LIPIDS

Atherosclerosis begins “shortly after birth” in children with FH

Carotid intima–media thickness, a validated marker of atherosclerotic disease, is increased in children aged as young as 8 years who have familial hypercholesterolaemia (FH), which suggests the need for early initiation of lipid-lowering therapy. FH is a genetic condition, usually caused by a mutation in the *LDLR* gene, which leads to an elevated LDL-cholesterol level in the plasma and an increased risk of cardiovascular disease from an early age.

In an ongoing study of rosuvastatin treatment, investigators enrolled 196 children aged 6–17 years who were heterozygous for FH, and 64 of their unaffected siblings, from 14 Lipid Clinics in Belgium, Canada, the Netherlands, Norway, and the USA. Using B-mode ultrasound measurements, the mean carotid intima–media thickness was 0.398 ± 0.052 mm in children with FH and 0.377 ± 0.045 mm in their healthy

siblings ($P < 0.001$). This difference in carotid intima–media thickness between siblings was apparent before the age of 8 years, indicating that the process of atherosclerosis begins shortly after birth. In a multivariable analysis, independent predictors of increased carotid intima–media thickness were age, male sex, and the presence of FH. These data, conclude the investigators, “underscore the importance of early LDL-cholesterol lowering therapy, usually statins, possibly from a younger age than is currently recommended, as treatment should preferably be started before the process of atherosclerosis is detectable”.

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