Concerning number of kids have elevated cholesterol

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Roughly one out of three kids screened for high cholesterol between the ages of 9 and 11 has borderline or high cholesterol, potentially placing them at greater risk for future cardiovascular disease, according to research to be presented at the American College of Cardiology's 63rd Annual Scientific Session.

In one of the largest studies of outpatient pediatric clinic visits to date, researchers examined the medical records of 12,712 children who had screening for cholesterol levels as part of a routine physical exam within the Texas Children's Pediatrics Associates clinics, the nation's largest pediatric primary care organization. Of these, 4,709, or 30 percent, had borderline or elevated total cholesterol as defined by the National Cholesterol Education Program.

"The sheer number of kids with abnormal lipid profiles provides further evidence that this is a population that needs attention and could potentially benefit from treatment," said Thomas Seery, M.D., pediatric cardiologist at Texas Children's Hospital, assistant professor of Pediatrics at Baylor College of Medicine, and the lead investigator of the study. "But we can only intervene if we diagnose the problem."

While cardiovascular disease in children is rare, the presence of certain risk factors in childhood can increase the chances of developing heart disease as an adult. Previous studies have demonstrated that atherosclerosis – a hardening and narrowing of the arteries – can begin in childhood.

"We know that higher levels of, and cumulative exposure to, high cholesterol is associated with the development and severity of atherosclerosis," Seery said. "If we can identify and work to lower cholesterol in children, we can potentially make a positive impact by stalling vascular changes and reducing the chances of future disease." He said that this is especially important amid the growing obesity epidemic, which is resulting in a larger population of children with dyslipidemia, an abnormal amount of cholesterol or fats in the blood.

In this study, researchers also found that boys were more likely than girls to have elevated total cholesterol, low-density lipoprotein (LDL), or "bad" cholesterol, and triglycerides, while girls had lower high-density lipoprotein (HDL) or "good" cholesterol. Obese children were more likely to have elevated total cholesterol, LDL and triglycerides, with lower HDL in comparison to non-obese children. Average total cholesterol, LDL, non-HDL and HDL were all within the normal range, 162 mg/dL, 92 mg/dL, 113 mg/dL and 52 mg/dL, respectively; mean triglycerides were borderline or abnormal (103 mg/dL). Similar to a recent, unrelated study of adult minority groups, 9- to 11-year-old Hispanic children in this study were more likely to have elevated

triglycerides and lower HDL when compared to non-Hispanics.

The authors said they hope their findings will give added weight to guidelines sponsored by the National Heart Lung and Blood Institute and endorsed by the American Academy of Pediatrics that call for universal cholesterol screening of children between the ages of 9 and 11 years and, again between 17 and 21 years of age. Despite these recommendations, some practitioners remain hesitant.

"There is concern by some in the medical community that children will be started on medication unnecessarily," Seery said, emphasizing that adopting a healthy diet and engaging in routine physical activity are first-line therapies for children with abnormal cholesterol levels.

He adds that cholesterol-lowering medications are typically needed in one to two percent of children with dyslipidemia, primarily in those with very high cholesterol resulting from a genetic lipoprotein disorder. Genetic lipoprotein disorders, such as familial hypercholesterolemia, result in very high cholesterol levels that can be detected in childhood but are felt to be underdiagnosed, he said.

"Kids need to have their cholesterol panel checked at some point during this timeframe [9 to 11 years old]," Seery said. "In doing so, it presents the perfect opportunity for clinicians and parents to discuss the importance of healthy lifestyle choices on cardiovascular health. Our findings give a compelling reason to screen all kids' blood cholesterol."

Because the universal pediatric screening recommendations rolled out at the end of 2011, during the second year of this study, Seery said a potential study limitation is that it is unknown if testing was ordered in a universal manner or selectively based upon individual risk factors or a family history of premature cardiac disease. Recent studies have demonstrated that screening based on family history alone risks missing

a large number of children who have dyslipidemia. In addition, the study population was limited to the region in and around Houston.

Further research is needed in order to determine the rate at which primary care providers are following the guidelines since the roll out in 2011, Seery said.

Provided by American College of Cardiology