Fish Oil Reduces Thrombosis Risk in Synthetic Dialysis Grafts

For patients with new synthetic dialysis grafts, daily fish oil supplements may lower the risk of thrombosis, and possibly cardiovascular events, reports a trial in the Journal of the American Medical Association.

The randomized controlled trial included 201 adults with stage 5 chronic kidney disease at 15 dialysis centers in Canada and the United States. Seven days after the creation of a new synthetic hemodialysis graft, patients were randomly assigned to supplements with fish oil, four 1-g capsules per day, or placebo. Each fish oil capsule contained 400 mg of eicosapentaenoic acid and 200 mg of docosahexaenoic acid. At 1 year, there was no significant difference in the primary outcome of native graft patency (i.e., freedom from graft thrombosis or radiologic or surgical intervention): 48 percent with fish oil and 62 percent with placebo. However, the overall graft failure rate was significantly lower with fish oil supplementation: 3.43 versus 5.95 per 1000 access-days, incidence rate ratio 0.58. The fish oil group also had a lower overall number of thromboses: 1.71 versus 3.54 per 1000 access-days, incidence rate ratio 0.50. The rates of radiologic or surgical interventions were 2.89 versus 4.92 per 1000 access-days, relative risk 0.59. Fish oil was also associated with increased cardiovascular event–free survival, hazard ratio 0.43, and a reduction in mean systolic blood pressure of 8.10 mm Hg.

Synthetic vascular access grafts for hemodialysis are prone to recurrent stenosis and thrombosis. With its antiplatelet, anticoagulant, and vasodilatory effects, fish oil may help avoid these problems.

Despite the lack of significance for native patency, the new trial suggests beneficial effects of fish oil on key secondary outcomes, including thrombosis risk and graft patency. “[T]he potential benefits of fish oil on cardiovascular events deserve confirmation in future studies,” the researchers write. [Lok CE, et al. Effect of fish oil supplementation on graft patency and cardiovascular events among patients with new synthetic arteriovenous hemodialysis grafts: a randomized controlled trial. JAMA 2012; 307:1809-1816.]

Renal Cysts in Potential Kidney Donors—Are They a Problem?

Renal cysts are a common finding in potential kidney donors and are associated with markers of early kidney injury, according to a study in the American Journal of Kidney Disease.

The researchers gathered data on renal cystic and solid lesions detected on contrast-enhanced computed tomography scans performed during evaluation of potential kidney donors. The analysis included 1948 potential donors evaluated from 2000 to 2008 (excluding those with cystic disease—mainly autosomal dominant polycystic kidney disease).

Analysis of cysts measuring 5 mm or larger showed cortical cysts in 12 percent of patients, medullary cysts in 14 percent, and parapelvic cysts in 2.8 percent. Older patients were more likely to have cysts, to have a greater number of cysts, and to have larger cysts. Cortical or medullary cysts 2 mm or larger were present in 39 percent of patients under 50 years versus 63 percent of those aged 50 to 75 years of age. The rates were 22 percent versus 43 percent for cysts 5 mm or larger, 7.9 percent versus 43 percent for cysts 10 mm or larger, and 0.37 percent versus 7.8 percent for cysts 20 mm or larger.

Men also had an increased presence and number of cysts. After adjustment for age and sex, the presence of cortical or medullary cysts 5 mm or larger was associated with increased urinary