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## Posterior elbow dislocation with closed ipsilateral radius and ulna fractures in provincial hospital: Case report

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### Abstract

Traumatic dislocation of the elbow associated with a homolateral fracture of the two bones of the forearm is a rare injury entity. We report here the case of a 32-year-old right-handed student who was the victim of a traffic accident involving his motorcycle and a vehicle.

Closed reduction of dislocation was done quickly after the accident.

Radius and ulna fixation was performed with a screwed plate on the 11th post-traumatic day.

The 12-month follow-up showed bone union and good functional result according to the Mayo Elbow Performance Score. This case reveals the importance of visualizing the elbow and wrist joints in forearm trauma and of prompt management of combined injuries.

**Keywords:** Elbow, dislocation, radius, ulna, fracture

### Introduction

Isolated elbow dislocations are the second most commonly dislocated major joint in the adult age [1]. However, the association with both radius and ulna diaphyseal fracture is very uncommon injury. To our knowledge only ten cases have been published with two pediatric observations [2-9]. Some authors described this lesion as Monteggia equivalent lesion type I of Bado classifications due to mechanism [2-7].

We presented a case of forearm bone fracture associated to elbow dislocation, reviewed literature and discussed the mechanism.

### Case Presentation

Patient 32 years right handed, student, had a road accident with his motorcycle and a car.

He was admitted after 1 hour in Emergency Room for an isolated trauma of the left thoracic limb. Symptoms were pain, swelling, of forearm and elbow with functional impotence.

Clinical examination did not find wound or neurovascular complications.

X-ray on admission concluded that there was a posterolateral dislocation of the elbow associated with a diaphyseal fracture of the two forearm bones (Fig. 1).

The dislocation was reduced under light anesthesia 02 hours after admission and the limb contained in a splint (Fig. 2).

Osteosynthesis of the radius and ulna was performed on the 11st post-traumatic day (Figure 3). The postoperative course was simple. Rehabilitation began with isometric contractions and then flexion-extension movements of the elbow. The pronation and supination movements were not effective until the 30th post-traumatic day.

At the 04-month follow-up, bone consolidation was achieved (Figure 4). At 10 month follow-up, the patient had elbow stiffness in flexion at 110° and in extension at -10°, pronation at 60° and supination at 75° (Figure 5). Functional recovery with Mayo Elbow Performance Score was good at 75.

A review of literature showed 10 cases of radial and ulnar shaft fracture associated with posterior elbow dislocation (Table I).



**Fig 1:** Radiography showing elbow dislocation and both forearm bone fractures



**Fig 4:** Functional recovery 10 months after surgery



**Fig 2:** Elbow radiographic control after reduction



**Fig 3:** Post-operative radiographic control



**Fig 5:** Radiographic control with bones union

**Table 1:** Publications about posterior elbow dislocations associated with radius and ulna diaphyseal fractures

| Cases | Authors               | Year                | Number of cases, Gender  | Associated lesions  | Treatment  |
|-------|-----------------------|---------------------|--------------------------|---|--|
| 1     | Viegas <i>et al.</i>  | 1989 <sup>[1]</sup> | 1 adult                  | Humerus shaft fracture  | Closed elbow reduction, ORIF plates  |
| 2     | Hung <i>et al.</i>    | 2003 <sup>[2]</sup> | 1 adult F(68 y.o)        | None  | Closed elbow reduction, ORIF plates  |
| 3     | Fleming <i>et al.</i> | 2004 <sup>[3]</sup> | 1 child M(8 y.o)         | Open fracture   | Closed elbow reduction, debridement, ORIF K-wires, graft, cast             |
| 4     | Kose <i>et al.</i>    | 2008 <sup>[4]</sup> | 1 adult F(80 y.o)        | None  | Closed elbow reduction, ORIF plates  |
| 5     | Ramesh <i>et al.</i>  | 2011 <sup>[5]</sup> | 1 adult M (20y.o.)       | Open fracture, Type 1 coronoid fracture, neurapraxia of deep branch of radial nerve | Closed elbow reduction, debridement, ORIF plates, medial ligament fixation |
| 6     | Modi <i>et al.</i>    | 2012 <sup>[6]</sup> | 1 adult M (22y.o)        | None  | Closed elbow reduction, ORIF plates  |
| 7     | Rijal <i>et al.</i>   | 2012 <sup>[7]</sup> | 1 adult M (16y.o)        | None  | Closed elbow reduction, ORIF plates  |
| 8,9   | Madhar <i>et al.</i>  | 2013 <sup>[8]</sup> | 2 adults M (26, 40 y.o), | None  | Closed elbow reduction, ORIF plates  |

|    |                       |                      |                    |                                  |                                     |
|----|-----------------------|----------------------|--------------------|----------------------------------|-------------------------------------|
| 10 | Goni <i>et al.</i>    | 2015 <sup>[9]</sup>  | 1 adult F (44 y.o) | Lateral humeral condyle fracture | Closed elbow reduction, ORIF plates |
| 11 | Hassini <i>et al.</i> | 2018 <sup>[10]</sup> | 1 child M (10y.o)  | None                             | Closed reduction, cast              |

