Reference:

Effect of Omega-3 Fatty Acids on Blood Pressure and Serum Lipids in Continuous Ambulatory Peritoneal Dialysis Patients


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Summary:

Kidney dialysis via CAPD (continuous ambulatory peritoneal dialysis) is often applied for maintaining patients with kidney failure (in end-stage renal disease). Such patients often have various risk factors for cardiovascular disease (CVD) including hypertension which increases their risk of mortality from CVD-related events. The purpose of the present intervention trial was to determine if daily supplementation with EPA/DHA omega-3 fatty acids from fish oil could favourably attenuate various risk factors for CVD in this patient population. For this purpose, 90 patients were selected for the study who had hypertension or were normotensive and on anti-hypertensive treatment. These subjects (average age of 59 years) had been on dialysis for an average of 25 months previously and were randomly assigned (45 subjects per group) to receive omega-3 supplementation providing 900 mg/day of EPA plus DHA (EPA:DHA ratio of 3:2) or ‘placebo’ (control supplement lacking EPA/DHA). At the beginning and following eight weeks of daily supplementation, blood pressures and other risk factors (blood lipids) for CVD were measured.

There was a highly significant decrease of blood pressures in the patient group assigned to EPA/DHA supplementation relative to those given ‘placebo’ (controls). The mean systolic blood pressures dropped by 15 % overall from an average of 149 mm down to 126 mm mercury and the diastolic pressures dropped by 14 % overall from 85 mm to 73 mm in the omega-3 group. No significant changes were found in the blood lipid levels. The authors indicated that these decreases in blood pressures with EPA/DHA supplementation need longer term follow-up to determine if overall morbidity (disease incidence) and mortality may be reduced as well.
Dr. Holub's Comments:

The present findings are particularly interesting considering the significant reduction in blood pressures with relatively moderate levels of EPA/DHA supplementation. Numerous clinical trials have shown a significant reduction in blood pressure (in both hypertension and borderline hypertensives). However, the daily intake of EPA plus DHA in such trials have typically been in the range of 2000-4000 mgm/day. It remains to be determined if the present results may reflect a particularly responsive patient group or possible synergistic interactions of EPA/DHA with the blood pressure medications as administered simultaneously.