Summary and Conclusion

Our study was carried out in nephrology department of Ahmed Maher Teaching Hospital in the period between marsh and may 2011.The study included sixty end-stage kidney disease patients on regular heamodialysis presented by hyperphosphatemia.They are divided into 4 groups each containing 15 patients as classified :-

-First group: increasing time of heamodialysis session from 4 to 6 hours.

-Second group: usage of dialyzer with high phosphorus clearance (Gambro polyflux 17).

-Third group: usage of calcium carbonate as a phosphate binder (Calcimat).

-Fourth group: usage of calcium acetate as a phosphate binder (Dailycal).

The duration of the study is 3months.Serum calcium, phosphorus , albumin, parathyroid hormone and alkaline phosphatase enzyme are measured before and after the study to compare the effect of this methods on reducing serum phosphorus level.

Inclusion criteria:-

-Hyperphosphatemic end-stage kidney disease patient on regular heamodialysis.

-Not parathyroidectomisd patients.

-Washout period 2 weeks before the study.

All subjects submitted to:-

(1) Washout period 2 weeks before the study.

(2) Detailed history taking.

(3) Clinical examination.

(4) Laboratory investigation:-

[Serum calcium, phosphorus ,Albumin, Parathyroid hormone, Alkaline phosphates enzyme].

Before and after the performance of the study

(5) The parameters of the heamodialysis session are:-

- Pump: 300 ml/min.
- Dialysate flow rate: 500 ml/min.
- Used filter: F7 .Except in 2nd group we use dialyser withHigh phosphorus clearance (Gambro polyflux 17).
- Time of session: 4 hours. Except in 1st group time is prolonged to 6 hours.

(6) Usage the same dose of calcium carbonate and calcium acetate in 3rd and 4th groups. (1.5 g / day).

(7) The collected data were tabulated and analyzed using the suitable statistical methods":

From our study it is concluded that:-

- Increasing time of hemodialysis session from 4 to 6 hours has no significant role in reduction of serum phosphorus level.

- Usage dialyzer of high phosphorus clearance reduces serum phosphorus significantly but not enough to reach the (NKF-K/DOQI) guidelines 3.5-5.5 mg/dL so, concomitant usage of phosphate binders is neccissary.

- Calcium acetate is a good altenative to calcium carbonate. Both are effective but calcium acetate binds phosphorus much more than calcium carbonate with little incidence of hypercalcemia which limits usage of calcium carbonate.