New fibrosis classification improves accuracy of diagnosis in hepatitis C

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A new classification for diagnosing fibrosis in patients with chronic hepatitis C virus (HCV) has shown to be as accurate as currently used algorithms, but required no further liver biopsy. The study appearing in the January issue of *Hepatology*, a journal published by Wiley-Blackwell on behalf of the American Association for the Study of Liver Diseases, details a method that synchronously combines two fibrosis tests, providing a non-invasive and more precise fibrosis diagnosis.

HCV affects up to 170,000 million individuals worldwide and is a leading cause of chronic liver disease and a primary indication for liver transplantation according to the World Health Organization (WHO). The Centers for Disease Control and Prevention (CDC) estimates that 2.7 to 3.9 million Americans are living with chronic HCV with roughly 12,000 deaths reported each year. WHO has reported up to 20% of HCV patients develop cirrhosis and 1% to 5% die from cirrhosis or liver cancer.

"Fibrosis progression can be highly unpredictable and accurate classification of the stage of fibrosis is extremely important," said Dr. Jérôme Boursier from Centre Hospitalier Universitaire d'Angers in France. "A diagnostic algorithm that provides similar accuracy as successive classifications without the need of liver biopsy to determine the extent of fibrosis is highly beneficial to patients."

Dr. Boursier and colleagues evaluated the Sequential Algorithm for Fibrosis Evaluation (SAFE) and Bordeaux algorithm (BA), compared to

a more detailed classification for determining fibrosis severity. The team used data for 1785 patients with chronic HCV who were enrolled in 3 previous study populations (SNIFF, VINDIAG, and FIBROSTAR), representing a total of 31 centers throughout France. Data included liver biopsy, blood fibrosis test, and Fibroscan—an ultrasound technology used to assess liver fibrosis (stiffness).

The team found that successive SAFE diagnostic accuracy was 87%—significantly lower than the individual SAFE devoted for the diagnosis of significant fibrosis (F≥2) at 95% or for cirrhosis (F4) at 90%. The number of liver biopsies required with successive SAFE was significantly higher than individual SAFE for F≥2 or SAFE for F4 at 71% compared to 64% and 6%, respectively. Researchers also reported similar results with successive BA diagnostic accuracy at 85% compared to individual BA at 88% (F≥2) and 94% (F4). More biopsies were required for successive versus individual BA at 50% compared to 35% and 25%, respectively.

"Our findings show that SAFE and BA diagnostic testing are highly accurate in determining fibrosis or cirrhosis in patients with HCV," said Dr. Boursier. However, a high percentage of patients also required liver biopsy to confirm the diagnosis. The authors creation of a new classification which synchronously combines two fibrosis tests (FibroMeter + Fibroscan) was as accurate as successive SAFE or BA at 87%, and did not require any liver biopsy. "The new non-invasive classification of fibrosis is as accurate as successive SAFE or BA, but is more precise with six fibrosis classes and entirely non-invasive with no liver biopsy required," concludes Dr. Boursier.

More information: "Comparison of 8 Diagnostic Algorithms for Liver Fibrosis in Hepatitis C: New Algorithms are More Precise and Entirely Non-invasive." Jérôme Boursier, Victor de Ledinghen, Jean-Pierre Zarski, Isabelle Fouchard- Hubert, Yves Gallois, Frédéric Oberti,

Paul Calès, and multicentric groups from SNIFF 32, VINDIAG 7, AND ANRS/HC/EP23 FIBROSTAR studies. Hepatology; Published Online: December 21, 2011 (DOI: 10.1002/hep.24654); Print Issue Date: January 2012.