

# Comparison Of maintenance Hemodialysis And Their Combination With Hemoperfusion In Patients Undergoing Chronic Hemodialysis Treatment

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## Background

The occurrence of uremic complications is related to the low clearance rate of middle and large molecule uremic toxins when haemodialysis (HD) alone is adopted. As the uremic toxins and their corresponding biological effects become increasingly clear, blood purification treatment that aims to remove these toxins, has developed from a stage of life-sustaining to improving the quality of life.

## Method:

- A total of 36 haemodialysis patients were randomly divided into three groups.
- Group 1 (n=17): received HD + HP (HA130), (HD 3times/week +HP biweekly).
- Group 2 (n=10): given HD with high flux dialyzer 3 times/week.
- Group 3 (n=9): given HD with low flux dialyzer 3 times/week.
- The study was followed for 4 months.
- Before and after the observational period blood samples were taken for haemoglobin (Hb), iron (Fe), total iron binding capacity (TIBC), albumin (Alb), calcium (Ca), phosphorus (PO<sub>4</sub>) and parathyroid hormone (PTH).

## Results:

- At the end of the four months observation period:
- Group 1 had significantly higher values of TIBC ( $p<0.05$ ) and significant lower levels of PO<sub>4</sub> ( $p<0.01$ ), there was no significant differences of EPO doses, PTH and albumin levels between the 3 groups after the follow up period.
- In the group 1, serum PO<sub>4</sub> levels were significantly lower ( $p<0.05$ ) and TIBC was significantly higher ( $p<0.05$ ) after the 4 months of the follow up period than it was at the beginning.
- In group 2 the values of TIBC were significantly lower after the follow up period than it was at the beginning ( $p<0.05$ ).

## Discussion:

The combination treatment of HD with HP was superior to HD in reducing of phosphorus levels, these findings suggest a potential role of reducing the risk of cardiovascular events. The results also demonstrated significant high levels of TIBC in HP group which demonstrate the role in the improvement of renal disease anaemia, however researches on a larger sample size are needed.

## Conclusion:

The combination of HD+HP is a promising therapy in reducing the cardiovascular events and renal disease anaemia in dialysis patients.