

Is Magnetic Resonance Imaging (MRI) Reliable in the Diagnosis of Ankle Instability

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Introduction/Purpose: MRI is the preferred modality for the diagnosis of ankle joint pathology. The aim of this study was to specifically analyse the reliability of MRI reported lateral ligament findings in relation to examination under anaesthesia and stress X-rays in patients with symptomatic ankle instability.

Methods: A single centre, single surgeon consecutive series of patients who had undergone examination under anaesthesia and stress X-rays preceded by an MRI scan for symptomatic ankle pathology were included in this retrospective clinical study. All MRI scans were reported by a musculoskeletal radiologist. MRI reports and procedure findings were extracted and analysed.

Results: Between April 2012 and December 2016, 49 patients who fulfilled the above criteria were included. There were 25 male and 24 female patients, the average age was 43.1. The average time interval between MRI scan and examination under anaesthesia was 9.7 months (2-49 months).

There is a significant association between MRI reported lateral ligament findings and status of ankle stability detected on examination under anaesthesia and stress views, $p=0.003$ (Chi-square analysis for association).

In 34 patients who had abnormal lateral ligament findings on MRI, 20 patients (58.8%) had stable findings and 14 (41.2%) had unstable findings on stress views.

There was, however, a 100% concordance between MRI reported normal lateral ligament findings and stability on examination under anaesthesia and stress views (N=15).

Conclusion: MRI is accurate in diagnosing the status of ankle ligaments and in particular, in predicting true stability.

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