

DISTAL ULNAR FRACTURES ASSOCIATED WITH DISTAL RADIUS FRACTURES: INCIDENCE, TREATMENT OPTIONS AND FUNCTIONAL OUTCOME

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Introduction

Isolated distal ulna fractures are rare, they are mostly found in association with distal radius fractures. Most of distal ulnar metaphyseal fractures are associated with distal radius fractures and this incidence tends to be greater in osteoporotic elderly and more than half of distal radius fractures are combined with an ulnar styloid fracture. There is no clear consensus on how fractures of the distal ulna associated with distal radius should be treated, and there are currently very few data on healing rate, results of different treatment options, and functional results.

Aim of the work

The aim of this work was to identify the incidence of occurrence of distal ulnar fractures among patients with distal radius fractures at El Hadra University Hospital and to assess the functional outcome after surgical and nonsurgical management of distal ulnar fractures.

PATIENTS and METHODS

This is a prospective study. 346 patients with distal radius fractures admitted in a period of 6 months (from January 2021 to June 2021) were included in this study to identify the incidence of occurrence of distal ulnar fractures among patients with distal radius fractures at El Hadra University Hospital. 173 patients with distal ulnar fractures associated with distal radius fractures were followed up for at least 6 months and reviewed to evaluate the functional outcome. The mean age was 51.29 ± 15.98 . 80 Patients were males and 90 were females. The functional outcome was evaluated by modified mayo wrist score and patient rated wrist evaluation score.

Results

The incidence of occurrence of distal ulnar fractures among distal end radius was 50%. The most common AO distal end radius fracture type was type A, 211 patients (61%). The incidence of occurrence of distal ulnar fractures in type A was (40.7%), 62.7% in type B and 69.7% in type C. The most common distal ulnar fracture type was type Q1(ulnar styloid), 106 patients had type Q1 (ulnar styloid tip) fracture (61.3%), 45 patients had Q1 (ulnar styloid base) fracture (26%). According to modified Mayo wrist score, 81 patients had good results (46.8%); 64 patients had fair results (37%), 14 patients had poor results (8.1%) and the same number has excellent results (8.1%). According to PRWE score, among 173 patients with distal ulnar fractures associated with distal radius fractures, the best score was 10 and the worst score was 65, the average score was 33.11 with median of 34 (26-40).

Table 1: Incidence of distal ulnar fractures according to AO DER fracture types

| AO DER fracture types | Total cases | Distal ulnar cases | Incidence |
|-----------------------|-------------|--------------------|-----------|
| Type A | 211 | 86 | 40.7% |
| Type B | 102 | 64 | 62.7% |
| Type C | 33 | 23 | 69.7% |
| Total | 346 | 173 | 50% |

Table 2: Distribution of the studied cases according to modified Mayo wrist score

| Modified Mayo wrist score | No. | % |
|---------------------------|-----|-------|
| Poor | 14 | 8.1 |
| Fair | 64 | 37.0 |
| Good | 81 | 46.8 |
| Excellent | 14 | 8.1 |
| Total | 173 | 100.0 |

Table 3: Distribution of the studied cases according to PRWE score

| | Min. – Max. | Mean \pm SD. | Median (IQR) |
|------------|-------------|-------------------|----------------|
| PRWE score | 10.0 – 65.0 | 33.11 \pm 10.41 | 34.0 (26 - 40) |

Conclusion

The study found that the ulnar styloid fractures were the most common type associated with distal end radius fractures. Their management was mainly conservative and there was no statistically significant difference in functional outcome between surgical and nonsurgical treatment.



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