

**9****SEVELAMER HYDROCHLORIDE USE AND CIRCULATING ENDOTOXIN AND INFLAMMATORY BIOMARKERS IN HEMODIALYSIS PATIENTS: A PRELIMINARY REPORT**

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Chronic inflammation is prevalent among patients with chronic kidney disease (CKD) undergoing hemodialysis (HD). Endotoxin (ET) is a potent inflammatory mediator released by naturally occurring bacteria in the intestinal tract, and ET has been detected in patients with CKD. Uremia-induced impairment of the intestinal mucosa raises the potential of ET exposure in patients with CKD as a result of bacterial translocation. Sevelamer hydrochloride (SH) is a commonly used phosphate binder in HD patients that has also been shown to reduce C-reactive protein (CRP) levels. However, little is known of the mechanism underlying this anti-inflammatory effect. The purpose of this study was to explore the hypothesis that SH attenuates inflammation by binding bacterial ET in the intestinal tract.

We performed an observational study of 46 stable HD patients. Based on a current and stable (minimum of 30 days) phosphate binder regimen, patients were divided into a SH (n=30) and control (n=16) group. Subjects with conditions that are known to affect circulating biomarkers of inflammation were excluded. Blood samples were collected at 2 consecutive HD sessions, and were tested for CRP, interleukin-6 (IL-6), and ET levels. Age-adjusted mean values were compared using an analysis of covariance (ANCOVA).

A preliminary analysis performed on the first 38 subjects demonstrates no statistically significant difference in CRP and IL-6 levels between the SH and control group after adjustment for age. This preliminary study is limited by its cross-sectional design, the small sample size and group size imbalances. In summary, although SH use was not associated with circulating biomarkers of inflammation in HD patients, further laboratory testing including ET measurement is under way before firm conclusions can be drawn.

**10****A DIETARY ALTERNATIVE TO PHOSPHORUS**

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Poorly controlled phosphorus can cause dialysis patients major medical complications and degrade the quality and length of a patient's life. Egg white is a high protein food with very low phosphorus content. This study investigated the effect on the serum phosphorus of dialysis patients who ate one meal per day with pasteurized egg white substituted for meat as the principal protein source.

Phase I (baseline) consisted of 4 weeks of preliminary data collection, while Phase II lasted 6 weeks. The change in mean phosphorus level was calculated by subtracting the Phase II mean from the baseline mean for each patient. Normal monthly blood work was drawn to obtain baseline levels of phosphorus. Final blood work was collected at the conclusion of the study. The study was conducted in a suburban freestanding dialysis center September through November 2004.

All male and female patients with serum phosphorus >3.9 mg/dl were able to participate. Patients consumed 8 ounces of pasteurized liquid egg whites for one meal per day in which meat would normally be consumed. Recipe ideas were provided for smoothies and for cooking. The patients kept a daily meal diary for the duration of the study. For each patient, serum phosphorus measurements collected at baseline was averaged and compared to the average of the serum phosphorus measurements collected at follow-up. A paired t-test was used to determine if there was a significant decrease in phosphorus and the Wilcoxon signed rank test was used to confirm the t-test.

Of the thirteen patients participating, six were male and seven were females with an average age of 62 years. A total of 92% had a decrease in phosphorus when they substituted pasteurized liquid egg white for meat in one meal per day for six weeks. In conclusion, the data suggest that pasteurized liquid egg whites are an effective component of the renal diet for lowering serum phosphorus.