

Bilateral radial neck fractures – A Case Report

ABY Ng*, FRCS (Tr & Orth), **L Bayam****, MRCS, **Y Cemal****, MB ChB

*Department of Orthopaedics, University of British Columbia, Vancouver BC, Canada

**Orthopaedic and Rheumatology Directorate, Royal Preston Hospital, United Kingdom

ABSTRACT

Radial head and neck fractures are the most frequently seen elbow fractures. The usual cause of this injury is a fall onto an outstretched hand with a partly flexed elbow. We report here an unusual case of bilateral non-displaced radial neck fractures in a patient who presented with complaints of pain in both elbows following a simple fall. This case highlights the need for a high index of suspicion in the diagnosis of multiple injuries, no matter how 'trivial' the mechanism of injury.

Key Words:

Radial neck fractures, Bilateral fractures

the patient was referred to the Orthopaedic team for further work-up. On examination, she had full range of flexion in both elbows. However, supination and pronation movements produced significant pain and there was tenderness over the radial head region in both elbows. No other injuries were noted. Radiographs of both elbows (Fig. 1A, 1B, 2A and 2B) showed bilateral non-displaced radial neck fractures.

The patient was treated with a bilateral collar and cuff and analgesics for two weeks followed by mobilisation of both elbows. She was able to function with the collar and cuff due to family support for her daily activities. At six-month follow up, the patient was asymptomatic with a full range of motion at the elbow joints.

CASE REPORT

A 56- year-old female presented with complaints of pain in both elbows two days after a fall onto both outstretched hands. She did not have any other injury or other significant medical history. The patient reported painful forearm movements and difficulty in the performance of activities of daily living. The radiographic findings were not noted by the physicians who saw this patient in the emergency unit, but

DISCUSSION

Fractures of the radial head are the most commonly seen elbow fractures in adults, accounting for 1.5% to 4 % of all fractures and approximately 33% of all elbow fractures¹⁻². The mechanism of injury in radial head and neck fractures is usually a fall onto an outstretched hand with a partly flexed elbow and pronated forearm causing longitudinal impact of the radius against the capitellum³. Fekete, Detre and Szepesi



Fig. 1A: Anteroposterior view of right elbow.

Fig. 1B: Lateral view of right elbow.

Fig. 2A: Anteroposterior view of left elbow.

Fig. 2B: Lateral view of left elbow.

described the physiological valgus position of the elbow joint as the reason for this joint's vulnerability⁴. Our patient reported a fall onto outstretch hands but she was unsure about flexing the elbows.

Patients classically present with painful passive rotation of the forearm. Crepitus, pain and swelling of the lateral aspect of elbow are also typically present³. Diagnostic features such as the presence of a fracture line and a positive fat pad sign may not be obvious in all cases⁵. Mason's classification (based on the severity of radial head and neck fracture) is used clinically to formulate the type and extent of treatment⁶. In our case, the patient presented with pain on the lateral aspect of the elbow and painful forearm rotation.

We treated the patient with sling immobilisation and regular analgesia followed by early active mobilisation of the elbow.

Early movement is advocated for prevention of elbow stiffness⁵. In bilateral radial neck fractures, management with sling immobilisation makes day-to-day activities difficult if not impossible, therefore help with these activities is highly recommended. Displaced fractures are treated with open reduction and internal fixation, thus allowing early mobilisation⁴.

We present this case as a timely reminder for clinicians, who when dealing with trivial injuries should examine patients with a high index of suspicion for bilateral injuries. To date, there are 2 published reports on this unique presentation^{2,4}. No matter how 'trivial' the mechanism of injury maybe, the presence of one easily diagnosed injury should not rule out a thorough examination of the patient for other injuries.

REFERENCES

1. Teiwani NC, Mehta H. Fractures of the Radial Head and Neck: Current Concepts in Management. *J Am Acad Orthop Surg*. 2007; 15 (7): 380-7.
2. Hodge JC. Bilateral radial head and neck fractures. *J Emerg Med*. 1999; 17 (5): 877-81.
3. Koval KJ, Zuckerman JD. Handbook of fractures. 2nd Ed. Philadelphia: *Lippincott Williams & Wilkins*, 2002: 122-5.
4. Fekete K, Detre Z, Szepesi A. Bilateral fractures of the proximal end of the radius: *Magy Traumatol Orthop Helyreallito Seb* 1990; 33 (4): 307-12.
5. Deshmukh NV, Shah MS. Bilateral radial head fractures in a martial arts athlete: *Br J Sports Med*. 2003; 37 (3): 270-1.
6. Mason ML. Some observations on fractures of the head of the radius with a review of one hundred cases. *Br J Surg*. 1954; 42 (172): 123-32.