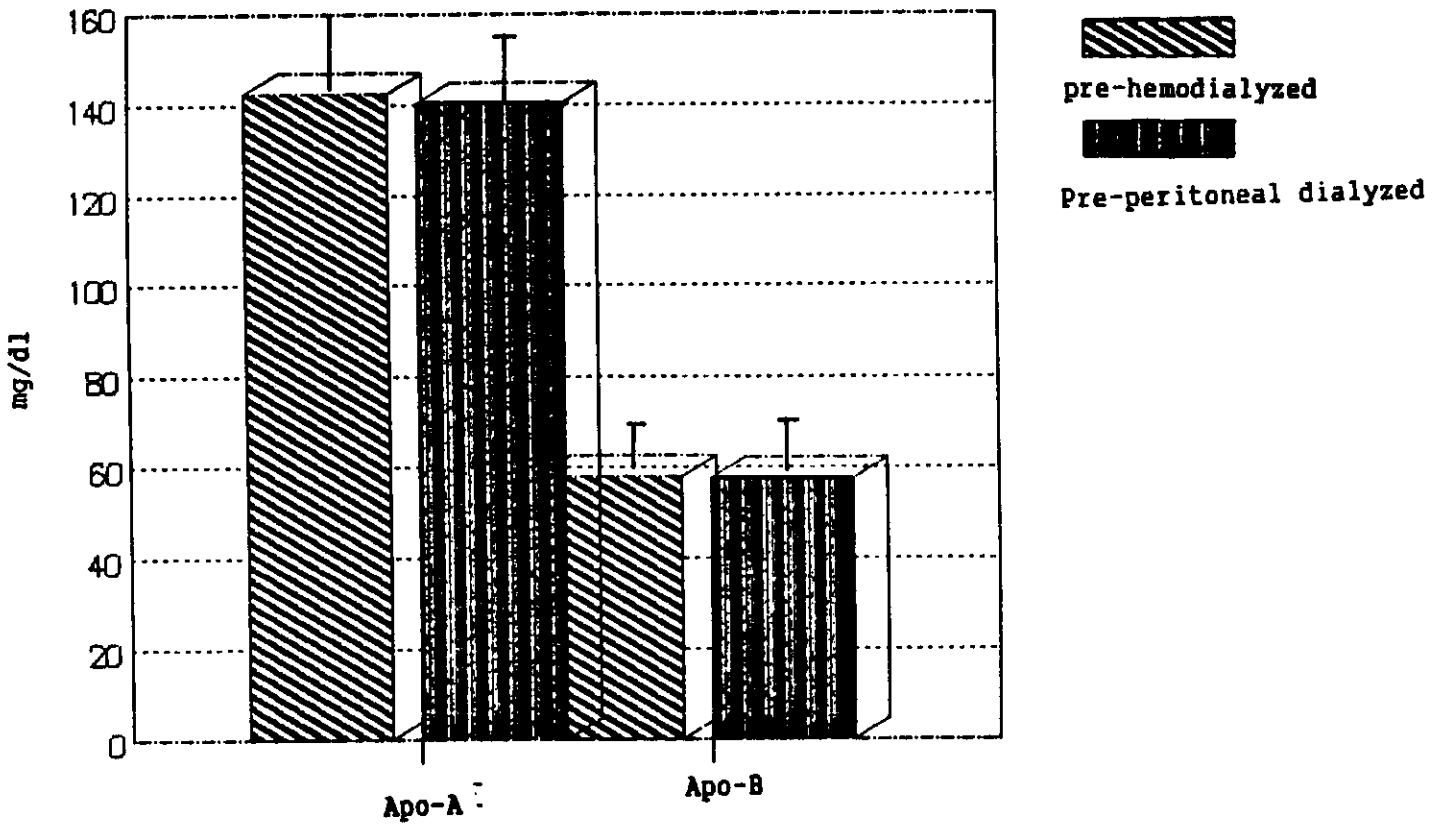

Fig. (8) : Comparative study of mean values ± S.D. of apolipoproteins A and B in in both dialyzed groups before dialysis.

Table (9) and Figure ( ) :

Showed the mean values ± S.D. of postdialyzed apolipoprotein A and apolipoprotein B in both peritoneal and hemodialyzed groups.

- There were non significant changes in the levels of apolipoprotein A and apolipoprotein B between both groups of dialysis.

Table (9) : Comparative study of mean values ± S.D. of apolipoproteins A and B (mg/dl) in both hemo and peritoneal dialyzed groups after dialysis.

Biochemical Parameters	Post-hemodialyzed	Post-peritoneal dialyzed
* Apo - A (mg/dl)	142.45 ± 36.77	141.90 ± 15.80 N.S.
* Apo - B (mg/dl)	59.33 ± 11.53	58.50 ± 10.67 N.S.

