

## AAP National Conference: Liver disease in children can progress with no symptoms

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Symptomatic chronic liver disease is uncommon in children, said David Brumbaugh, M.D., M.S.C.I., FAAP, a member of the AAP Section on Gastroenterology, Hepatology and Nutrition.

“However, an important clinical challenge is the fact that liver disease can insidiously progress without symptoms for years and decades, eventually contributing to major morbidity in adulthood,” he said.

Dr. Brumbaugh will provide an update on liver abnormalities in overweight children and adolescents during a session titled “Fatty Liver, a Sign of Food Toxicity? (F2151)” from 3-3:45 p.m. Sunday in Room 309 of Moscone South.

Examples of liver disease that can progress without symptoms are viral infections such as hepatitis B and C as well as non-alcoholic fatty liver disease (NAFLD). Virtually unheard of several decades ago, NAFLD refers to a spectrum of fatty liver diseases that ranges from uncomplicated excess fat deposition in the liver to non-alcoholic steatohepatitis (NASH), an inflammatory state that can progress to fibrosis and cirrhosis, Dr. Brumbaugh explained. NAFLD affects an estimated 8%-10% of 12- to 18-year-olds in the U.S.

Studies have shown that NAFLD is strongly associated with obesity.

“Interestingly, there are also important differences in NAFLD prevalence according to race/ethnicity and sex. Hispanic-Americans and males are more likely to be affected,” said Dr. Brumbaugh, assistant professor of pediatrics, Division of Pediatric Gastroenterology, Hepatology, and Nutrition, University of Colorado School of Medicine.

Because most patients with NAFLD are asymptomatic, screening obese patients beginning at 9-11 years for obesity-related comorbidities is an important opportunity to address this problem, he said.

During the session, Dr. Brumbaugh will discuss screening tests for liver disease, including alanine aminotransferase (ALT). While ALT has emerged as the consensus screening test for NAFLD, it is limited in its sensitivity and is not specific for NAFLD.

“In the setting of the obese patient, NAFLD is going to be by far and away the most common cause of ALT elevation,” Dr. Brumbaugh said. “However, when the ALT is persistently elevated, it is important to maintain a differential diagnosis and not miss other causes of chronic liver disease in children.”

Diet and weight reduction remain the mainstay of treatment for NAFLD, he said. Patients should be encouraged to reduce their intake of beverages high in fructose, which potentiates the creation of lipid within

the liver. In addition, weight loss should be pursued gradually through calorie reduction and increased physical activity.

“Rapid weight loss as part of an over aggressive dietary strategy can counter-productively cause excess fat release from adipose tissue (a starvation response) that can actually cause more liver injury in the short term,” he said.

NAFLD is a slow-growing, incompletely recognized epidemic, Dr. Brumbaugh concluded.

“Many predict that NAFLD will emerge as the most common reason for liver transplantation in adult patients,” he said. “These are likely patients whose liver disease onset is in childhood. This is a situation where recognition in childhood, allowing for family education and lifestyle modification, will hopefully result in improved outcome during the life course.”

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