SUMMARY AND CONCLUSIONS

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In the present study the changes in plasma carnitine together with those of plasma lipids and lipoproteins will follow in uremic patiens undergoing chronic hemodialysis and peritoneal dialysis as well as in patients with renal transplantation. since apolipoproteins are the most probable determinants of the structural and functional specificity of plasma lipoproteins (Attman et al., 1984). apolipoproteins A and B will be estimated in this study.

The results were statistically analysed and the following results were obtained :

1 - Lipids and Lipoproteins

* Plasma triglyceride concentration was significantly increased in uremic patients on conservative treatment when compared with control group. After dialysis, this increased plasma triglyceride concentration was significantly decreased in hemodialysis group but slightly decreased in peritoneal dialyzed group.

* Significant hypertriglyceridemia was observed in uremic patients on peritoneal dialysis in comparison with hemodialyzed group.

* Plasma total cholesterol was significantly increased in uremic patients on conservative treatment when compared with both control and dialyzed groups. This increase was associated with significantly increased LDL-cholesterol and significantly decreased HDL-cholesterol.

* During dialysis procedure, LDL-cholesterol was significantly decreased immediately after dialysis, while HDL-cholesterol was slightly increased in both dialyzed groups.

* After renal transplantation, significant hypertriglyceridemia still existed., furthermore, significant hypercholesterolemia was detected in comparison with control group.

* Hypercholesterolemia in renal transplant subjects was associated with significant decrease in HDL-cholesterol and non significant change in LDL-cholesterol in comparison with control group. But, there were significant increases in HDL-cholesterol and LDL-cholesterol of renal transplant subjects when compared with dialyzed groups.

* Plasma total phospholipids were significantly

increased in both undialyzed and renal transplant groups in comparison with control group.

* Significant decrease in HDL-phospholipids was observed in all studied groups in comparison with control group. Then it slightly and significantly increased after initiation of dialysis and renal transplantation respectively when compared with undialyzed group.

* significant increase in LDL-phospholipids was observed in undialyzed patients when compared with control group, while, there was significant decrease in renal transplant, hemodialyzed and postperitoneal dialyzed groups.

2 - **Apolipoproteins**

* There was significant decrease in apolipoprotein-A in all studied groups when compared with controls.

* After initiation of dialysis and renal transplantation there was significant increase in apolipoprotein-A in both dialyzed and renal transplant groups in comparison with undialyzed group, but there was non significant change in apolipoprotein-A concentration between renal transplant and both dialyzed groups.

* There was significant increase in apolipoprotein-B in undialyzed group when compared with control group. this increase was significantly decreased after initiation of dialysis in both dialyzed groups. Moreover, there was significant increase in apolipoprotein-B in renal transplant group in comparison with both dialyzed groups.

3 - Carnitine and Free Fatty Acids :

* There was significant increase in plasma carnitine level in undialyzed group, when compared with control group.

* In both pre-dialyzed groups and renal transplant subjects there were non significant changes in carnitine levels in comparison with controls.

* Immediately after dialysis, plasma carnitine was significantly decreased when compared with pre-dialyzed level in both groups of dialysis.

* Free fatty acids were significantly increased in undiayzed and both dialyzed groups, but slightly increased in renal transplant group when compared with control group.

* Immediately after dialysis, there was significant increase in the levels of free fatty acids when

compared with pre-dialyzed levels in both groups of dialysis.

Finally, we could conclude that

* Hypertriglyceridemia of uremic patients and of renal transplant subjects could result mainly from decreased VLDL clearance by decreased lipoprotein lipase and also, increased VLDL synthesis could not be excluded.

* Dialysis procedure ameliorates partially the lipid abnormalities in dialyzed patients but does not reverse it completely. So, all uremic patients on maintenance dialysis should perform kidney transplantation.

* After kidney transplantation, lipid pattern abnormalities still exists. So, lipid profile should be done to detect any abnormality.

* Since cyclosporin A is used widely as immunosuppressive agent after kidney transplantation. effects of cyclosporin A on lipid metabolism should be evaluated due to persistence of hyperlipidemia in renal transplant subjects in our study.

* Estimation of apolipoprotein-A and apolipoprotein B may detect lipid abnormalities in uremic patients.

* In dialyzed patients, marked loss of carnitine during dialysis may contribute in development of hypertriglyceridemia in these patients, So, carnitine must be estimated in uremic patients on dialysis. Since carnitine has no any side effects (as reported by **Bizzi et al., 1979**).
it can be added to dialysate in a concentration corresponding to its plasma concentration to avoid its excessive loss during dialysis.

* All methods used for estimation of carnitine were depend on radioimmunoassay. In this study, carnitine was estimated easily by colorimetric method.