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Magnetic Resonance Elastography for Liver Fibrosis in Methotrexate Treatment

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ABSTRACT

Introduction: Hepatic magnetic resonance elastography (MRE) allows for noninvasive assessment of liver fibrosis. The purpose of this study was to evaluate the usefulness of MRE in detecting and quantifying liver fibrosis in patients with rheumatoid arthritis (RA) who have received methotrexate (MTX). **Methods:** The association between mean liver stiffness value as determined by MRE and variables of interest was determined. The decision for a liver biopsy in participants with an abnormal liver stiffness was made based on clinical judgment. **Results:** Sixty-five RA patients were enrolled. Mean liver stiffness value by MRE was abnormal in 7 patients, suggestive of hepatic injury. As a result of findings from the MRE, biopsies were performed in 5 patients and all correlated with elevated liver stiffness values. Elevated mean liver stiffness values were associated with body mass index (BMI) (OR = 1.18 per 1 kg/m²; 95% CI: 1.03, 1.36; p = 0.017). Neither the total MTX dose nor the duration of MTX treatment was associated with mean liver stiffness value (p = 0.51 and P = 0.20, respectively). **Conclusion:** MRE provides a reliable, non-invasive assessment of liver fibrosis in patients with RA receiving MTX. Patients with RA receiving MTX who have an elevated BMI may be at increased risk for chronic hepatic injury, regardless of MTX cumulative dose or duration of treatment.

KEYWORDS

Methotrexate; Hepatic Magnetic Resonance Elastography; Liver Fibrosis; Rheumatoid Arthritis

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