

ROLE OF MAGNETIC RESONANCE IMAGING IN EVALUATION OF NON-NEOPLASTIC CAUSES OF PAINFUL ELBOW

Thesis

Submitted for partial fulfillment of Master Degree In Radiodiagnosis

By

Muna Abdul-Amear Mohammed

M.B.B. Ch.

Under The Supervision Of

Ass. Prof. Dr. Enas Ahmed Azab

Assistant Professor of Radio diagnosis Faculty of Medicine, Ain Shams University

Dr. Khaled Ahmed Mohammed Ali

Lecturer of Radiodiagnosis
Faculty of Medicine, Ain Shams University

Faculty of Medicine Ain Shams University 2014



وقل اعْمَلُوا فَسَيَرَى اللهِ عَمَلُوا فَسَيَرَى اللهِ عَمَلُوا فَسَيَرَى اللهِ عَمَلُوا فَسَيَرَى اللهِ عَمَلُكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونِ

سورة التوبة رقم الأية 105 مراكب المراكب المرا





I would like to present this humble study to Faculty of medicine Ain Shams University. Radiology department.





First and foremost, I would like to express my deepest thank to Allah who prosper me finishing his work.

Graditude and thanks to Ass. Prof. Dr.Enas Ahmed Azab, Assistant Professor of Radiodiagnosis, Faculty of Medicine-Ain Shams University for her Guidance, Sincere advice and constructive supervision of this work.

Words couldn't express the feeling of gratitude and respect I carry to to Dr. KhaledShehata, Lecturer of Radiodiagnosis, Faculty of medicine-Ain Shams University for his true concern, continuous advice, and encouragement, which allowed completion of this study.

Last, but not least. Iam deeply thankful to my dear husband for his help and support and encouragement.



List of Contents

Chapter	Page
List of abbreviations	ii
List of Tables	iii
List of Figures	iv
List of illustrative cases	xi
Introduction	1
Aim of the work	4
Review of Literature	
Gross anatomy of the elbow joint	5
 MRI technique and radiologicalanatomy Non neoplastic causes of painfulelbow and MRI corrélation 	29 51
Subjects and Methods	107
Illustrative Cases	112
Results	123
Discussion	135
Summary & conclusion	148
References	150
Arabic Summary	

List of Abbreviations

ABBREVIATION	NAME	
MRI	Magnetic resonance imaging	
RCL	Radial collateral ligament	
LUCL	Lateral ulnar collateral ligament	
UCL	Ulnar collateral ligament	
MCL	Medial collateral ligament	
AL	Annular ligament	
U	Ulna	
R	Radius	
GE	Gradient echo	
FSE	Fast spin echo	
FS FSE	Fat saturation fast spin echo	
STIR	Short time inversion recovery	
TR	Time of repetition	
TE	Time to echo	
PD	Proton density	
OCD	Osteochondritisdissecans	
PVNS	Pigmented villonodular	
	tenosynovitis	

List of tables

Table	Title	Page
1	Age and sex distribution	118
2	Trauma distribution of the patients group	119
3	Articular group distribution of patients group	120
4	Percentage of different articular disorders (13cases)	121
5	Percentage of different disorder in specific arthropathy among the the articular group (4 cases).	122
6	Percentage of different osseous lesion among articular group (7 Cases).	123
7	Percentage of different Synovial affection among the articular group (14 Cases).	124
8	Percentage of different para - articular group	125
9	Percentage of different ligament involvement among the paraarticular group. (7 Cases).	126
10	Percentage of abscess and soft tissue edema among the para-articular group (5 Cases)	127
11	Percentage of different tendons affection among the para-articular group	128

<u>List of Figures</u>

Figure	Title	Page
1	Humeroulnar and humeroradial joints (anterior	7
	view)	
2	Humeroulnar and humeroradial joints (posterior view).	7
3	Upper radio ulnar joint.	8
4	The normal pseudo defect of the capitellum is seen at the level of the radial head capitellar joint.	9
5	Schematic drawing	11
6	(a and b) Bursae of the elbow	12
7	he lateral synovial fringe or radiocapitellar meniscus is not a true fibrocartilaginous meniscus	14
8	The medial (upper) and radial (lower) collateral ligaments	17
9	The triceps: the extensor muscle of the elbow	18
10	Flexor muscles of the elbow	19
11	Lateral view of the extensors of the elbow	20
12	Medial views view of the muscles of the elbow joint	21
13	Muscles originating at the medial epicondyle (anterior aspect)	22
14	The course of the ulnar nerve	23
15	The course of the ulnar nerve through the cubital tunnel	23
16	The course of the median nerve	24
17	The course of the radial nerve	26