**Starting Statin in Childhood Protects FH Hearts**

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Statin use started in childhood for familial hypercholesterolemia (FH) kept atherosclerotic plaque levels normal and was associated with better outcomes in adulthood, long-term follow-up of a clinical trial cohort showed. Mean progression of carotid intima-media thickness was similar for these patients as for their siblings without FH (0.0056 vs 0.0057 mm per year) and remained nonsignificantly different after adjustment for sex.

“This appears to constitute an important step toward future cardiovascular risk reduction, since carotid intima-media thickness is a well-validated surrogate marker for future cardiovascular risk," John Kastelein and colleagues reported.

Indeed, none of the 214 treated children died from cardiovascular causes before age 40, whereas 7% of their FH-affected parents had by the same point. There was just one cardiovascular event among the 203 patients with available data (a patient who stopped the statin after the trial and had a procedure for angina at 28) compared with 26% among the FH parents, "for whom statins were only available much later in life."

"Altogether, this makes a strong case for not only 'the lower the better' but also for 'the younger the better,'" the researchers concluded, noting that the findings also support the [pediatric FH recommendations](https://www.medpagetoday.com/clinical-challenges/cardiovascular-prevention-in-hyperlipidemia/82569) to start statins by age 8 or 10, "with less stringent targets than those for adults."

Only 20% of the FH patients had LDL less <70 mg/dL in the presence of cardiovascular disease or <100 mg/dL without cardiovascular disease. Fully 79% remained on lipid-lowering medication, and 84% of these reported being adherent to it. Only four patients had stopped their statin therapy due to side effects. There were no rhabdomyolysis or other serious adverse events reported, or significant elevations in liver enzymes or creatine kinase levels compared with unaffected siblings.

The study initially included 214 patients with FH (genetically confirmed in 98%), who had participated in a placebo-controlled trial evaluating the 2-year efficacy and safety of pravastatin at an average age of 14 years, along with 95 unaffected siblings enrolled at baseline as a control group and 156 affected parents. Nearly the entire cohort had data available on cardiovascular events (95%), and all did for death from cardiovascular causes.

At the 20-year follow-up, 86% of the patients, now age 32 on average, and 81% of the siblings (77) returned for a single evaluation visit. Patients' LDL remained 32% down from baseline (mean 160.7 mg/dL vs 237.3 initially). The siblings were a good comparator group because of shared genetics other than FH and likely other similarities in diet and beyond from their early shared home environment, Daniels noted.

The parents were essentially a placebo group until adulthood, although there may have been confounding from changes in healthcare and other factors. "Among the background population during this same time frame, studies have shown a decrease in mortality from cardiovascular disease over time but a mild increase in the prevalence of cardiovascular disease over time, findings that render the survival analysis for cardiovascular events even more striking," the researchers noted.

[Source Reference: Luirink IK, et al "20-Year Follow-up of Statins in Children with Familial Hypercholesterolemia" N Engl J Med 2019;381:1547-56. DOI: 10.1056/NEJMoa1816454.](http://www.nejm.org/doi/full/10.1056/NEJMoa1816454)