

## **DEPRESSION AND SERUM PHOSPHATE CONTROL IN HEMODIALYSIS PATIENTS.**

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**INTRODUCTION:** Hyperphosphatemia is a major treatment problem in hemodialysis patients. It is has been linked to an increase in the incidence of coronary artery calcification and increased relative risk of death. The incidence of depression in hemodialysis patients is variable. It is estimated to be between 10 and 66 percent, the wide variability being a consequence of criteria used to assess mood disorder. The objective of this study was to determine if depression affected the control of serum phosphate in our hemodialysis patients.

**METHOD:** Forty-three hemodialysis patients at our center were assessed for depression using the Hamilton rating scale for depression (DS). A questionnaire was administered to the patients to assess phosphate binder compliance, and the patients' serum phosphate (PO<sub>4</sub>) level was taken as the average of their last three serum levels. A serum phosphate level between 3.5 and 5.5 mg/dL was considered controlled. In addition, to determine if dialysis clearance affected phosphate control, the average of the last three urea reduction ratios (URR) was measured for each patient. URR values greater than 65% were equated with efficient dialysis.

**RESULTS:** DS scores in our patients ranged from 2 to 29 (of a maximum score of 57). Twenty-six of the 43 patients appeared compliant with PO<sub>4</sub> binders. Thirteen of the 43 patients (about 30 percent) had serum PO<sub>4</sub> levels higher than 5.5 mg/dL. There was a significant correlation ( $p < 0.027$ ) between elevated serum PO<sub>4</sub> and higher DS score. However, there was no correlation ( $p < 0.95$ ) between URR and serum PO<sub>4</sub> control.

**CONCLUSION:** Depression contributes to poor serum PO<sub>4</sub> control in hemodialysis patients. Diagnosis and treatment of depression in hemodialysis patients may help to improve serum PO<sub>4</sub> control and thereby reduce cardiovascular complications and risk of death.

**Keyword:** Depression, Hemodialysis, Serum Phosphate