N.S. : Non Significant

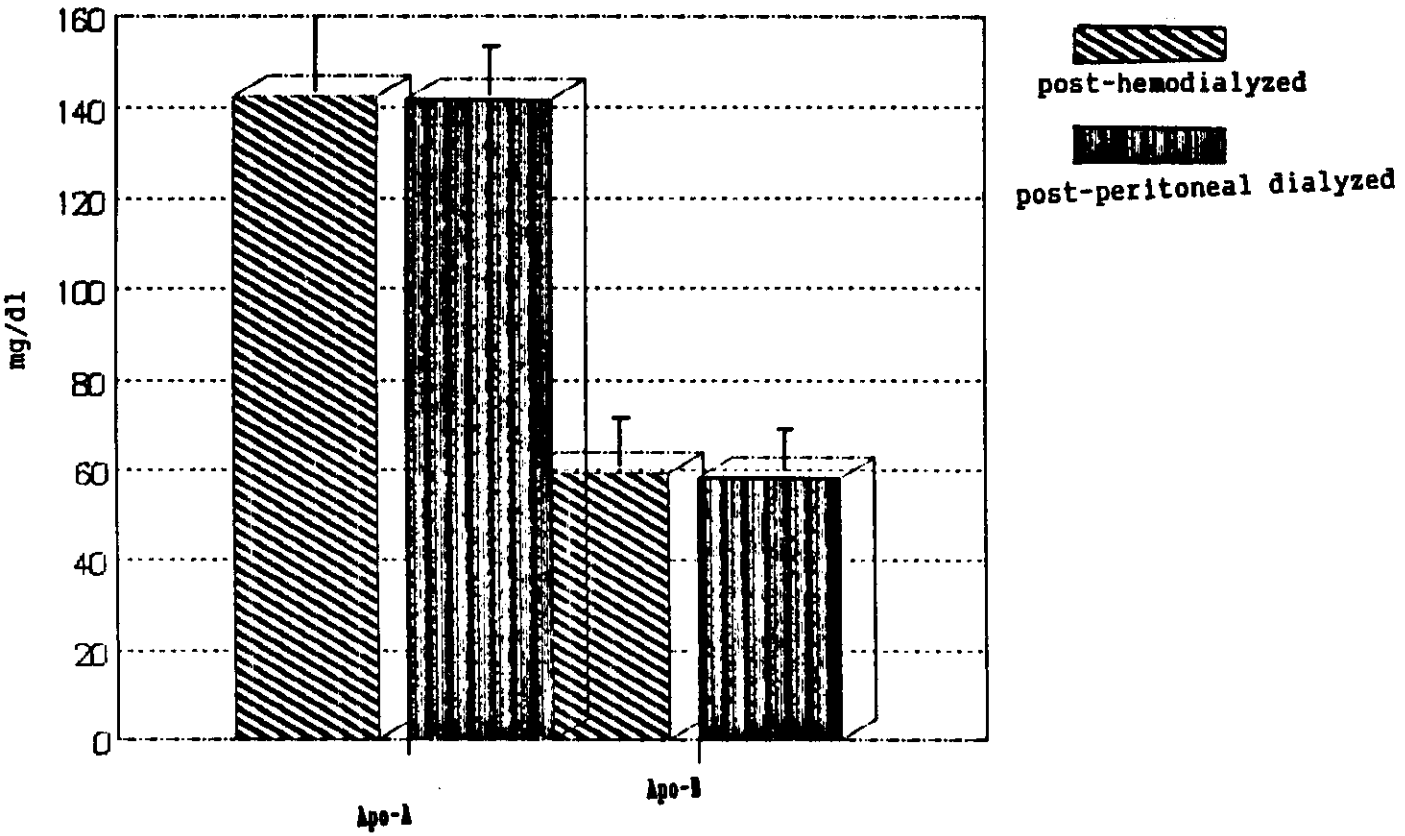

Fig. (9) :Comparative study of mean value ± S.D. of Apolipoproteins A and B In both dialyzed groups after dialysis.

Table (10) and Figure ( ) :

Showed comparative studies of the mean values ±S.D. of plasma carnitine free fatty acids and triglyceride in control, undialyzed, dialyzed and renal transplant groups.

Carnitine.

- The mean value of carnitine in the normal control group was 47.3 ±7.67 umol/L.

- In undialyzed group, the mean value of carnitine was 89.08 ± 10.89 umol/L. This was statisticallly significantly increased (P_1<0.0005) when compared with the normal controls.

- In hemodialyzed group, the mean value of carnitine before dialysis was 50.55 ± 12.10 umol/L, there was non significantly changed from the control group. After dialysis, the mean value of carnitine was decreased to 11.42 ± 4.24 umol/L and this was significantly decreased (P_1<0.0005) when compared with the controls.

- In peritoneal dialysis, the mean value of carnitine before dialysis was 48.3 ± 10.78 umol/L without any significant changes from the control group, but after dialysis the mean level of carnitine was decreased to 11.9 ± 3.2 umol/L. There was significantly decreased (P_1<0.0005) in comparison with the controls.

