

## Simple Lateral Elbow Dislocation: A Case Report

Aguenaou Omar, M.D<sup>1\*</sup>, Yahya Baidriss, M.D<sup>1</sup>, Fekhaoui MR, PhD<sup>1</sup>, Bassir RA, PhD<sup>1</sup>, Boufettal M, PhD<sup>1</sup>, Mekaoui J, PhD<sup>1</sup>, Kharmaz M, PhD<sup>1</sup>, Lamrani MO, PhD<sup>1</sup>, Berrada MS, PhD<sup>1</sup>

<sup>1</sup>Department of Orthopedic Surgery, Ibn Sina University Hospital, Faculty of Medicine and Pharmacy of Rabat, Morocco

DOI: [10.36347/sjmcr.2024.v12i05.022](https://doi.org/10.36347/sjmcr.2024.v12i05.022)

| Received: 01.04.2024 | Accepted: 08.05.2024 | Published: 13.05.2024

\*Corresponding author: Aguenau Omar

Department of Orthopedic Surgery, Ibn Sina University Hospital, Faculty of Medicine and Pharmacy of Rabat, Morocco

### Abstract

### Case Report

Elbow dislocations, particularly posterior dislocations, are common injuries, while simple lateral dislocations are rare but can present with significant neurovascular complications, posing challenges to closed reduction. We present a case of a 52-year-old man with a lateral elbow dislocation following a fall, successfully managed with a nonoperative reduction technique and early physiotherapy to prevent joint stiffness. Initial examination revealed characteristic findings, confirmed by radiographs. Closed reduction under sedation was achieved using fluoroscopy guidance, with subsequent stability testing revealing ligamentous injuries. Immobilization and progressive physiotherapy led to satisfactory outcomes, with restored range of motion and resolution of symptoms. Literature review highlights the rarity of lateral elbow dislocations and the importance of prompt intervention and rehabilitation for optimal recovery, emphasizing the need for further understanding and management strategies in such cases.

**Keywords:** Elbow dislocation, lateral dislocation.

**Copyright © 2024 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

Elbow dislocations are quite common, with posterior dislocations being particularly frequent. While simple lateral elbow dislocations are rare, they often come with neurovascular complications, making closed reduction difficult [1]. Swelling and soft tissue interposition can complicate the reduction process. In this unique instance of a lateral dislocation, we used a nonoperative reduction technique and started early physiotherapy to mitigate the risk of joint stiffness.

## CASE REPORT

Following a direct fall on his right elbow, a 52-year-old man presented a deformed elbow with total loss of mobility and pain. Consequently, he sought care at our hospital's emergency center. Upon examination, his elbow was flexed with his hand resting on his abdomen (figure 1). Neurological assessment indicated mild numbness in the 4th and 5th digits, while his radial pulse remained palpable.



Figure 1

Radiographs of the patient's elbow revealed lateral convergent displacement of the radius and ulna

relative to the humerus, without any signs of fracture. Figure (2)

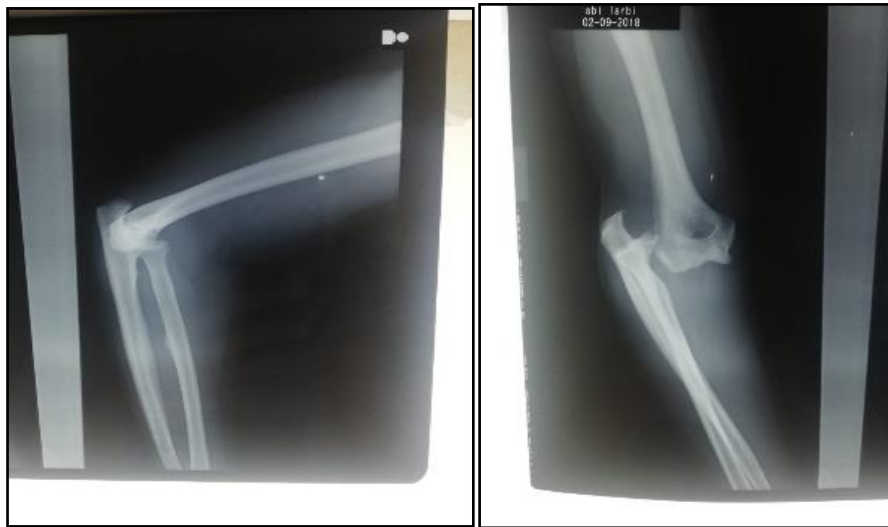


Figure 2

The patient was admitted to the operating room for a closed reduction under sedation with fluoroscopy guidance. While an assistant provided longitudinal traction to the humerus through the axilla and shifting simultaneously the humerus laterally, the surgeon, with the forearm held in supination, directed it in the medial direction. The correction of the dislocation was

confirmed by an audible click, which was also visible on fluoroscopy. Figure 3. Although clear varus and valgus instability of the joint were noted, no redislocation occurred within the range of motion from 30° to 90°. An MRI indicated a fully torn medial collateral ligament (MC)

