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التوثيق الالكتروني والميكروفيلم

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قسم

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بالرسالة صفحات لم ترد بالأصل

METHODS OF FIXATION Of OLECRANON FRACTURES;

Systematic Review and Meta-Analysis

Thesis

Submitted for Partial Fulfillment of
Master Degree in Orthopedic Surgery

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Mohamed Ahmed Hosny

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LIST OF ABBREVIATIONS

AO	**:**	**Arbeitsgemeinschaft für osteosynthesefragen (german for "association for the study of internal fixation")**
CI	**:**	**Confidence Interval**
DASH	**:**	**Disabilities of Arm, Shoulder and Hand**
Fig.	**:**	**Figure**
K-wires	**:**	**Kirschner wires**
MEPS	**:**	**Mayo Elbow Performance Score**
Nm	**:**	**Not mentioned**
No.	**:**	**Number**
PRISMA	**:**	**Preferred reporting items for systematic reviews and meta-analyses**
ROM	**:**	**Range of Motion**
SD	**:**	**Standard Deviation**
SMD	**:**	**Standardized Mean Difference**
TBW	**:**	**Tension Band Wiring**

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Methods of Fixation of Olecranon Fractures; Systematic Review and Meta-Analysis

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ABSTRACT

Background: Olecranon fractures are a common injury. The most common methods of fixtion tension-band wire and plate fixtion.

Objective: To compare between methods of fixation of olecranon fractures according to type of the fracture, types of fixation and postoperative outcomes. Three methods of fixation were commonly used: TBW, plate fixation and intramedullary fixation.

Data Sources: Medline databases (PubMed, Medscape, ScienceDirect. EMF-Portal) and all materials available in the Internet till 2019.

Data Extraction: If the studies did not fulfill the inclusion criteria, they were excluded. Study quality assessment included whether ethical approval was gained, eligibility criteria specified, appropriate controls, and adequate information and defined assessment measures.

Conclusion: The current study, using the method of meta-analysis reveals that there are no significant differences in DASH score, MEPS, ROM (degree of flexion, extension, pronation and supination) operation time between TBW and plate fixation for olecranon fractures. According to fracture type and classification, we recommend the plate fixation for comminuted and oblique fractures while TBW for simple displaced fractures.

Keywords: Olecranon fractures, plate fixtion, tension band wiring

Introduction

INTRODUCTION

The olecranon is a part of proximal ulna that articulates with olecranon fossa of the distal humerus and it is the insertion site for the triceps brachii muscle tendon. [1]

Olecranon fractures are a common injury, representing 10% of all upper extremity fractures. [2]

The classifications in the clinical practice are the Schatzkar-Schmeling, Mayo and AO classifications, which take the degree of displacement, stability and comminution into account. [3]

However, no single technique is suitable for the management of all olecranon fractures. The surgical treatment techniques available for the treatment of acute olecranon fractures and non-unions include tension band wiring, conventional and angular stable plating, different intramedullary nailing procedures and screw insertion or rarely resection of the avulsed olecranon fragment. [4] [5] [6]

Tension-band wire (TBW) fixation can be effectively used for most simple non-comminuted transverse olecranon fractures. The tension band technique converts the tensile force of the triceps to a dynamic compressive force along the articular surface. To use tension band wiring, the anterior cortex must be intact and provide a buttress that will allow compression. If this does not occur, using tension band wiring in comminuted fractures can cause a loss of fracture reduction in the sigmoid notch. [7] [8]