ORIGINAL RESEARCH PAPER

Volume-7 | Issue-9 | September-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY ON SURGICAL MANAGEMENT OF OLECRANON FRACTURES

Orthopaedics

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ABSTRACT

Olecranon fractures are one of the most commonly seen typically occurs as a result of a motor-vehicle or motorcycle accident. Non-displaced fractures are managed by short immobilization followed by gradually increasing range of motion. When displaced, open reduction with internal fixation with k-wires and figure of eight tension band wiring for simple transverse fractures and olecranon hook plate for comminuted fractures are commonly employed. The present study puts in an effort to evaluate the results of surgical management, the merits and demerits and to asses elbow joint motion and stability after the procedure.

KEYWORDS

Tension Band Wiring, Olecranon Hook Plate, Olecranon Fractures

INTRODUCTION:

Olecranon fractures are one of the most commonly seen typically occurs as a result of a motor-vehicle or motorcycle accident. Non-displaced fractures are managed by short immobilization followed by gradually increasing range of motion. When displaced, open reduction with internal fixation with k-wires and figure of eight tension band wiring for simple transverse fractures and olecranon hook plate for comminuted fractures are commonly employed. The fixation should be stable, allow active elbow flexion and extension and promote union of the fracture.[1]

In the past, closed reduction and plaster cast application was the treatment for fracture of olecranon. But, prolonged immobilization with its own complications increased the morbidity and mortality of patients.[2] The K- wire used in AO tension band technique resist shearing force better than the figure of eight wire alone. So this gives a good result by converting tensile force to compressive at the fracture site.[1,3,] For comminuted fractures, distal fractures involving coronoid process, oblique fractures, plate fixation is most appropriate mode of treatment. For comminuted fractures and non-unions, a dorsally applied Olecranon hook plate is used[1,4]

The present study puts in an effort to evaluate the results of surgical management, the merits and demerits and to asses elbow joint motion and stability after the procedure.

AIMS AND OBJECTIVES

To study the surgical management of olecranon fractures (Pain intensity and Mayo Elbow Perfomance Score)

MATERIALS AND METHODS:

The present study was done using a sample subjects that included 30 patients.

This study was conducted in the Department of Orthopedics, KVG Medical College and Hospital, Sullia.

The study was done from June 2016 to May 2018 on 30 patients.

INCLUSION CRITERIA

1. Age of the patient 20 - 50 years.
2. Comminuted and intraarticular fractures.

EXCLUSION CRITERIA

1. Age of the patient less than 20 years and more than 50 years.
2. Compound injuries.
3. Diabetes Mellitus, Hypertension
4. Patients on steroids and immunosuppressant therapy.

RESULTS:

Table 1: Mean age of the population:

	Mean	Range	Std. Deviation
age	38.16	20-50 years	13.85

Graph 1: Age Distribution of the Population:

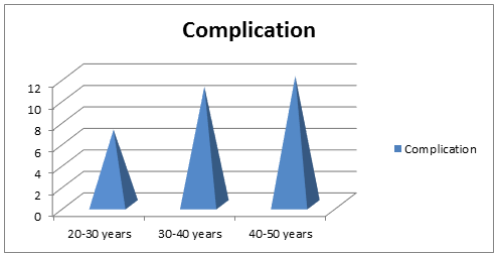

Table 3: Sex Distribution

Sex	Distribution
Male	20
Female	10

Table 4: Types of Fracture.

Type of Fracture	No. of Cases
I. Un-displaced and stable Fractures	-
II. Displaced Fractures	
a. Avulsion Fractures	1
b. Oblique and Transverse Fractures	19
c. Comminuted Fractures	10
d. Fracture – Dislocation	-

Table 5: Pain Intensity.

Pain Intensity	No. of Cases
None	18
Mild	06
Moderate	
Severe	-

Table 6: Mayo Elbow Performance Score:

Grading	
Excellent (>90 Score)	21
Good (75-89)	06
Fair (60-74)	02
Poor (<60)	01

DISCUSSION

Age Incidence- The average age incidence, in the present study was found to be 38.16 years. This study is in agreement with Jiang Xieyuan (2000).[4] is his study average age was 38 years and Macko Donald and Szabo " California (1985).[5]

In our study male predominance was seen. Similarly male predominance was found in the study of Jiang Xieyuan.[4] Hume and Wiss.[6] and Garry Wolfgang et al[7] series.

In Jiang Xieyvan[4] study 1 (6.67%) oblique fractures and 14 (93.34%)

comminuted fractures. In Murphy et al 8,9 series 26 (57.5%) transverse fracture 12 (26.7%) oblique fractures 7 (15.6%) comminuted fractures.

RESULTS

The results were evaluated according to the Mayo elbow performance score. The results obtained in our series were excellent in 21 patients, good in 6 patients, fair in 2 patients and 1 poor results

CONCLUSION

From the present study it is concluded, that both technique used i.e internal fixation with Kirschner wires and tension band wiring for simple transverse and oblique fractures and olecranon plate fixation for comminuted fractures are effective means and gold standard technique.

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