

## Case Report

# Elbow dislocation in a 3 year old child: a report of a rare injury

Ganesh Singh Dharmshaktu\*, Aanshu Singhal, Irfan Khan

Department of Orthopaedics, Government Medical College, Haldwani-263139, Uttarakhand, India

**Received:** 05 June 2015

**Accepted:** 21 June 2015

**\*Correspondence:**

Dr. Ganesh Singh Dharmshaktu,

E-mail: [drganeshortho@gmail.com](mailto:drganeshortho@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

Elbow joint dislocations are rare injuries in paediatric age group. This pattern of injury has been rarely reported in children under three years of age. Successful conservative management involves urgent reduction with confirmation by imaging in most cases. The presented case is a rare case of posterior elbow dislocation in a 3 year old child successfully managed.

**Keywords:** Elbow, Dislocation, Child, Treatment, Injury

## INTRODUCTION

Elbow joint dislocations are uncommon injuries in children. They are reported to constitute only 3% of overall elbow injuries in skeletally immature patients.<sup>1</sup> The peak incidences of elbow dislocations in children correspond to second decade, or between 13 and 14 years of age, when physics begins to close.<sup>1,2</sup> The urgent reduction is the mainstay of management in simple cases with careful evaluation of concentric reduction after the reduction. The associated injuries compound the problem and require appropriate management. Meticulous clinical examination is warranted to document and explain associated neurovascular complications if any, with regard to further management and prognosis. This injury has been rarely reported in children under three year of age. Only one case could be found by literature search by authors in this regard.

## CASE REPORT

A three year old male child was presented to us by his parents with history of injury to his right elbow region due to fall the same day. There was history of isolated injury to elbow and no other associated trauma. The child

was not able to use his limb since then due to pain and swelling. The elbow was hanged through a cloth tied around the chest with a cloth sling. On examination, there was swelling present over the elbow region. There was neither any external wound, blister present. There was a history of manipulation by a local practitioner as part of traditional treatment. There was tenderness on palpation with swelling and the pattern of injury could not be ascertained clinically. There was no local increased temperature and other 'red flags'. The distal neurovascular status was intact.

The provisional diagnosis of elbow injury with probable supra-condylar fracture was made and radiograph of the elbow in two planes ordered. The radiograph revealed the elbow dislocation without associated injury (Figure 1). The patient was planned for reduction under anesthesia after proper detailed explanation to parents followed by informed consent for procedure and future publication of the report.

The elbow reduced satisfactorily and confirmed on post-reduction radiographs for adequacy and concentricity of the reduction (Figure 2). A long plaster slab was applied with due precautions explained to parents about care and

possible complications for two weeks. The immobilization period was uneventful and removal of plaster was followed by supervised physiotherapy until full range of motion gained within a month. The follow up radiographs showed some evidence of myositis ossificans in anterior humeral musculature but posed no significant problem clinically (Figure 3). The child was asked for periodic review in future for any complications or newer complaints about the elbow. The child was painlessly involved in activities of daily living on last follow up at one year.



**Figure 1: Radiograph in two planes showing elbow dislocation.**



**Figure 2: Post-reduction radiograph of the injury.**



**Figure 3: Follow up radiographs showing signs of myositis ossificans.**

## DISCUSSION

Elbow joint injuries are second to distal forearm ones in frequency of skeletal injuries in children.<sup>3</sup> Dislocations constituting only 3-6% of elbow injuries are thus an uncommon pattern of injuries.<sup>4</sup> Posterior dislocations are commoner than anterior ones.<sup>5</sup>

Elbow dislocation without fracture in an 18 month old child has been previously reported as the youngest case reported in English literature. The case was successfully managed with closed reduction and two weeks of immobilization followed by physiotherapy.<sup>6</sup> Two weeks of immobilization has been reported with satisfactory outcome in a recent comparative study.<sup>7</sup> The overall functional results of long term evaluation of elbow dislocation in children are excellent.<sup>8</sup> There are many methods described for reduction of elbow but the method used by us was combined unassisted pusher-puller technique.<sup>9,10</sup>

## CONCLUSION

The simple closed elbow dislocation is rare injury in skeletally immature skeleton. The careful assessment of other associated injury is instrumental to rule out in radiograph. The standard treatment of early concentric reduction and physiotherapy is mainstay of treatment.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Henrickson B. Supracondylar fractures of the humerus in children. *Acta Chir Scand Suppl*. 1966;369:1-72.
2. Josefsson PO Nilsson BE. Incidence of elbow dislocation. *Acta Orthop Scand*. 1986;57(6):537-8.
3. Ring D, Waters PM. Management of fractures and dislocations of the elbow in children. *Acta Orthop Belg*. 1996;62(Suppl 1):58-65.
4. Wilkins KE. Fractures and dislocations of the elbow region. In: Rockwood CA Jr, Wilkins KE, King RE, eds. *Fractures in Children*. 3rd ed. Philadelphia: Lippincott-Raven; 1996: 680.
5. Royle SG. Posterior dislocation of the elbow. *Clin Orthop*. 1991;269:201-4.
6. Issac SM, Danial I, Modi A. Isolated posterior elbow dislocation in a one-year-old child: a case report. *Acta Orthop Belg*. 2009;75(1):133-5.
7. Maripuri SN, Debnath UK, Rao P, Mohanty K. Simple elbow dislocation among adults: A comparative study of two different methods of treatment. *Injury*. 2007;38:1254-8.
8. Papacostas E, Bikos C, Siganos S, Chouseinoglou T, Karamoulasand V, Papaioannou T. Elbow dislocation in children. Long term follow-up. *J Bone Joint Surg Br*. 2003;85(Suppl III):220.
9. Hankin FN. Posterior dislocation of the elbow. A simplified method of closed reduction. *Clin Orthop Relat Res*. 1984;190:254-6.
10. Kumar A, Ahmed M. Technical tips. Closed reduction of posterior dislocation of the elbow: a simple technique. *J Ortho Trauma*. 1999;13:58-9.

**Cite this article as:** Dharmshaktu GS, Singhal A, Khan I. Elbow dislocation in a 3 year old child: a report of a rare injury. *Int J Contemp Pediatr* 2015;2:254-6.