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Do Statins Prevent Cardiovascular Events in Hemodialysis Patients?

Not according to findings from this randomized, controlled trial

Statins reduce LDL levels, but do they reduce cardiovascular risk in patients undergoing hemodialysis, who often have low LDL levels? To find out, investigators conducted a manufacturer-sponsored and -administered, international, randomized, double-blind trial of rosuvastatin (10 mg/day) versus placebo in patients aged 50 to 80 who had been on dialysis for \geq 3 months.

The 2773 patients (38% women; average age, 64) were followed for a mean of 3.2 years. At baseline, mean LDL levels were about 100 mg/dL, and median C-reactive protein levels were about 5 mg/L. At 3 months, LDL decreased by 42.9% in the rosuvastatin group, compared with 1.9% in the placebo group. The CRP level decreased by 11.5% in the rosuvastatin group and increased by 0.2% in the placebo group.

The primary endpoint, time to a major cardiovascular event, was similar in the two groups (hazard ratio for rosuvastatin compared with placebo, 0.96; confidence interval, 0.84–1.11). This finding was consistent in all subgroups, including patients with elevated LDL levels and those with elevated CRP levels. LDL level was not associated with risk for cardiovascular events.

Comment: Despite presumably salutary effects on LDL and CRP levels, rosuvastatin did not benefit the patients in this trial. This finding is consistent with findings from a previous study of atorvastatin in hemodialysis patients with diabetes ([JW Cardiol Aug 19 2005](#)) but, interestingly, contrasts with findings from the JUPITER trial ([JW Cardiol Nov 10 2008](#)), which involved a primary-prevention population with similarly low LDLs but with CRPs that were not quite as elevated as in the present trial. The lack of benefit with statins in patients undergoing hemodialysis joins recent evidence of a similar lack in patients with advanced heart failure ([JW Cardiol Nov 5 2007](#) and [JW Oct 16 2008](#)). These examples show that statins are not necessarily beneficial in patient populations that differ substantially from those in which benefits have been proven.

— [Harlan M. Krumholz, MD, SM](#)

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Fellström BC et al. Rosuvastatin and cardiovascular events in patients undergoing hemodialysis. *N Engl J Med* 2009 Apr 2; 360:1395.