

Noninvasive test accurately identifies advanced liver disease without biopsy

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Non-invasively measuring liver stiffness with transient elastography accurately diagnoses patients with late-stage liver disease, reports a new study in *Clinical Gastroenterology and Hepatology*, the official journal of the American Gastroenterological Association (AGA) Institute.

Liver biopsy has been the gold standard for assessing liver disease. However, it is limited by invasiveness, risk of complications, patient discomfort and the availability of expertise. Liver stiffness measurement (LSM) has been shown to be a reliable tool to detect liver cirrhosis, and transient elastography is a rapid, non-invasive and reproducible new technique being employed to measure liver stiffness.

"Research has shown that LSM has the potential to become a non-invasive way to diagnose severe liver disease," said Henry LY Chan, MD, with Prince of Wales Hospital in Hong Kong. "We wanted to take a closer look at its potential, evaluating its accuracy in relation to traditional biopsy. Comparing the results of transient elastography with biopsy reports enables us to determine just how precise this technique can be."

In the study, Dr. Chan and colleagues evaluated the accuracy of LSM to detect severe liver fibrosis in 133 patients suffering from chronic liver diseases. The research team recruited adult patients with chronic liver diseases who were clinically indicated for liver biopsy examination in a twelve-month window. Chronic drinkers or those with decompensated liver disease, complications of liver cirrhosis, previous liver surgery or

liver transplantation were excluded. LSM was performed within four weeks of the liver biopsy examination.

Study results showed that LSM is most accurate when diagnosing liver disease in patients with advanced, or pericellular, fibrosis, revealing a high correlation ($r=0.43$) between LSM and pericellular disease. In addition, the correlation of LSM and pericellular fibrosis was stronger in patients with severe fibrosis than in those with mild disease. Though not statistically significant, LSM also provided a better prediction of cirrhosis than did bridging fibrosis, which is an earlier stage of liver disease.

"Right now, LSM is a tool to be used in advanced liver fibrosis," said Dr. Chan. "It has a great ability to diagnose bridging fibrosis and cirrhosis but not a milder degree of liver fibrosis. Using different LSM cutoff values, liver cirrhosis can be diagnosed or excluded with high certainty, which may alleviate the need for biopsy in these later stages."

Higher LSM also was associated with higher serum alanine transaminase (ALT) levels, another marker of liver disease. Patients with higher ALT levels tended to have higher LSM than those with lower ALT levels at the same stage of liver fibrosis. This finding led the research team to conclude that transient elastography may overestimate liver fibrosis when ALT is elevated.

Source: American Gastroenterological Association

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