



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكرو فيلم



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التوثيق الإلكتروني والميكروفيلم

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التوثيق الإلكتروني والميكروفيلم

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Comparison between Fracture Head Radius Fixation versus Excision

*A Systematic review and meta-analysis For Partial
Fulfillment of Master Degree
in Orthopedic Surgery*

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List of Contents

Title	Page No.
List of Abbreviations.....	i
List of Tables	ii
List of Figures	iii
Introduction	1
Aim of the Study	4
Review of Literature	
Anatomy & Biomechanics.....	5
Head Radius Fracture	26
Management Options	33
Materials and methods	51
Results	60
Discussion	72
Summary	77
Conclusion	79
References	80
Arabic Summary	—

List of Abbreviations

Abb.	Full term
3D CT	Three dimension computerized tomography
A-MCL	Anterior bundle of medial collateral ligament
DIP.....	Distal interphalangeal
IOM	Interosseous membrane
PIN	Posterior interosseous nerve
PIP	Proximal interphalangeal
P-MCL	Posterior bundle of medial collateral ligament
RCL	Radial collateral ligament

List of Tables

Table No.	Title	Page No.
Table (1):	Description and reliability of the original Mason classification and the three commonly used modifications. Reliability data are based upon interpretation of plain radiographs	27
Table (2):	Mayo elbow performance index.	53
Table (3):	Broberg and Morrey rating system	54
Table (4):	DASH questionnaire.	55
Table (5):	Characteristic of included studies in our meta-analysis.	60
Table (6):	Meta-Analysis for comparing the fixation methods versus excision regarding DASH	62
Table (7):	Meta-Analysis for comparing the fixation methods versus excision regarding Broberg and Morrey's functional valuation scale.....	64
Table (8):	Meta-Analysis for comparing the fixation methods versus excision regarding MEPI	66
Table (9):	Meta-Analysis for comparing the fixation methods versus excision regarding VAs	68
Table (10):	Meta-Analysis for comparing the fixation methods versus excision regarding complications.....	70

List of Figures

Fig. No.	Title	Page No.
Fig. (1):	Ligaments of elbow joint.	5
Fig. (2):	Bony landmarks of anterior, medial, lateral views of elbow.	7
Fig. (3):	A lateral view, B axial view, C anterior view of distal humerus.	8
Fig. (4):	The safe zone for hardware placement.	9
Fig. (5):	Medial elbow view show the components of the medial collateral ligament complex, Anterior view and Lateral view shows the radial collateral ligament complex.	11
Fig. (6):	A, Lateral view. B, Anterior view of the distal humerus, demonstrating the locus of both medial (A-MCL and P-MCL) and lateral (radial, RCL) ligament complexes with respect to their origin and the axis of rotation of the distal humerus. Only the lateral (radial, RCL) complex lies in the axis of rotation.	12
Fig. (7):	Mechanical role of the radial head in valgus stability.	14
Fig. (8):	Successive resection of proximal ulna show linear decrease in elbow stability in both full extension and 90 flexion.	18
Fig. (9):	Increasing ulnohumeral instability with successive coronoid resection and the protective role of the radial head until almost full extension.	19
Fig. (10):	Four separate areas of contact in the sigmoid fossa. Contact moves toward the center of the sigmoid during flexion.	20

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (11):	Length variation of the anterior medial collateral ligament (A-MCL) and lateral collateral ligament complex (RCL) and the effect of orientation with respect to the axis of rotation.	21
Fig. (12):	The stabilizing role of the radial head to valgus stress.....	22
Fig. (13):	Greater force transmission across the radial head with pronation, suggesting proximal migration of radial head with pronation.	23
Fig. (14):	Anterior and lateral view of distal humerus showing the instant center of rotation of the elbow.	24
Fig. (15):	Axial rotation at the humeroulnar joint	25
Fig. (16):	Johnston classification of radial head fracture.	28
Fig. (17):	A fall on an outstretched hand transmits an axial load to the elbow	29
Fig. (18):	A, position of the anteroposterior (AP) view of the elbow. B, AP Radiograph of the elbow.	35
Fig. (19):	A, Patient positioned for the lateral view with the elbow flexed 90 degrees. This position is required to obtain a true lateral view. B, The projected image.....	36
Fig. (20):	Lateral oblique view	36
Fig. (21):	Radial head view	37
Fig. (22):	Anteroposterior views of the elbow in neutral (A) and valgus (B) stress	38

