

Non-alcoholic fatty liver disease (NAFLD)

DOERNBECHER CHILDREN'S HOSPITAL

As health care providers, we find ourselves evaluating many overweight children with mildly elevated ALT and AST. Many health care providers want to know how far to go in evaluating for other causes of elevated transaminases or fatty liver, versus NAFLD.

NAFLD is characterized by fatty infiltration of the liver, mostly detected by imaging studies (US, CT, MRI) or liver biopsy, with or without transaminase elevations in the absence of alcohol consumption. Although common in overweight or obese individuals, it can also be seen in non-obese people, and individuals with Wilson's disease, autoimmune hepatitis, alpha-1-antitrypsin deficiency, chronic hepatitis C, hyperlipidemia, and diabetes. Therefore, these conditions must be ruled out prior to diagnosis of NAFLD.

We recommend you check the following in a child with possible NAFLD:

- Liver function panel, GGT
- Alpha-1-antitrypsin phenotype
- ASMA (smooth muscle antibody)
- anti-HCV
- Lipid profile, fasting
- Ceruloplasmin for Wilson's disease
- ANA
- LKM (liver-kidney-microsomal antibody)
- HBsAg, anti-HBcAb
- Glucose, glucose tolerance test, HbA1c, insulin level, TSH, free T4 as indicated

MANAGEMENT:

1. Encourage weight loss.
 - Consider referral to an obesity management clinic such as the OHSU Healthy Life Styles Clinic (503 494-2000).
 - Have your patient and family to meet with dietitian for diet counseling.
 - Recommend heart rate-increasing physical exercise, 30 minutes/day minimum.
2. Offer vitamin E 400 IU daily by mouth (overdose can cause hemorrhagic problems).
3. Monitor ALT and AST every 6-12 months.
4. Counsel your patient and caregiver on liver health:
 - Avoidance of alcohol, hepatotoxic drugs and herbs
 - Staying up to date on hepatitis A and hepatitis B immunizations
5. Treat hypercholesterolemia, insulin resistance, diabetes, if present.
6. Consider referral to the Pediatric Liver Clinic at Doernbecher Children's Hospital, if you do not feel comfortable and/or if patient has the following:
 - Persistently high (>2 x normal), or rising transaminases
 - Hypoalbuminemia
 - Jaundice
 - Bleeding, easy bruising
 - Splenomegaly

