

# Doppler flowmetry in hepatic steatosis

*Dopplerfluxometria na esteatose hepática*

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The spectrum of nonalcoholic fatty liver disease (NAFLD) goes beyond steatosis, and may progress to steatohepatitis, fibrosis and cirrhosis. What is expected from imaging studies is that they can noninvasively define whether or not there is an increase in hepatic fatty content and at which degree of severity<sup>(1)</sup>.

Ultrasonography (US) is less accurate than magnetic resonance imaging (MRI) in the detection and evaluation of the degree of steatosis. On the other hand, because of its wide availability in association with its lower cost, US is the most utilized diagnostic tool in the initial evaluation of hepatic parenchymal alterations<sup>(2,3)</sup>.

Hepatic fatty infiltration is one of the most frequent findings at routine US. Patients with diabetes mellitus, insulin resistance, obesity and metabolic syndrome are particularly prone to develop NAFLD<sup>(4)</sup>. The interest of practitioners involved in the treatment of patients at risk for development of NAFLD has led to an increase in the number of imaging studies, particularly abdominal US.

The detection and quantification of NAFLD have several clinical implications. The early recognition of the disease may be crucial for an appropriate management to prevent the disease progression and complications<sup>(2)</sup>.

Imaging findings of steatosis at B-mode ultrasonography, such as increased echogenicity of the hepatic parenchyma and posterior acoustic attenuation are well established<sup>(2,3)</sup>. Notwithstanding, almost all the new US systems currently available in the market include Doppler resources. And, if by one side, there are innumerable studies evaluating hepatic and portal vessels flow

patterns in hepatic cirrhosis, on the other side, there are few studies approaching such parameters in steatosis.

The present issue of **Radiologia Brasileira** includes a study developed by Borges et al.<sup>(5)</sup> evaluating alterations in the right hepatic vein flow patterns in patients with different degrees of hepatic steatosis as compared with healthy control individuals. In such study, the authors tried to utilize a reproducible, i.e., easily measurable parameter such as the right hepatic vein flow. The different steatosis degrees were determined by biopsy, that is considered by many authors as a reference standard for this diagnosis<sup>(6)</sup>.

Borges et al. have not observed any difference in flow patterns among patients with different degrees of NAFLD. However, the significant difference of flow patterns observed between the diseased and healthy control groups may represent a further reason for utilizing Doppler flowmetry to supplement abdominal US in the investigation of hepatic steatosis, particularly in the differentiation between a steatotic liver and a healthy organ. Further studies could enhance our understanding on such application of Doppler, validating its usefulness.

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