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (23):	Coronal (A) and sagittal (B) reformatted CT images after elbow trauma demonstrating radial head fractures (arrowheads) and a distal humeral avulsion (open arrow).	39
Fig. (24):	MCL injury of the right elbow	39
Fig. (25):	An axial T2-weighted image of the right elbow showing thickening and abnormal signal (sprain vs. partial tear) of the LUCL with adjacent high signal intensity edema posterior to the radial head (arrow).	40
Fig. (26):	The T plate and head construct are next attached to the radial shaft	45
Fig. (27):	Details the study selection flow	58
Fig. (28):	Forest plot comparing the fixation methods versus excision regarding DASH.....	63
Fig. (29):	Funnel plot comparing the fixation methods versus excision regarding DASH.....	63
Fig. (30):	Forest plot comparing the fixation methods versus excision regarding Broberg and Morrey's functional valuation scale.....	65
Fig. (31):	Funnel plot comparing the fixation methods versus excision regarding Broberg and Morrey's functional valuation scale.....	65
Fig. (32):	Forest plot comparing the fixation methods versus excision regarding MEPI.....	67
Fig. (33):	Funnel plot comparing the fixation methods versus excision regarding MEPI.....	67
Fig. (34):	Forest plot comparing the fixation methods versus excision regarding VAS	69

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (35):	Funnel plot comparing the fixation methods versus excision regarding VAS	69
Fig. (36):	Forest plot comparing the fixation methods versus excision regarding complications	71
Fig. (37):	Funnel plot comparing the fixation methods versus excision regarding complications.	71

INTRODUCTION

Fractures of radial head constitutes almost 2-4% of all the fractures. It is the most common type of elbow fractures. It usually occurs following a trauma or fall on the outstretched hand where the force of impact is transmitted to radial head through forearm where the radial head is forced into the humeral capitellum. Radial head fractures ranges from non-displaced or minimally displaced (Type I), displaced or angulated (Type II), comminuted and displace (Type III), radial head fracture with elbow dislocation (Type IV)⁽¹⁾.

The diagnosis is usually done by Plain X-rays. 3D CT may also be done for better evaluation and further delineation of fragment in comminuted fractures. It can also identify associated injuries in cases of complex fractures involving multiple bones. Complications associated with these fractures may include compartment syndrome, wound infection, persistent pain due to intra articular injuries and arthritis and restricted movements⁽³⁾.

Treatment of radial head fractures depends upon the factors like age of the patient, type of fracture and associated complications if present⁽³⁾. According to mason classification, the undisplaced fractures (type I) are usually treated by arm sling or immobilization in plaster cast followed by mobilization and physiotherapy. The management of displace or angulated (type II) fractures is controversial and there is no consensus on

the best treatment protocol. Many researchers have come up with the studies reporting good results following surgical as well as conservative management of isolated, displaced but stable radial head fractures ⁽⁴⁾. For management of comminuted fractures of radial head (Type III) the treatment options available include screw fixation of individual fragments or excision of radial head in cases where repair is not possible ^(5,6).

Excision of the head of the radius is commonly performed in patients with comminuted fractures of the radial head. Many authors have, however, reported a high complication rate, including pain and instability of the elbow, new bone formation at the site of resection, proximal radial migration and cubitus valgus. Significant wrist symptoms are associated with subluxation of the inferior radioulnar joint ⁽²⁾.

Once popular isolated radial head excision was later found to be associated with elbow instability and hence it was initially treated by excision followed by silicone implants but these implants were associated with several implant related complication so, researchers were again more inclined towards open reduction and internal fixation of comminuted fracture of radial head. Open reduction and internal fixation though was satisfactory for 2 or 3 simple fragments it gave very unsatisfactory results in cases of comminuted fractures of radial head where there were more than 3 fragments ⁽⁶⁾.

Many researchers came up with the options of silicone, polyethylene and various metal implants but all these implants though gave satisfactory results in short time they were associated with the complications like loosening and wear requiring a revision surgery in long term follow up ⁽⁷⁾.