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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس التمثية الالكتاءني والمكاوفيلم

التوثيق الإلكتروني والميكروفيلم قسم

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بعض الوثائق

الأصلية تالفة



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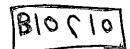


بالرسالة صفحات

لم ترد بالأصل



COEFECT CARGINATION





ROLE OF MAGNETIC RESONANCE IMAGING IN EVALUATION OF PAINFUL WRIST

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF MASTER DEGREE IN RADIODIAGNOSIS

BY

Hosam El Dien Galal Mohammed (M.B.B.CH.) ASSIUT UNIVERSITY

SUPERVISED BY

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HOSAM EL DIEN GALAL MOHAMMED
2001

LIST OF ABBREVATIONS

(AVN)	Avascular necrosis
(CTS)	Carpal tunnel syndrome
(CT)	Computed Tomography
(DISI)	Dorsal intercalated segment instability
(DRUJ)	Distal radioulnar joint
(ECU)	Extensor carpi ulnaris
(FFE)	Fast field echo
(FOV)	Field of view
(FSE)	Fast spin echo
(GCTTS)	Giant cell tumour of the tendon sheath
(GRE)	Gradient recall echo
(LRL)	Long radiolunate ligament
(LT)	Lunotriquetral
(MRI)	Magnetic Resonance Imaging
(PD)	Proton density
(RLT)	Radiolunatotriqutral
(RSC)	Radioscaphocapitate
(RSL)	Radioscapholunate
(SRL)	Short radiolunate
(TE)	Echo time
(TFC)	Triangular fibrocartilage
(TR)	Repetition time
(TSE)	Turbo spin echo
(VISI)	Volar intercalated segment instability

LIST OF FIGURES

- * Figures (1-1), (1-2), (1-3), (1-4), (1-5), (1-7), and (1-9) are quoted from Magnetic Resonance Imaging in Orthopedics and Sport Medicine, Second Edition, edited by David W. Stoller, 1997.
- * Figures (1-6), (1-8) and (1-10) are quoted from Saara M. S Totterman and Richard J. Miller: MRI of the wrist and hand. Imaging of the wrist and hand 447-478, 1996.
- *Figures (2-1), (2-2), (2-3), (2-4), (2-5) and (2-7) are quoted from Magnetic Resonance Imaging in Orthopedics and Sport Medicine, Second Edition, edited by David W. Stoller, 1997.
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Introduction
And
Aim of The work

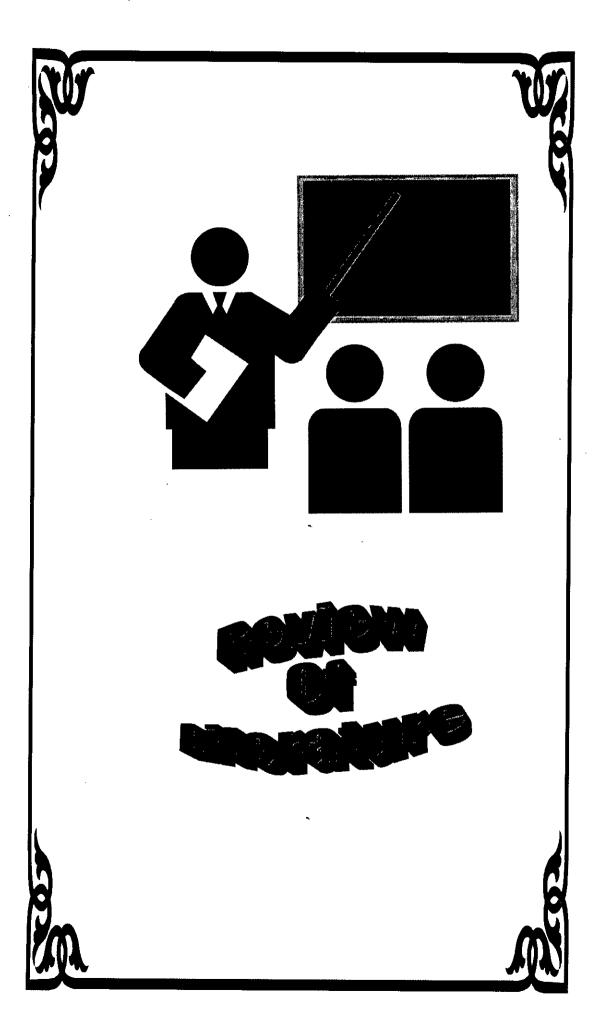
Introduction

Magnetic resonance imaging is a powerful imaging study for solving diagnostic dilemmas involving the complex region of the wrist. The increasing ability of MR imaging to diagnosis wrist abnormality non-invasively has led to decrease in use of invasive techniques including arthrography and tenography. New developments in surface coils, gradient hard ware and pulse sequences will permit the faster data acquisition, smaller field of view and thinner slices necessary to image small structures within the wrist (Pretorius et al., 1997).

MRI is considered the investigation of choice in avascular necrosis and has increasing role in internal derangement, trauma and soft tissue lesions (Seymaur et al., 1998)

Aim of the work

The purpose of this study is to evaluate the role of MRI in studying the different normal structures of the wrist and assessing of different causes of painful wrist.



Anatomy

Normal MR Anatomy

Understanding the normal anatomy of the wrist is essential for the performance and interpretation of a MR imaging examination (Pretorius et al., 1997).

(I) Bones

The carpal bones can be grouped into two transverse rows: a proximal one consisting of scaphoid, lunate, triquetrum & pisiform and a distal row of trapezium, trapezoid, capitate and hamate. All together the carpals are arranged in a complex of joints, with each carpal bone having several joint contacts with neighboring bones (John 1996).

MRI appearance:

The yellow marrow of the carpal bones has high signal on T1 weighted, PD (proton density) & T2 weighted images. Visualization of the details of the trabecular bone and hyaline cartilage requires very high-resolution imaging (Saara et al., 1996).

(II) Ligaments The ligaments of the wrist are generally divided into extrinsic; binding the radius to the carpals, and intrinsic; binding the carpal bones to one another (Pretorius et al., 1997).