- In renal transplant group, the mean value of carnitine was 49.49 ± 6.59 umol/L without any significant change from the control group.

- In comparison between both dialyzed and renal transplant groups with undialyzed group there was significant decrease (P_2 <0.0005) in the level of carnitine in both dialyzed groups and also in renal transplant group when compared with undialyzed group.

- In comparison of both dialyzed groups with renal transplant group there was non significant change in the level of carnitine in both dialyzed groups before dialysis when compared with renal transplant group, then the level of carnitine decreased significantly (P_3 < 0.0005) immediately after dialysis

Free Fatty Acids

- In the control group, the mean value of free fatty acids was 3.5 ± 1.10 mg/dl.

- In undialyzed group, the mean value was 4.87 ± 0.98 mg/dl. There was significantly increased (P_1<0.0005) when compared with the normal control group.

- In hemodialyzed group, the mean value of free fatty acids was 7.45 ± 4.01 mg/dl before dialysis and 14.94 ± 4.3 mg/dl immediately after dialysis. These were significantly increased (P_1<0.0005) when compared with the normal control group.

- In peritoneal dialysis, the mean value of free fatty acids was 8.40 ± 3.34 mg/dl before dialysis and 16.30 ± 4.13 mg/dl after dialysis. These were significantly higher (P_1<0.0005) than the normal control group.

- In renal transplant group, the mean value of free fatty acids was 3.82 ± 0.64 mg/dl without any significant change from the normal controls.

- In comparison of both dialyzed groups and renal transplant group with undialyzed group, the level of free fatty acids, was significantly increased (P_2 < 0.0005) in both dialyzed groups (P_2 < in prehemodialyzed group) but significantly decreased (P_2 <0.0025) in renal transplant group when compared with undialyzed group.

- There was significant increase (P_3 <0.0005) in the level of free fatty acids in dialyzed groups when compared with renal transplant group.

Triglyceride.

- In the control group, the mean value of triglyceride was 70.4 ± 9.64 mg/dl.

- In undialyzed group, the mean value was 192.8 ± 53.78 mg/dl. There was significantly increased (P_1<0.0005) in comparison with the normal control group.

- In hemodialyzed group, the mean value of triglyceride was 117.06 ± 32.96 mg/dl before dialysis and 122.9 ± 35.96 mg/dl after dialysis. These were significantly increased (P_1<0.0005) when compared with the normal control group.

- In peritoneal dialysis, the mean value of free fatty acids was 186.1 ± 58.7 mg/dl before dialysis and 191.2 ± 62.5 mg/dl after dialysis. These were significantly increased (P_1<0.0005) when compared with the normal control group.

- In renal transplant group, the mean value of triglyceride was 120.4 ± 29.4 mg/dl which was statistically significantly increased ($P_1$0005) when compared with the normal control group.

- There was non significant change in the level of triglyceride between peritoneal dialyzed and undialyzed groups, but there was significantly

decreased (P_2 <0.0005) in the level of triglyceride in hemodialyzed and renal transplant groups in comparison with undialyzed group.

- While there was non significant change in the level of triglyceride in pre and posthemodialyed groups, but there was significant increase (P_3/0.0005) in pre and post-peritoneal dialyzed groups when compared with renal transplant groups.

Table (10) : comparative studies of mean values ±S.D. of plasma carnitine (umol/L) free fatty acids and triglycerides (mg/dl) in control undialyzed, dialyzed and renal transplant groups.

Biochemical parameters	Control	Undialyzed	Hemodialyed		Peritoneal dialyzed		Renal transplant
			Pre-dialysis	Post-dialysis	Pre-dialysis	post-dialysis	
* Carnitine umol/L	47.3±7.67	89.08±10.89 P_1<0.0005	50.55±12.10 N.S. P_2<0.0005 N.S.	11.42±4.24 P_1<0.0005 P_2^1<0.0005 P_3^2<0.0005	48.3±10.78 N.S. P_1<0.0005 N.S.	11.9±3.2 P_1<0.0005 P_2^1<0.0005 P_3^2<0.0005	49.49±6.59 N.S. P_2<0.0005
* Free fatty acids (mg/dl)	3.5±1.10	4.87±0.98 P_1<0.0005	7.45±4.01 P_1<0.0005 P_2^1<0.005 P_3^2<0.0005	14.94±4.3 P_1<0.0005 P_2^1<0.0005 P_3^2<0.0005	8.4±3.34 P_1<0.0005 P_2^1<0.0005 P_3^2<0.0005	16.3±4.13 P_1<0.0005 P_2^1<0.0005 P_3^2<0.0005	3.82±0.64 N.S. P_2<0.0025
* Triglycerides (mg/dl)	70.4±9.64	192.8±53.78 P_1<0.0005	117.06±32.96 P_1<0.0005 P_2^1<0.0005 N.S.	122.9±35.96 P_1<0.0005 P_2^1<0.0005 N.S.	186.1±58.7 P_1<0.0005 N.S. P_3<0.0005	191.2±62.5 P_1<0.0005 N.S. P_3<0.0005	120.4±29.4 P_1<0.0005 P_2^1<0.0005

N.S. : Non significant.

