بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

Evaluation of tendoAchilles Lesions by (MRI)

Thesis

A Thesis Submitted For Partial Fulfilment Of Master's Degree In Radiology

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List of Abbreviations

Abb.		Full Term
AT	:	Achilles Tendon
GE	:	Gradient Echo
MRI	:	Magnetic Resonance Imaging
SD	:	Standard Deviation
SE	:	spin echo
STIR	:	Short Tau Inversion Recovery
SPSS	:	Statistical package for social sciences
SD	:	Standard deviation
T1WI	:	T1 Weighted Image
T2WI	:	T2 Weighted Image
PD	:	Proton density
P-value	:	Probability value

INTRODUCTION

The AT is the thickest and strongest tendon in the human body. It is 12-15cm long, it originates from the aponeurosis of the soleus ,medial and lateral gastrocnemius muscle (triceps surae) and is inserted into the posterior calcaneal tuberosity. It is the major planter flexor of the foot and contributes to the maintenance of the upright position ***(Gervsio et al., 2014).*** Gastrocnemius and Soleus muscles of the calf are conjoined by AT and attaches them to the calcaneus. The AT is the thickest tendon of the Human body, enclosed by Fascia and is protruding behind the bone; the gap being filled by an areolar and adipose tissue ***(Sahi et al., 2018).***

Disorders of AT are common health problem among middle-aged active people. Due to increasing sport activities in the general population, as the number of abuse injuries has elevated. Tendon disorders represent 30–50% of all sports related injuries. There is still a lack of knowledge about the etiology and pathogenesis of these injuries, despite its high occurrence ***(Borg et al,. 2016).***

AT injuries: may be classified as insertional (25%), non-insertional (75%). Insertional injuries include insertional tendinosis may be associated with: Haglund deformity,

enthesopathy, inflammatory arthropathy, Haglund syndrome. Non-insertional injuries include diffuse acute and chronic paratendonitis, tendinosis/tendinopathy including hypoxic degenerative, mucoid, lipoid, and calcifying, rupture/tear may be partial or complete ***(Borg et al., 2016).***

Multiple imaging modalities have been used to diagnose AT injuries, as plain radiography, (MRI), and ultrasound. Each modality has its own advantages and disadvantages. MRI & US have been widely used to confirm the diagnosis of AT injuries ***(Ibrahim and Elsaeed, 2013).***

MRI has excellent contrast resolution for assessment of the AT, contrast injection usually gives no additional information and plain MRI is good enough for assessment ***(Tam and Lui, 2017).***

Both US and MRI scans have traditionally been considered to have same accuracy in the diagnosis of Achilles tendinopathy. Few studies have compared ultrasound with MRI in the diagnosis of Achilles tendinopathy. Early studies seem to indicate that MRI scans are better for characterizing degeneration in the AT. However, later research has shown equal or better accuracy with ultra-sound when compared with MRI scans in the detection of tendinopathy. Of note, grey scale ultrasound was found to be more sensitive, whereas color Doppler ultrasound had higher correlation

with patient's symptoms. We recommend ultrasound as it is generally more cost-effective ***(Pearce and Tan, 2016).***

MRI is an excellent technique for those cases where the diagnosis is uncertain; it is the most suitable for assessment of bone and soft tissue for persistent pain following injury. Owing to its multiplanar imaging capabilities and excellent soft tissue contrast characteristics, MRI is a useful modality for imaging the AT ***(Wijesekera et al., 2011).***

AIM OF THE WORK

The aim of this study is to evaluate the role of (MRI) in the diagnosis of AT disorders.