

# High ALT in Obese Kids Is Not Always Fatty Liver

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ORLANDO — Consider a diagnosis other than nonalcoholic fatty liver disease when an obese child or adolescent presents with elevated levels of the liver enzyme alanine aminotransferase.

Dr. Daniel Preud'Homme and colleagues reviewed the medical records of 372 children and adolescents who were referred for evaluation and management of obesity to

the pediatric healthy life center at the University of South Alabama, Mobile. A complete metabolic profile for each patient included liver testing with serum ALT measurements. Mean age was 14 years; mean body mass index was 39 kg/m<sup>2</sup>.

Of the 113 patients with abnormally high ALT (greater than 48 U/L), 8 (7%) were diagnosed with a condition other than nonalcoholic fatty liver disease, said Dr. Preud'Homme, a pediatric gastroenterologist at the university.

The index case was a 13-year-old girl who had four abnormally high ALT assays over 2 years. The results were attributed to her obesity only, when in fact she had autoimmune hepatitis type 1, Dr. Preud'Homme said during a poster presentation at the annual meeting of the American College of Gastroenterology.

Two other patients with abnormally high ALT levels had smooth muscle antibody-positive and antinuclear antibody-positive assays consistent with autoimmune

hepatitis type 1. This finding supports a need for a more comprehensive evaluation in any patient with elevated ALT levels, obese or not, Dr. Preud'Homme said. He recommended testing for all liver diseases, performing an ultrasound, and, in some cases, taking biopsies.

Two other patients had indeterminate biopsies, and Dr. Preud'Homme said he plans to closely follow these patients and repeat the biopsies. Another two originally assumed to have fatty liver disease were diagnosed with alpha-1 antitrypsin deficiency. One child was diagnosed with Wilson's disease, a rare, inherited condition in which a patient cannot fully metabolize copper.

"If we assume ALT is elevated because [of obesity], we are likely to miss other diseases. The percentage is high enough to warrant not ignoring it," he said. ■

## Rise in ALT After Weight Loss Is No Cause for Alarm

PHOENIX — Increases in liver enzymes after substantial weight loss are common, transient, and not cause for alarm, suggest study results presented at the annual scientific meeting of the Obesity Society.

Dr. James W. Anderson assessed liver function tests in 91 obese and 94 severely obese patients who were engaged in a rapid weight loss program at the University of Kentucky, Lexington, where he is medical director of the Health Management Resources weight loss program.

About a quarter of both groups had elevated alanine aminotransferase (ALT) levels at baseline. Mean ALT levels increased within 3-6 weeks of starting the program in nearly all patients. By 16 weeks, however, ALT levels had returned to normal in 98% of the population.

The 91 obese patients in the study had a baseline body mass index of 42 mg/m<sup>2</sup> and lost 40 pounds on average during 18 weeks in the program. Two-thirds were women, and the average age was 49 years.

Less than half, 47%, of the 94 severely obese individuals were women, and the group was slightly younger (average age, 43 years). This cohort started with a baseline BMI of 53 kg/m<sup>2</sup> and lost 135 pounds on average during 44 weeks in the program.

In 70 severely obese patients with baseline ALT values of 40 U/L or less, those values rose from 25 U/L to 60 U/L at 6 weeks, fell to 30 U/L at 16 weeks, and were below baseline at 40 weeks. Mean peak and final values in this group were 81 U/L and 24 U/L, respectively. Another 24 severely obese patients had abnormal initial ALT values that increased from 61 U/L to 81 U/L at 2 weeks, then fell to 34 U/L by 16 weeks. Mean peak and final values in this group were 97 U/L and 28 U/L, respectively. A similar pattern was seen in the obese group, but the changes were not as dramatic. Initial and final ALT values were 33 U/L and 29 U/L, respectively, said Dr. Anderson, who disclosed no conflicts of interest.

—Jane Salodof MacNeil



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