P_1 : Compared with control.

P_2 : Compared with undialyzed group.

P_3 : Compared with renal transplant group.

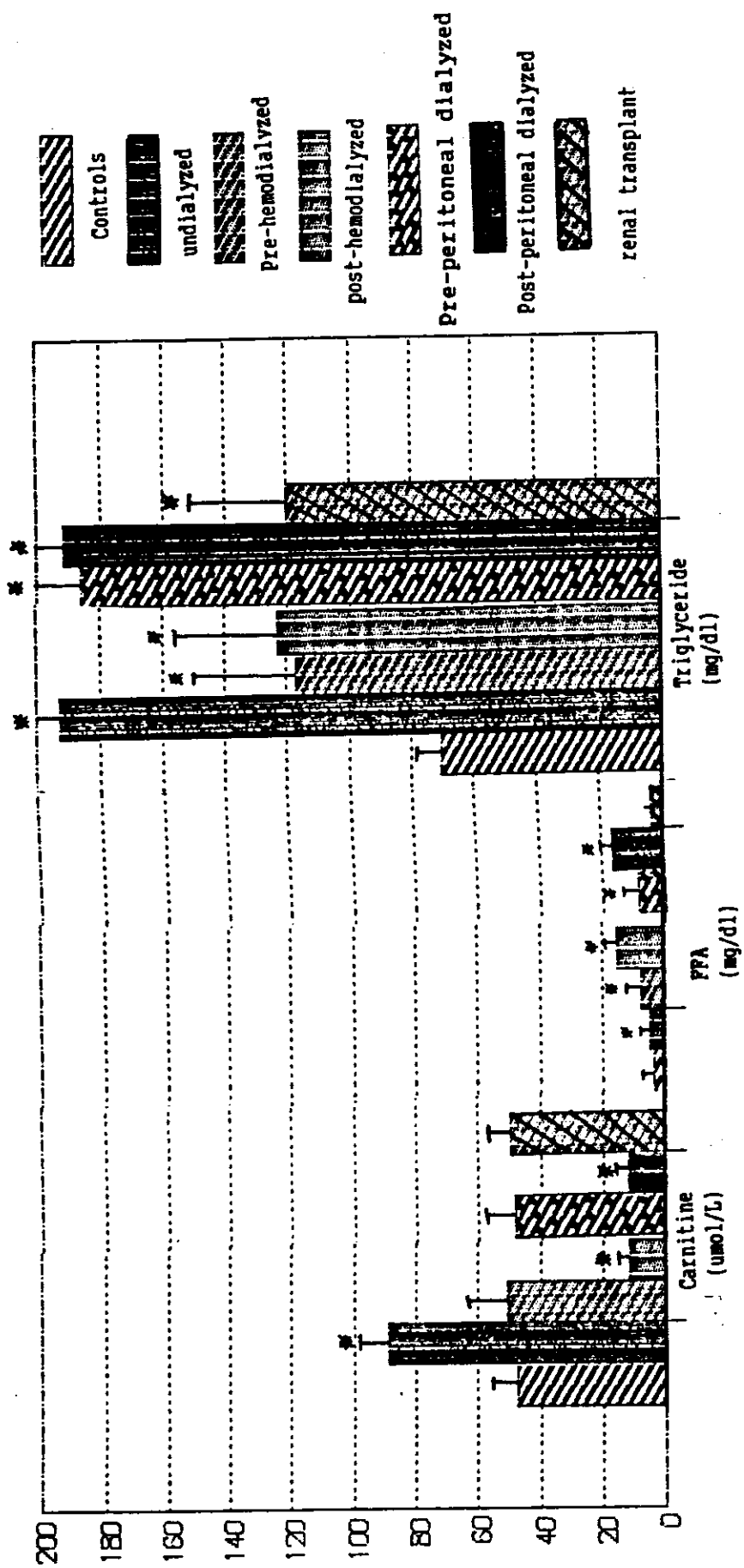

Fig. (10a) : Mean values ± S.D. of plasma carnitine, free fatty acids and triglyceride in undialyzed, dialyzed and renal transplant groups compared with controls.

