Even Lean Teens May Get Fatty Liver Disease

And yet there are no guidelines for screening for the disease in non-obese adolescents.

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Non-obese adolescents may be an underrecognized risk group for non-alcoholic fatty liver disease (NAFLD), MedPage Today reports.

Praveen Selvakumar, MD, a pediatric gastroenterologist at the Cleveland Clinic and colleagues penned an editorial in the Journal of Pediatric Gastroenterology and Nutrition about NAFLD in lean adolescents.

According to the available research, fatty liver disease occurs in 30% to 70% of obese children, however, a study led by Selvakumar and published in the same journal as the editorial found that some 8% of lean adolescents also have the condition.

The study analyzed data from the National Health and Nutrition Examination Survey (NHANES) spanning 2005 to 2014 regarding 1,482 adolescents 12 to 18 years old, who were considered lean because they had a body mass index (BMI) below the 85th percentile.

The researchers defined a suspected case of NAFLD as having an ALT liver enzyme level greater than 25.8 units per liter among boys and 22.1 U/l among girls.

On average, 8% of the lean adolescents were suspected to have fatty liver.

Factors associated with a higher risk of suspected NAFLD included various indicators of metabolic syndrome, including low HDL cholesterol, high triglycerides and insulin resistance. The latter factor was associated with a fourfold higher likelihood of having suspected fatty liver.

A retrospective study conducted in South Korea and published in the Korean Journal of Pediatrics of 68 adolescents ages 10 to 17 years old with NAFLD found that among non-obese participants (those with a BMI below the 95th percentile), 39% were normal weight and 62% were overweight. The non-obese young people, compared with their obese counterparts, had higher triglycerides and total cholesterol levels.

Selvakumar believes that multiple factors likely drive NAFLD in lean adolescents, including excess

abdominal fat, which can prompt insulin resistance. It's possible that the gut microbiome plays a role in the development and advancement of fatty liver in this population. Additionally, some young people may be genetically predisposed to the condition. High carbohydrate diets also may be a culprit.

To combat fatty liver in adolescents, Selvakumar recommends weight loss: A 10% loss in body weight generally improves the condition. Avoiding excess carbohydrates, simple sugars, candies and juices; reducing portions and calorie intake; and following a Mediterranean diet may also help. Exercise, both aerobic and resistance, can decrease liver fat.

Unfortunately, although there are screening guidelines for detecting NAFLD among obese and overweight children, no such recommendations for their lean peers exist.

To read the MedPage Today article, click here.

To read the editorial abstract, click here.

For the NHANES study abstract, click here.

For the Korean study abstract, click here.