## Discussion

Through the literature, this combination both forearm bone's shaft fracture and posterior elbow dislocation is very rare. We found 10 cases with two open fractures, 02 children presentation about 3 females over 07 males [3-10]. Other cases similar are association of posterior elbow dislocation and epiphyseal fracture or one bone shaft fracture.

According to the mechanism of occurrence the patient would have lost his balance on a motorcycle. The violence necessary for the dislocation and fracture to occur leads us to conclude that the dislocation occurred first. The complexity of the fractures on the diaphysis of the two bones implies a direct mechanism of associated inflection. The energy necessary for the dislocation would have been transmitted through the wrist and then the forearm would have undergone an inflection. This two-stage mechanism seems the most likely and has also been described by most authors. It would be a Monteggia type 1 equivalent lesion.

ORIF was done in adult cases with a good recovery<sup>[3,5-9]</sup>.

For children it was closed reduction and cast. In our case, surgery was not done just after elbow dislocation reduction. This delay is due to the fact that medications must be provided by the patient. This can explain the stiffness with however a useful functional range motion at last check-up.

## Conclusion

Posterior elbow dislocation with ipsilateral radius and ulna shaft fracture is really uncommon. In adult, quick closed elbow reduction and ORIF by plates must be preferred for a good recovery.

The case reminds us of the necessity to have the overlying and underlying joints in the initial radiographic workup to avoid misdiagnosis.

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## References

1. Kuhn MA, Ross G. Acute elbow dislocations. *Orthop Clin North Am.* 2008;39:155-61.
2. Hung SC, Huang CK, Chiang CC, Chen TH, Chen WM, Lo WH. Monteggia type I equivalent lesion: Diaphyseal ulna and radius fractures with a posterior elbow dislocation in an adult. *Arch Orthop Trauma Surg.* 2003;123:311-13.
3. Fleming FJ, Flavin R, Poynton AR, Glynn T. Elbow dislocation with ipsilateral open radial and ulnar diaphyseal fractures: A rare combination. *Inj.* 2004;35:90-92.
4. Kose O, Durakbasa M, Islam N. Posterolateral Elbow Dislocation with Ipsilateral Radial and Ulnar Diaphyseal Fractures: A Case Report. *J Orthop Surg.* 2008;16:122-23.
5. Ramesh S, Lim Y-J. Complex elbow dislocation associated with radial and ulnar diaphyseal fractures: A rare combination. *Strateg Trauma Limb Reconstr.* 2011;6:97-101.
6. Modi P, Dhammi IK, Rustagi A, Jain AK, Min D. Elbow dislocation with ipsilateral diaphyseal fractures of radius

and ulna in an adult - Is it type 1 or type 2 Monteggia equivalent lesion? *Chin J Trauma.* 2012;15:303-05.

7. Rijal L, Kc K, Sagar G. Elbow dislocation with ipsilateral radius and ulna fracture: is it so common? *Nepal Med Coll J.* 2012;14:163-64.
8. Madhar M, Saidi H, Fikry T, Cermak K, Mounghondo F, Schuind F. Dislocation of the elbow with ipsilateral forearm fracture. Six particular cases, *Chir Main.* 2013;32:299-304.
9. Goni V, Behera P, Meena UK, Gopinathan NR, Akkina N, Arjun RHH. Elbow dislocation with ipsilateral diaphyseal forearm bone fracture: A rare injury report with literature review, *Chin J Trauma.* 2015;18:113-15.
10. Hassini L, Saidi A, Touati B, Ben Fradj A, Aloui I, Abid A. An unusual Monteggia equivalent type 1 lesion: Diaphyseal ulna and radius fractures with a posterior elbow dislocation in a child. *Chin J Trauma.* 2018;21:122-24.
11. Viegas CA, Rosa MF, Sá-Correia I, Novais JM. Inhibition of yeast growth by octanoic and decanoic acids produced during ethanolic fermentation. *Applied and environmental microbiology.* 1989 Jan;55(1):21-8.

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