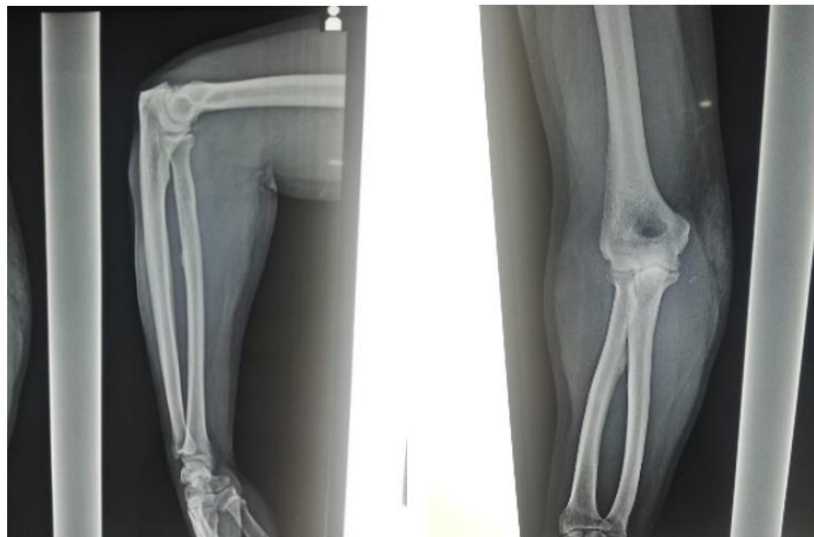


Figure 3

The elbow joint was immobilized at a 90° flexion angle, with the forearm in neutral rotation, using a posterior plaster cast for a duration of 3 weeks. Progressive physiotherapy started 2 weeks post-trauma, with weekly examinations of the elbow thereafter. After 10 weeks, the right elbow range of motion (ROM) was similar to the left elbow with no pain observed or neurological symptoms.

## DISCUSSION

A systematic literature review identified three instances of lateral dislocation among 342 patients with dislocated elbows, alongside one case of anterolateral dislocation [2]. Elbow dislocations exhibit a higher prevalence in men compared to women and are more frequently encountered in the adult age group than in younger individuals. Generally, the prognosis is more

favorable in the younger age group (under 35 years old) [3], with this type of dislocation, ulnar involvement is typical [4].

Numerous reduction techniques for simple lateral traumatic elbow dislocations have been documented. These include a variation of the "hanging arm" method initially proposed by Stimson for shoulder dislocations (modified Stimson's technique) and longitudinal traction applied along the axis in a semi-flexed position, deliberately avoiding forced extension of the elbow [5].

Complications associated with simple elbow dislocations encompass motion loss due to contracture, pain, heterotopic ossification, and chronic instability [6]. However, in our case, none of these complications were observed a year after the reduction.

Rehabilitation and physiotherapy started 2 weeks post reduction as to enable to an optimal and total recovery of the elbow range of motion, as studies show that elbow immobilization for over 14 days can lead to stiffness [2].

## CONCLUSION

Simple lateral elbow dislocation is rare, most often accompanied by ulnar nerve involvement and incarceration of soft tissues making its closed reduction even rarer, yet not impossible, lateral and medial stability after reduction is compromised, needing a good immobilization followed by early physiotherapy as to avoid joint stiffness.

## REFERENCES

1. Imaeda, T., Toh, S., Nakao, Y., Nishida, J., Hirata, H., Ijichi, M., ... & Nagano, A. (2005). Validation of the Japanese Society for Surgery of the Hand version of the Disability of the Arm, Shoulder, and Hand questionnaire. *Journal of Orthopaedic Science*, 10(4), 353-359.
2. de Haan, J., Schep, N. W. L., Tuinebreijer, W. E., Patka, P., & Den Hartog, D. (2010). Simple elbow dislocations: a systematic review of the literature. *Archives of orthopaedic and trauma surgery*, 130, 241-249.
3. Heo, Y. M., Yi, J. W., Lee, J. B., Lee, D. H., Park, W. K., & Kim, S. J. (2015). Unstable simple elbow dislocation treated with the repair of lateral collateral ligament complex. *Clinics in orthopedic surgery*, 7(2), 241.
4. Khan, S. K., Chopra, R., & Chakravarty, D. (2008). Successful closed manipulation of a pure lateral traumatic dislocation of the elbow joint using a modified Stimson's technique: a case report. *Journal of Medical Case Reports*, 2, 1-3.
5. Gokcen, B., Ozyurek, S., Atik, A., Sivrioglu, A. K., Kaya, E., & Keklikci, K. (2013). Successful closed manipulation of simple lateral dislocation of the elbow joint: a case report. *Oman Medical Journal*, 28(6), e062.
6. Heo, Y. M., Yi, J. W., Lee, J. B., Lee, D. H., Park, W. K., & Kim, S. J. (2015). Unstable simple elbow dislocation treated with the repair of lateral collateral ligament complex. *Clinics in orthopedic surgery*, 7(2), 241.