* significant

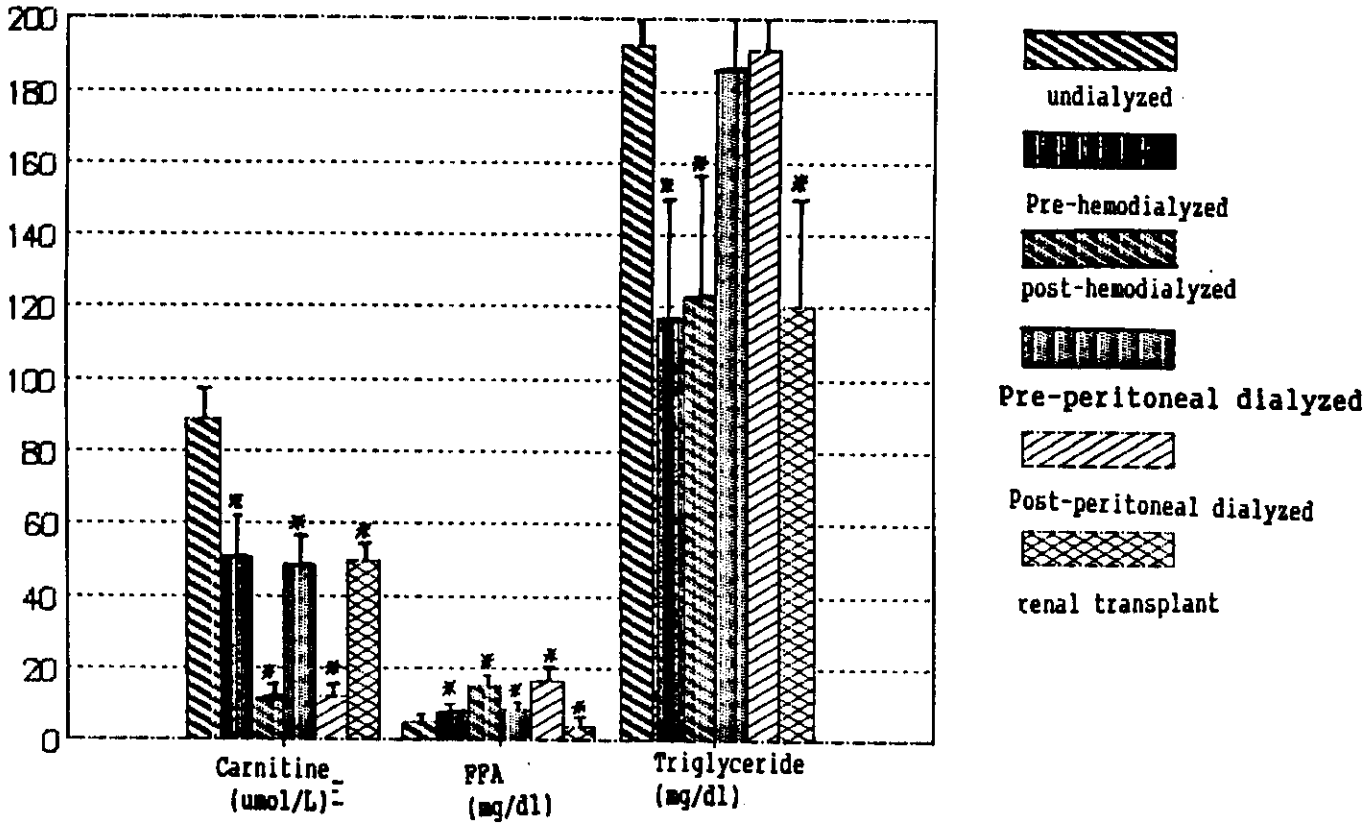

Fig. (10b) : Mean values ± S.D. of plasma carnitine, free fatty acids and triglycerides in dialyzed and renal transplant groups compared with undialyzed Gp.

