

HEMODIALYSIS

Fish oil for hemodialysis

Among patients with new synthetic arteriovenous hemodialysis grafts, supplementation with fish oil does not decrease the proportion of grafts with loss of native patency within 12 months compared with placebo, according to the randomized, controlled Fish Oil Inhibition of Stenosis in Hemodialysis Grafts (FISH) study. It does, however, reduce the rates of graft failure, thrombosis and interventions, and has benefits on cardiovascular outcomes.

To investigate the effects of fish oil on graft patency and cardiovascular outcomes, researchers from the FISH Study Group randomly assigned patients with end-stage renal disease who required a synthetic arteriovenous graft for hemodialysis to receive fish oil capsules or matching placebo capsules daily for 12 months from day 7 after graft creation. “We thought that many of the underlying processes that cause narrowing and clotting of the synthetic graft may also contribute to high blood pressure and heart disease, and that some properties of fish oil could prevent or limit the harmful process”, says Dr Charmaine Lok on behalf of the FISH Study Group. The primary end point was the proportion of grafts with loss of native patency within 12 months, defined as a primary event of thrombosis or requiring intervention to maintain patency. Secondary end points included the rate and proportion of thrombosis, interventions, the time to each event, and cumulative graft patency. Bleeding episodes, changes in lipid status and blood pressure, rate of cardiovascular events, and death were also determined.

At 12 months, the difference in the primary end point was not statistically significant in the fish oil and placebo groups (48% versus 62%, respectively). However, the rate of graft failure was significantly lower in the fish oil group (3.43 versus 5.95 per 1,000 access-days). In addition, the frequency of thromboses and corrective interventions was lower in the fish oil group than in the placebo group. Cardiovascular event-free survival was higher in the fish oil group and systolic blood pressure decreased to a greater extent. Compared with placebo, more patients in the fish oil group had at least one reduction in the dose or frequency of their antihypertensive medications, and were able to reduce their number of antihypertensive medications.

“Overall, taking fish oil is an inexpensive, available supplement that can improve the synthetic graft by reducing its common complications, and at the same time reduce blood pressure and even potentially reduce adverse cardiovascular events”, says Lok. “Our research group is currently working on a larger study that will include all patients, regardless of access type, to determine the effect of fish oil supplementation on cardiovascular outcomes.”

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