

Fatty liver may herald impending type 2 diabetes

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A recent study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism* (JCEM) found that individuals with fatty liver were five times more likely to develop type 2 diabetes than those without fatty liver. This higher risk seemed to occur regardless of the patient's fasting insulin levels, which were used as a marker of insulin resistance.

In recent years, [fatty liver](#) has become more appreciated as a sign of obesity and resistance to insulin, a hormone that controls the body's glucose levels. This new study shows that fatty liver may be more than an indicator of obesity but may actually have an independent role in the development of type 2 diabetes.

"Many patients and practitioners view fat in the liver as just 'fat in the liver,' but we believe that a diagnosis of fatty liver should raise an alarm for impending type 2 diabetes," said Sun Kim, MD, of Stanford University in Calif. and senior author of the study. "Our study shows that fatty liver, as diagnosed by ultrasound, strongly predicts the development of type 2 diabetes regardless of insulin concentration."

In this study, researchers examined 11,091 Koreans who had a medical evaluation including fasting insulin concentration and abdominal ultrasound at baseline and had a follow-up after five years. Regardless of baseline insulin concentration, individuals with fatty liver had significantly more metabolic abnormalities including higher glucose and triglyceride concentration and lower high-density lipoprotein cholesterol (sometimes called "good cholesterol") concentration. Individuals with fatty liver also had a significantly increased risk for type 2 diabetes compare to those without fatty liver.

"Our study shows in a large population of relatively healthy individuals that identifying fatty liver by ultrasound predicts the development of type 2

[diabetes](#) in five years," said Kim. "In addition, our findings reveal a complex relationship between baseline fatty liver and fasting insulin concentration."

More information: The article, "Interrelationship between Fatty Liver and Insulin Resistance in the Development of Type 2 Diabetes," appears in the April 2011 issue of *JCEM*.

Provided by The Endocrine Society

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