

NAFLD

MRI VERSUS BIOPSY
TO ASSESS NAFLD

A biopsy sample is currently needed to make a diagnosis of NAFLD; however, liver biopsy is an invasive procedure and has several limitations. The results of a study published in *Alimentary Pharmacology & Therapeutics* now suggest that new MRI techniques, such as determining the proton density-fat fraction (PDFF), generate findings that correlate well with the steatosis grade obtained from biopsy samples from adults with NAFLD.

“Conventional MRI techniques that measure hepatic steatosis are limited by T1 bias, T2* decay and multifrequency signal-interference effects of protons in fat,” explains corresponding author Rohit Loomba. “Newer MRI techniques, such as the PDFF, that correct for these factors have not been specifically compared to liver biopsy in adult patients with NAFLD.” Loomba and colleagues therefore designed a cohort study to compare the steatosis grades determined by histology and PDFF, and to establish how the steatosis grade was associated with fibrosis.

The authors enrolled 51 adult patients who had biopsy-confirmed NAFLD. The participants underwent metabolic-biochemical profiling and an MRI scan to determine their PDFF measurement. Liver biopsy samples were assessed according to the NASH-CRN histological scoring system.

The PDFF correlated with the steatosis grade determined by biopsy in these patients; PDFF increased with increasing histology-determined steatosis score. Steatosis was nonlinearly associated with fibrosis, as determined by both PDFF and biopsy. Thus, a low level of steatosis does not necessarily mean that the patient has mild NAFLD.

“We would like to propose that less hepatic steatosis (measured either by MRI-PDFF or liver biopsy) is perhaps bi-modally distributed with respect to disease severity: with a group of patients with mild NAFLD having less fibrosis and a group of patients with severe NAFLD having more advanced fibrosis,” states Loomba. “Thus, imaging-determined hepatic steatosis might not be a reliable measure of the severity of NAFLD, and one should remain cautious about interpreting low levels of hepatic steatosis as early or mild NAFLD.”

Claire Greenhill

Original article Permutt, Z. *et al.* Correlation between liver histology and novel magnetic resonance imaging in adult patients with non-alcoholic fatty liver disease—MRI accurately quantifies hepatic steatosis in NAFLD. *Aliment. Pharmacol. Ther.* doi:10.1111/j.1365-2036.2012.05121.x