

Anterior Olecranon Fracture Dislocation of the Elbow in a Child

M Hadir^{1,2*}, A Skiredj^{1,2}, A Mouad^{1,2}, H zerhouni^{1,2,3}, H Oubejja^{1,2,3}, M Erraji^{1,2,3}, F Ettayebi^{1,2,3}¹Department of Pediatric Surgery Emergencies, Children Hospital of Rabat Morocco²Faculty of Medicine and Pharmacy³University Mohamed V Rabat, MoroccoDOI: [10.36347/sajp.2021.v10i11.002](https://doi.org/10.36347/sajp.2021.v10i11.002)

| Received: 19.09.2021 | Accepted: 28.10.2021 | Published: 06.11.2021

*Corresponding author: M Hadir

Abstract

Case Report

Anterior Tran's olecranon dislocation of the elbow is rarely observed in children due to the relative resistance of the capsule-ligament structures by relation to bone structures. Reporting a case that occurred in a 2-year-old child, treated orthopedically with good results.

Keywords: Elbow; Children; Anterior dislocation.

Copyright © 2021 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

The anterior olecranon fracture-dislocation is a complex lesion characterized by dislocation of the humero-ulnar joint associated with an olecranon fracture [1]. It is a rare variety elbow fracture dislocation [2]. The prevalence of this lesion is difficult to know due to only case report or small series of cases being found in literature [3-5]. The treatment of these lesions requires good anatomical reduction in order to prevent serious sequelae such as stiffness and instability of the elbow. The aim of this work is to study the epidemiological characteristics of this lesion and to show the place of orthopedic treatment in the management of these lesions in children.

CASE REPORT

2-year-old child admitted to the emergency room for a trauma to the right elbow following a fall on the hand elbow in extension the patient presented with severe pain, swelling, and deformity of the elbow, with functional disability of the left upper limb. The neurovascular status of the limb was intact, range of motion was restricted by pain, and the fingers were mobile and sensitive X-rays of the elbow revealed anterior dislocation and olecranon fracture (fig 1).

The child is admitted to the operating room under general anesthesia installed in the supine position closed reduction was performed with posterior force applied on the proximal fore-arm while holding the humerus with reduction of the fracture of the olecranon (fig2). Then we completed with a plaster in elbow flexion at 90° for 1 month the evolution was marked by

good mobility of the elbow with respect for flexion and extension as well.

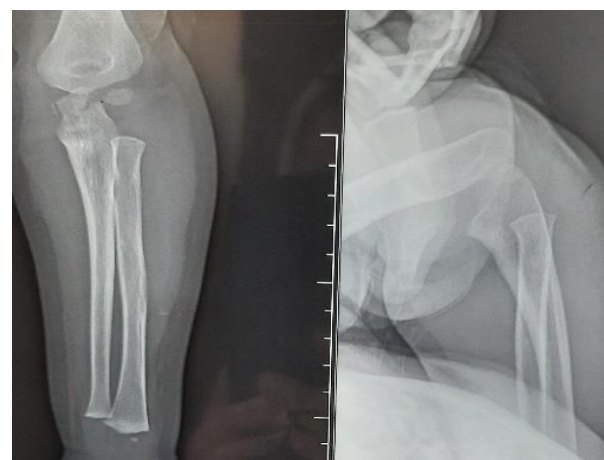


Fig-1: Anterior olecranon fracture



Fig-2: Post reduction radio dislocation of elbow

DISCUSSION

Trans olecranon fracture-dislocation is a rare lesion described in 1974 by BIGA and THOMINE [6] authors have reported only one case in their studies [7,8] their incidence is greater than 1% [9,10].

It is possible that anterior olecranon fracture-dislocations are underreported because they are misidentified as anterior Monteggia-type fracture-dislocations of the forearm. While there is anterior dislocation of the radio capitellar joint in an anterior olecranon fracture-dislocation, the proximal radioulnar joint remains aligned and intact (1487).

