Original article

Performance of transient elastography (TE) and factors associated with discordance in non-alcoholic fatty liver disease

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OBJECTIVE: To determine the accuracy of transient elastography (TE) and factors associated with discordance between TE and liver histology in patients with non-alcoholic fatty liver disease (NAFLD).

METHODS: The accuracy of TE was assessed and compared with the aspartate aminotransferase-to-platelet ratio index (APRI) in patients with histologically proven NAFLD. Factors associated with discordance between liver histology and TE were analyzed.

RESULTS: Altogether 131 patients with a mean age of 49.9 years, including 69 men and 62 women, with NAFLD underwent liver stiffness measurement (LSM) by TE. Among all patients, 120 (91.6%) had a successful LSM with an interquartile to median ratio of 0.15. The accuracy of TE in detecting ≥F3 and F4 fibrosis, assessed by the area under the receiver operating characteristic curve, were 0.77 and 0.95, respectively. The sensitivity and specificity of the optimal LSM cut-off values for detecting ≥F3 fibrosis (sensitivity 70.4% and specificity 66.6%) and F4 (sensitivity 87.5% and specificity 89.3%) were modest, but better than those of APRI. Discordance between TE and histology for fibrosis grading was observed in 22.5% of patients, but it could not be explained by body mass index, alanine aminotransferase level, the length of the biopsied specimens or the grade of steatosis.

CONCLUSION: TE plays an important role in the detection of advanced fibrosis and cirrhosis in patients with NAFLD and its accuracy does not appear to be influenced by components of the disease.

KEYWORDS: accuracy, liver fibrosis, liver stiffness measurement, nonalcoholic fatty liver disease, noninvasive, transient elastography.

INTRODUCTION

Non-alcoholic fatty liver disease (NAFLD) represents the hepatic manifestation of metabolic syndrome, which is prevalent in both Asia and the rest of the world.1,2 While NAFLD patients with hepatic steatosis alone have a favorable prognosis, those with non-alcoholic steatohepatitis (NASH) (and its fibrotic sequelae) have a significantly elevated risk of