* Significant

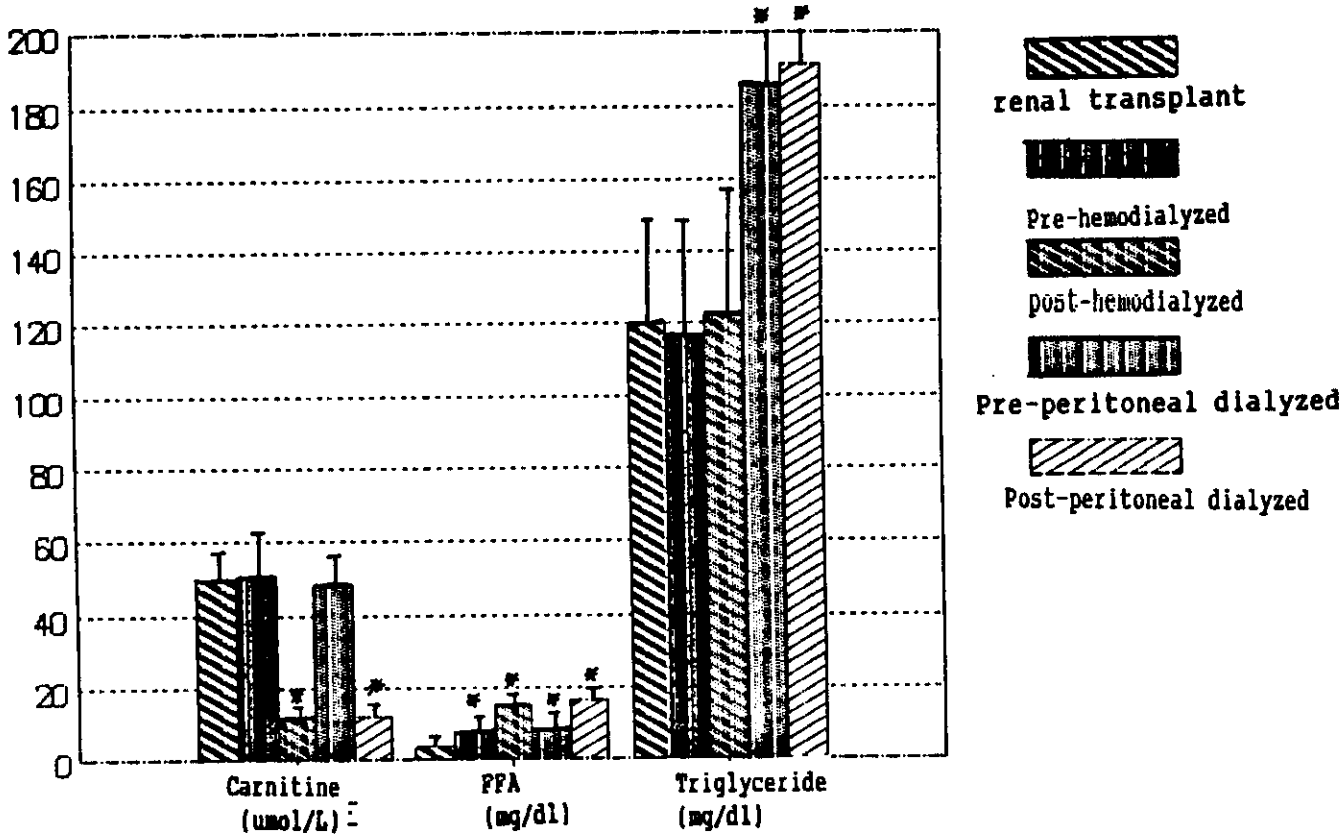

Fig. (10c) : Mean values ± S.D. of Plasma carnitine, free fatty acids and triglycerides in both dialyzed groups compared with renal transplant.

* Significant

Table (11) and Figure ( ) :

Showed comparative study of the effects of dialysis on plasma carnitine, free fatty acids and triglyceride between pre and post-dialysis of each group.

Effects of hemodialysis.

- There was significant decrease (P_1<0.0005) in the level of carnitine and significant increase (P_1<0.0005) in the level of free fatty acids immediately after dialysis when compared with predialyzed group.

- There was non significant increase in the level of triglyceride in postdialyzed group.

Effects of peritonedal dialysis

- There was significant decrease in the level of carnitine (P_2<0.0005) immediately after dialysis when compared with predialyzed group, while the mean value of free fatty acids was significantly increased (P_2<0.0005) immediatly after dialysis.

- There was non significant change in the level of triglyceride before and after dialysis.

Table (11) : Comparative study of effects of dialysis on plasma carnitine, (umol/L), free fatty acids and triglycerides (mg/dl) (Mean values ±S.D.).

	Hemodialysis		Peritoneal dialysis	
Biochemical Parameters	Pre-dialysis	Post-dialysis	Pre-dialysis	Post-dialysis
* Carnitine (umol/L)	50.55±12.10	11.42±4.24 P_1<.0005	48.3±10.78	11.9±3.2 P_2<0.0005
* Free Fatty Acids (mg/dl)	7.45±4.01	14.94±4.3 P_1<0.0005	8.4±3.34	16.4±4.13 P_2<0.0005
* Triglycerides (mg/dl)	117.06±32.96	122.9±35.96 N.S.	186.1±58.7	191.2±62.5 N.S.

N.S : Non significant

P_1 : Compared between pre and post-hemodialyzed groups.

P_2 : Compared between pre and post-peritoneal dialyzed groups.