The mechanism of injury is a direct impact on the posterior surface of the olecranon, elbow flexed [11, 12], generally occurring at the after a fall. A hyperextended elbow mechanism has also been described [4], as well as the olecranon fracture is due to the traction of the triceps tendon

Orthopedic reduction must be done urgently to avoid major neurovascular complications [12]. In our case the reduction of the dislocation was easy as well as the fracture of the olecranon was stable requiring no osteosynthesis. Contrary to what was recommended Tiemdjo *et al.* [13], we did not perform osteosynthesis to limit damages of the growth plate and avoid clutter by the material, which may probably perturb the range of motion later.

Intervention was required to remove the osteosynthesis material. Postoperative stability was maintained by à plaster with a 75°-80° flexed elbow to obtain less tension of the olecranon.

Surgery is indicated in the event of failure of orthopedic treatment or in the event of a dislocation associated with an open fracture of the olecranon, or in the presence of a lesion of the humeral artery [4, 11].

CONCLUSION

Anterior dislocations of the elbow associated with a fracture of the olecranon in children is a rare entity, affecting the functional prognosis of the elbow, orthopedic treatment remains the best alternative, surgical treatment takes its place in the event of unstable and irreducible dislocation.

REFERENCES

1. Fahsi, M., Benameur, H., El Andaloussi, Y., Bennouna, D., Fadili, M., & Nechad, M. (2015). Les fracture-luxations transolécraniennes. *Pan African Medical Journal*, 22(1).
2. Guitton, T. G., Albers, R. G., & Ring, D. (2009). Anterior olecranon fracture-dislocations of the elbow in children: a report of four cases. *JBJS*, 91(6), 1487-1490.
3. Butler, M. A., Martus, J. E., & Schoenecker, J. G. (2012). Pediatric variants of the transolecranon fracture dislocation: recognition and tension band fixation: report of 3 cases. *The Journal of hand surgery*, 37(5), 999-1002.
4. Wilkerson, R. D. (1993). Anterior elbow dislocation associated with olecranon fractures--review of the literature and case report. *The Iowa orthopaedic journal*, 13, 223.
5. Bouaziz, W., Guidara, A. R., Trabelsi, A., Bardaa, T., Hammami, M., Ellouz, Z., & Keskes, H. (2018). Anterior transolecranon dislocation of the elbow in a child: A case report and review of literature. *World journal of orthopedics*, 9(7), 100.
6. Biga, N., & Thomine, J. M. (1974). Trans-olecranal dislocations of the elbow. *Revue de chirurgie orthopedique et reparatrice de l'appareil moteur*, 60(7), 557-567.
7. Guerra, A., Innao, V. (1982). Transolecranon dislocations. *Ital J Orthop Traumatol*, 8(2); 175-81. PubMed | Google Scholar
8. Ikeda, M., Fukushima, Y., Kobayashi, Y., & Oka, Y. (2001). Comminuted fractures of the olecranon: management by bone graft from the iliac crest and multiple tension-band wiring. *The Journal of bone and joint surgery. British volume*, 83(6), 805-808.
9. Linscheid, R.L., Wheeler, D.K. (1965). Elbow dislocations. *JAMA*, 113-8
10. Royle, S.G. (1991). Posterior dislocation of the elbow. *Clin Orthop*, 269; 201-4.
11. SPEAR, H. C., & JANES, J. M. (1951). Rupture of the brachial artery accompanying dislocation of the elbow or supracondylar fracture. *JBJS*, 33(4), 889-894.
12. Winslow, R. (1913). *A case of complete anterior dislocation of both bones of the forearm at the elbow.* Éditeur inconnu.
13. Tiemdjo, H., Kinkpe, C., Coulibaly, N. F., Sane, A., Ndiaye, A., & Seye, S. I. (2015). Anterior transolecranon fracture-dislocations of the elbow in children: A case report and review of the literature. *Archives de pediatrie: organe officiel de la Societe francaise de pediatrie*, 22(7), 737-740.