



Role of MRI in Evaluation of Traumatic Ankle Injuries

Thesis

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By

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Abstract

Introduction: MR imaging has become the diagnostic modality of choice for the evaluation of traumatic ligamentous, tendinous injuries of the ankle and occult bony trauma. This article reviews the current applications of MR imaging for the evaluation of most of these lesions. Ankle sprains are considered the most common lower limb injuries (incidence between 5 - 7 per 1000 persons/year in Europe), affecting more frequently young athletes; the most common mechanism of injury is represented by inversion of the foot (less frequently eversion).

Aim of the Work: The aim of the current study is to emphasize the value of Magnetic Resonance Imaging (MRI) in evaluation of patients with ankle pain caused by traumatic injury.

Patients and Methods: A descriptive study, conducted from March 2017 till June 2017. Sixty patients underwent MRI examination (patients with traumatic ankle pain) during this period. Twenty patients have normal MRI examination and not included in the study while forty patients have positive MRI findings. All patients were performed MRI in radiology department, Ain Shams University Hospital. The examination carried out after signing the informed consent by the patient himself or his guardian if the patient is incapacitated by any means.

Results: The study included 40 patients (12 females and 28 males) ranged in age between 12-60 years with mean age 28.98 [28.98±12.44], 60% of the patients were < 30 years and 40% of them were > 30 years.

Conclusion: MRI is modality of choice in evaluating ankle injuries due to its high soft tissue contrast resolution, and multi-planar capabilities. It provides a non-invasive tool for the diagnosis of Ankle injuries, which are often difficult to diagnose with alternative modalities. MRI is particularly advantageous for assessing soft tissue structures around the ankle such as tendons, ligaments, nerves, and fascia and for detecting occult bone injuries.

Keywords: MRI, Traumatic Ankle Injuries

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لسبب أنك لا تعلم لنا
إلا ما علمتنا أنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

ADM	Abductor digiti minimi
ATFL	Anterior talofibular ligament
ATV	Anterior tibial vessels
CFL	Calcaneofibular ligament
CN	Calcaneonavicular
DPN	Deep peroneal nerves
EDB	Extensor digitorum brevis
EDL	Extensor digitorum longus
EHL	Extensor hallucis longus
FDB	Flexor digitorum brevis
FDL	Flexor digitorum longus
FHL	Flexor hallucis longus
FR	Flexor retinaculum
GSV	Greater saphenous vein
IER	Inferior extensor retinaculum
IOTC	Interosseous talocalcaneal
LM	Lateral malleolus
LSV	Lesser saphenous vein
MM	Medial malleolus
MST	Middle subtalar joint
PB	Peroneus brevis

List of Abbreviations

PL	Peroneus longus
PT	Peroneus tertius
PA	Plantar aponeurosis
PST	Posterior subtalar joint
PTv	Posterior tibial vessels
PTT	Posterior tibialis tendon
QP	Quadratus plantae
RMG	Retromalleolar groove
SN	Saphenous nerve
SPR	Superior peroneal retinaculum
SMSL	Superomedial portion of the spring ligament
TN	Talonavicular
Tn	Tibial nerve
TA	Tibialis anterior

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