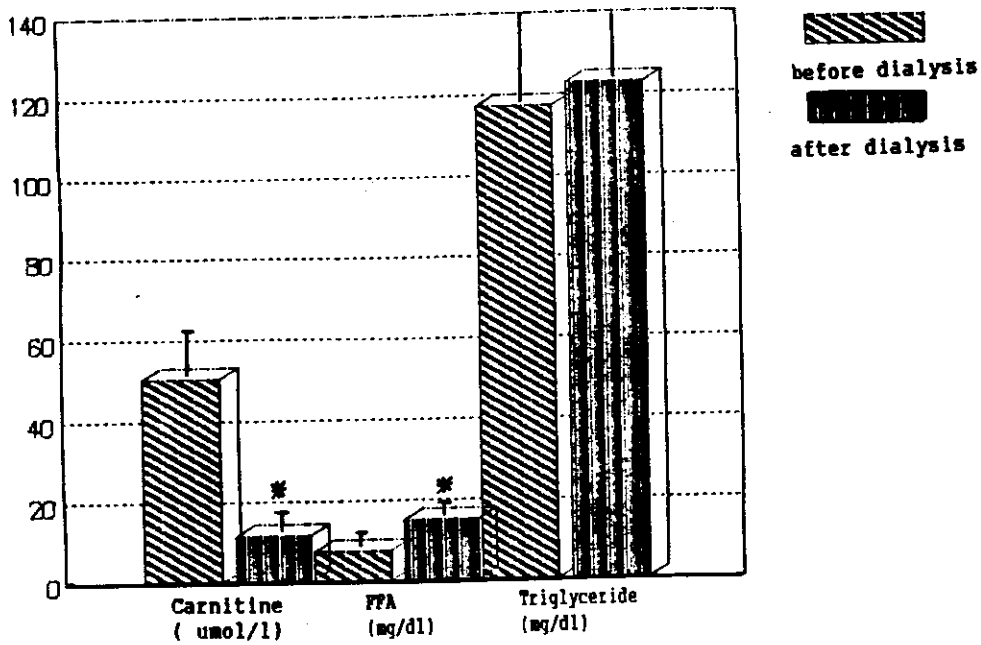

Fig. (11) :Comparative study of effects of hemodialysis on plasma carnitine, free fatty acids and triglyceride (Mean values ± S.D).

* Significant

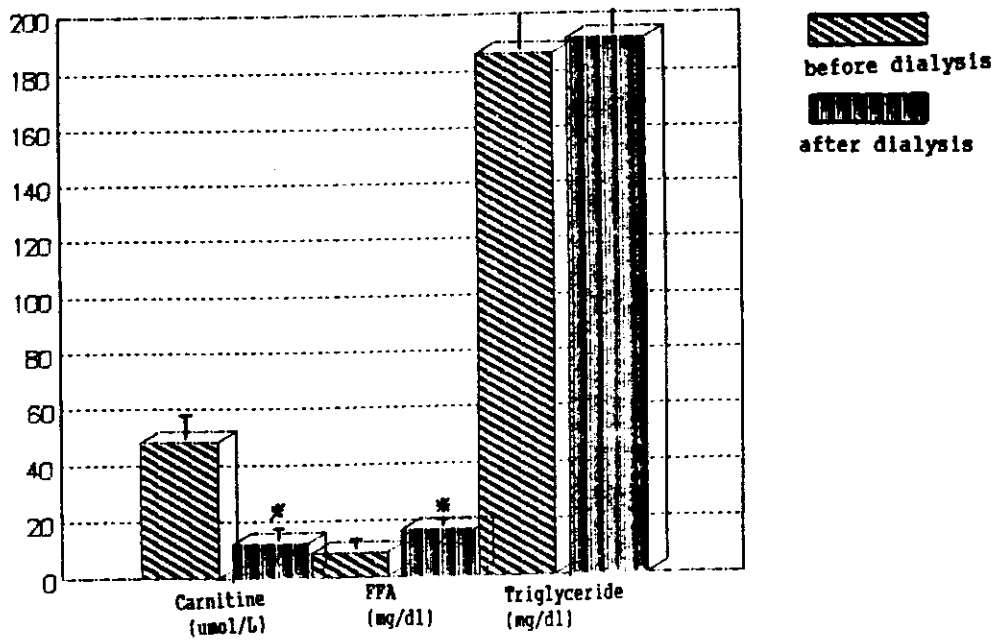

Fig. (11) : Comparative study of effects of peritoneal dialysis on carnitine, free fatty acids and triglyceride (mean values ± S.D.).

* Significant

Table (12) Figure ( ) :

Showed the mean values ± S.D. of (predialyzed) plasma carnitine, free fatty acids and triglyceride in both peritoneal and hemodialyzed groups.

- There was non significant change in the level of carnitine and free fatty acids between both dialyzed groups. But the mean value of triglyceride was significantly increased ($P<0.0005$) in preperitoneal dialyzed group.

Table (12) : Comparative study of mean values ± S.D. of plasma carnitine, (umol/L) free fatty acids and triglycerides (mg/dl)in both hemo and pertoneal dialyzed groups before dialysis.

