

**COMPARISON BETWEEN HIGH RESOLUTION  
ULTRASOUND AND MAGNETIC RESONANCE  
IMAGING IN ASSESSMENT OF MASCULOSKELETAL  
DISORDERS CAUSING ANKLE PAIN**

Thesis

Submitted for Partial Fulfillment of Master Degree in Radiodiagnosis

By

**Ahmed Magdy Mohammed Ahmed**

M.B.B.Ch

**Faculty of Medicine  
Fayoum University  
2015**

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# Abstract

Ankle pain is one of the most common complaints in orthopedic practice. Various imaging modalities are available for assessment, usually starting with conventional radiographs. However, many of ankle injuries cannot be diagnosed by conventional radiographs and needs further evaluation especially soft tissue unjuries like muscles, tendon and ligaments. Also some of the osseous pathologies cannot be diagnosed by conventional radiographs like osteochondral lesions strees and fatigue fracture and also need further further investigations. MRI has long been considered gold standard for assessment of ankle disorders yet being expensive, not widely available and therelative long examination time where major disadvantages. Ultrasound role in musckuloskeletal assessemnet has greatly increased over last decade being available, fast, and cheap, of high spatial resolution with a major advantage of being real time allowing dynamic as well as comparative assessment.

The aim of this study was to compare the diagnostic accuracy of both ultrasonography (US) and magnetic resonance imaging (MRI) for the assessment of musculoskeletal disorders causing ankle pain. Ultrasonography was 100 % sensitive in detecting tendinous and ligamentous post traumatic injuries, ankle effusion, bursitis, and ganglion cysts. On the other hand ultrasound had a limited role in assessment of osseous pathology being able to only suspect usually cortical based pathologies.

**Key words:** Ankle pain - Ultrasonography - MRI - Musculoskeletal disorders.