Reference:

Effect of Fish Oil Supplementation on Graft Patency and Cardiovascular Events among Patients with New Synthetic Arteriovenous Hemodialysis Grafts: A Randomized Controlled Trial


Summary:

Reliable vascular access is required for optimal hemodialysis treatment in patients with kidney failure. However, thrombosis (formation of a blood clot within a blood vessel) is a very common problem in arteriovenous grafts within one year. The present clinical trial studied the potential impact of fish oil (containing DHA plus EPA omega-3) supplementation in such patients on graft patency (maintaining non-obstruction) and rates of thrombosis and other measures.

For this purpose, 201 kidney patients on dialysis from 15 centres across North America were randomized to receive daily ‘placebo’ supplementation (no EPA/DHA omega-3) or 2400 mg of EPA/DHA daily (4 capsules containing 600 mg EPA/DHA each) for a 12-month period. The rates of graft failure, thrombosis events, and cardiovascular events (stroke, peripheral vascular disease, heart attack, heart failure, cardiac-related death) were determined during the trial period. The rate of graft failure was lower by 42%, the rates of thrombosis were lower by 50%, and the cardiovascular event-free survival was improved by 57% in those on fish oil as compared to those not receiving supplemental EPA/DHA. The systolic blood pressure was also significantly lower in the fish oil group. The authors concluded that the observed beneficial effects of fish oil supplementation were clinically relevant and advised upon further studies directed towards the apparent benefits on the cardiovascular events.
Dr. Holub’s Comments:

These findings of a markedly lower rate of graft failure due to clotting, lower rates of heart-related events, and lower blood pressures with fish oil supplementation are both highly original and very promising. The reduction in costly and time-consuming procedures also provides an opportunity for lowering health care costs while benefitting the quality of life in the dialysis patient population. It is noted that the daily intake of supplemental EPA/DHA at 2400 mg/day is many-fold that of typical dietary intakes (mostly from fish/seafood) in North America (average of 125-150 mg/person/day) and a level that is essentially impossible to attain on a regular basis independent of supplementation.