Biochemical Parameters	Pre-hemodialyzed	Pre-peritoneal dialyzed
* Carnitine (umol/L)	50.55 ± 12.10	48.30 ± 10.78 N.S.
* Free fatty Acids (mg/dl)	7.45 ± 4.01	8.40 ± 3.34 N.S.
* Triglycerides (mg/dl)	117.06 ± 32.96	186.10 ± 58.7 $p < 0.0005$

N.S. : Non Significant

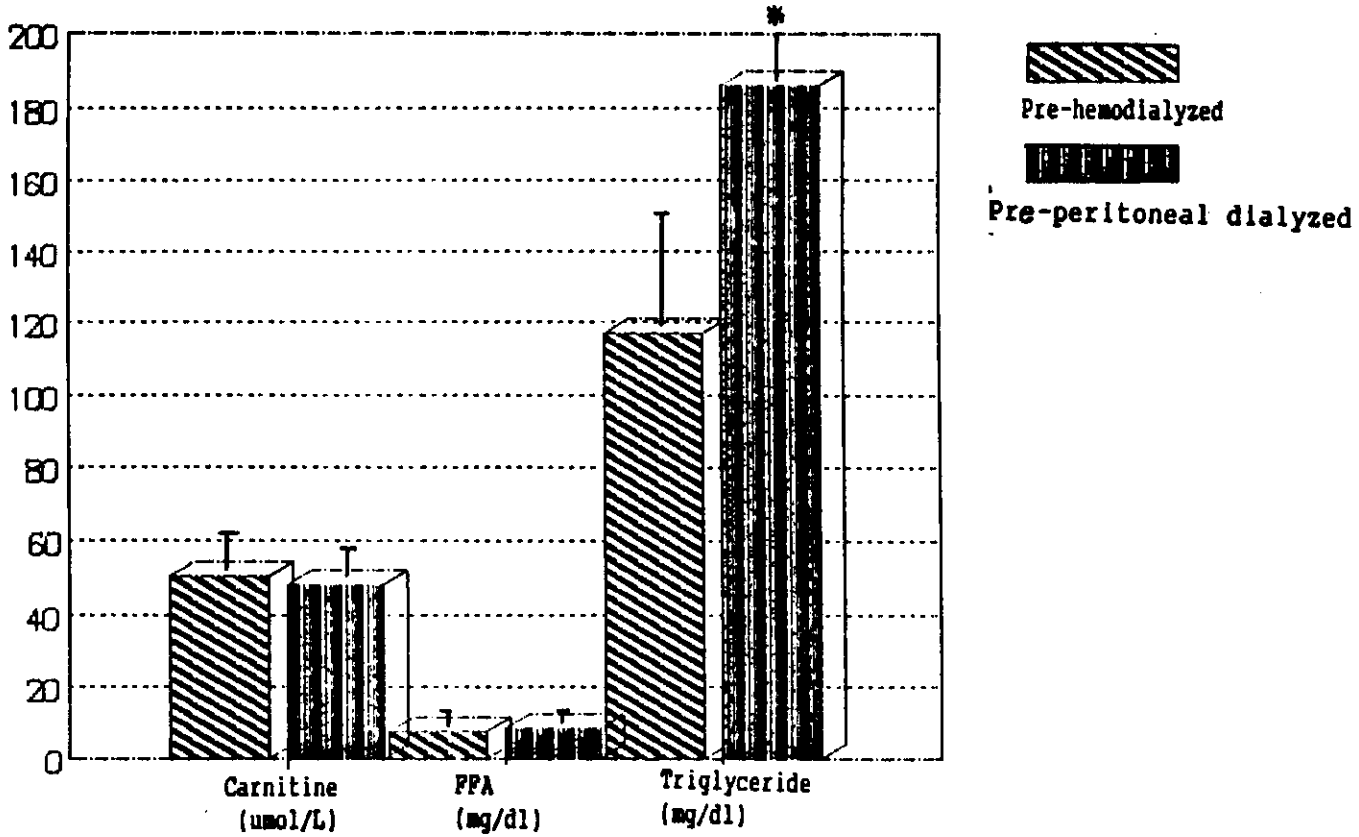

Fig. (12) :Comparative study of mean values ± S.D. of plasma carnitine, free fatty acids and triglycerides in both dialyzed groups before dialysis.

* Significant

Table (13) Figure ( ) :

Showed the mean values ± S.D. of (postdialyzed) plasma carnitine, free fatty acids and triglyceride in both peritoneal and hemodialyzed groups.

- There was non significant change in the level of carnitine and also free fatty acids between both dialyzed groups. But the mean value of triglyceride in post peritoneal dialyzed group was significantly increased ($P<0.0005$) when compared with posthemodialyzed group.

Table (13) : Comparative study of mean values ± S.D. of plasma carnitine, (umol/L), free fatty acids and triglycerides (mg/dl) in both hemo and peritoneal dialyzed groups after dialysis.

Biochemical Parameters	Post-hemodialyzed	Post-peritoneal dialyzed
* Carnitine (umol/L)	11.42 ± 4.24	11.90 ± 3.2 N.S.
* Free fatty Acids (mg/dl)	14.94 ± 4.3	16.30 ± 4.13 N.S.
* Triglycerides (mg/dl)	122.90 ± 35.96	191.20 ± 62.5 P < 0.0005

N.S. : Non Significant.