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Anterior Talofibular Ligament Abnormality on Routine Magnetic Resonance Imaging of the Ankle

Patrick Kane, MD

Rothman Institute of Orthopaedics at the Thomas Jefferson University Hospital

David Pedowitz, MD

Rothman Institute of Orthopaedics at the Thomas Jefferson University Hospital

Adam C C. Zoga, MD

Department of Radiology, Thomas Jefferson University Hospital, 111 S. 11th Street, Philadelphia, PA 19107, USA

Steven M. Raikin, MD

Department of Orthopaedic Surgery, Rothman Institute, Thomas Jefferson University Hospital

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INTRODUCTION

The anterior talofibular ligament (ATFL) extends from the anteroinferior border of the fibula to the talar neck.

Primary restraint to ankle inversion in plantarflexion.

Injury (acute or chronic) can be diagnosed with physical exam, stress X-Rays, ultrasound or magnetic resonance imaging (MRI).

Purpose:

MRI abnormalities in asymptomatic individuals known in other areas of orthopaedics (shoulder and spine).

Purpose of our study: determine the prevalence of ATFL abnormalities found on MRI in asymptomatic individuals.

Asymptomatic individuals - those undergoing MRI for pathology unrelated to lateral ankle trauma, instability, or inversion injuries.

MATERIALS AND METHODS

Foot and Ankle MRI performed at our institution during the month of July 2012 were reviewed.

Exclusion criteria - Inversion injuries, Ankle sprains, Documented trauma to the lateral ankle.

Each MRI evaluated by an academic board certified musculoskeletal radiologist (AZ) for:

Primary pathology noted in the initial MRI report.

Integrity of the ATFL.

Normal

Chronically thickened

Attenuated

Chronically torn

Acutely torn

FIGURE 1 & TABLE 1

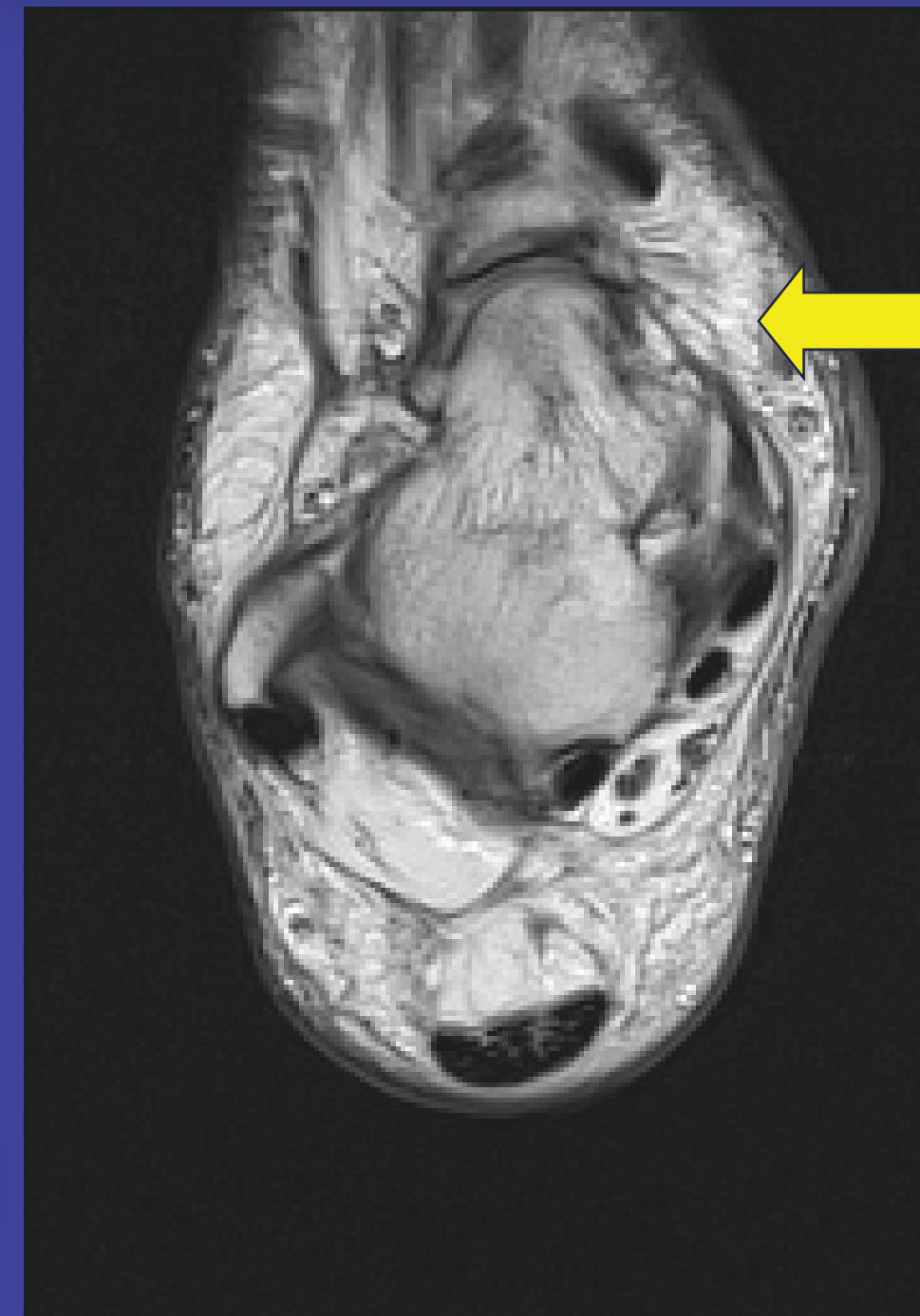


Figure 1 Appearance of a normal ATFL on T1 MRI, yellow arrow.

Table 1 Appearance of the ATFL on MRI, Percent out of 158 total.

ATFL Description	Number of MRI (Percent)
Normal	58 (36.7%)
Chronically Thickened	50 (31.6%)
Attenuated	45 (28.4%)
Chronically Torn	34 (21.5%)
Acutely Torn	0 (0%)

RESULTS

100 Females:58 Males, average age 47.3 years

Most commonly encountered primary pathology:

Achilles tendinosis or tear – 41 patients (25.9%)

Plantar fasciitis – 20 patients (12.6%)

Posterior tibial tendon dysfunction – 20 patients (12.6%).

ATFL integrity:

Normal - 58 patients (36.7%)

Chronically thickened - 50 patients (31.6%)

Attenuated - 45 patients (28.4%)

Chronically torn - 34 patients (21.5%)

Acutely torn - 0 patients

Nearly two thirds (100 patients/63.3%) of ATFL's examined were abnormal.

DISCUSSION

Up to two thirds of patients undergoing ankle MRI for reasons other than lateral ankle trauma have an abnormal ATFL.

Similar to MRI of the shoulder and spine, abnormalities must be correlated with clinical findings.

Many MRI findings clinically silent.

We hope this information is useful for patient reassurance and counseling.

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