Doppler ultrasonography devices, including elastography, allow for accurate diagnosis of severe liver fibrosis

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Résumé en anglais	OBJECTIVES: Advanced chronic liver disease is frequent yet largely underdiagnosed. Doppler-US is a common examination and we recently identified three simple Doppler-US signs associated with severe liver fibrosis. Recent Doppler-US devices include elastography modules, allowing for liver stiffness measurement (LSM). Our aim was to assess whether the use of elastography following positive simple Doppler-US signs improves the detection of severe liver fibrosis in a single Doppler-US examination. METHODS: 514 patients with chronic liver disease who consecutively underwent percutaneous liver biopsy were included in the study. All patients had a Doppler-US examination and LSM with Virtual Touch Quantification (VTQ) on the same day as a liver biopsy. A subset of 326 patients also had LSM with 2D shear wave elastography (SSI). Severe fibrosis was defined as Metavir F ≥ 3 on liver biopsy. RESULTS: Multivariate analysis confirmed our three simple Doppler-US signs (liver surface irregularity, splenomegaly ≥110 mm, and demodulation of hepatic veins) as independently associated with severe fibrosis. The presence of at least one of these three signs showed 85.6% sensitivity and 36.1% specificity for the diagnosis of severe liver fibrosis. Using VTQ (≥1.59 m/s) where there was a positive Doppler-US sign increased the specificity to 80.8%, at the cost of a decrease in sensitivity (73.7%). Similar results were obtained with SSI (≥9.5 kPa), with 73.3% specificity and 81.5% sensitivity. CONCLUSION: Elastography improves the accuracy of Doppler-US in the detection of severe fibrosis. This two-step procedure will help radiologists to accurately identify patients who need to be referred to specialist hepatologists during routine Doppler-US examinations.

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