

The Floating Forearm: Bilateral Elbow Dislocation And Fracture-Dislocation of Two Wrists

Loubet Unyendje, Mustapha Mahfoud, Moradh El Yaacoubi

ABSTRACT-The authors report a rare case of the bilateral floating forearm in a 25-year-old man, who presented the combination of injuries after a fall from third floor; The bilateral dislocation of the elbow and fracture-dislocation of two wrists. The elbows were reduced orthopedically and the right wrist was treated with external fixator and pinning in the left wrist. At twelve months the patient only complained of moderate pain for exceptional efforts. Complete amplitude elbow was restored. The flexion and extension were respectively 50° and 40° in the left wrist, the pronation-supination was 75°. At right wrist the flexion and extension were 40° and 30°, the pronation-supination was 45°. The wrist radiography showed two radius consolidated.

Key words:- Floating forearm, bilateral dislocation, fracture-dislocation, elbow, and wrist.

Introduction

The floating forearm or bipolar forearm dislocation is rarely seen. There are only a few such reported cases in the literature (1-6). One case only of bilateral elbow dislocation was reported (1). The combination of bilateral dislocation elbow associated with comminuted articular fracture of two distal radius has not been described in our knowledge; It should be discussed on its epidemiological, clinical, and therapeutic particularity.

Case Report

A 25-year-old man was admitted to emergency department after falling from third floor. He presented pain and functional disability of two upper limbs. On physical examination, the patient was conscious, oriented, and cooperative and his general status was normal. The two elbows and two wrists were deformed and appear winnded with posterior protrusion of olecranon; the forearm seems shortened; The palpation of elbows posterior region shows that the triceps tendon is stretched and that there is a retro humeral depression and in front of the olecranon; The radial head was palpated outside the olecranon. Neurovascular examination was normal. The posterolateral dislocation of two elbows and comminuted articular fracture of the two distal radius were found in radiological examination (figure 1-2). The reduced elbows were immobilized for 3 weeks in position of flexed 90°. After five days; the right wrist was treated with Hoffman external fixator (figure 4) and the left with pinning (figure 5). The patient was treated in the emergency operating room, under general anesthesia the reduction consists in pulling the upper limb by the wrist with elbow in extension then to bend gradually the elbow by pushing forward and medially the olecranon. Elbows were stable. A radiological control of elbows showed the articular congruence (figure 3).



Figure 1

Figure 2

Figure 1, 2 : dislocation of two elbows and comminuted articular fracture of two wrists



Figure 3: treated successfully with closed reduction

- Dr LOUBET UNYENDJE LUKULUNGA Mohammed V university faculté of medicine department of orthopaedics and traumatology, Ibn sina hospital, rabat, morocco.
PH -00212642803610
E-mail: doctaunyendje@yahoo.fr
- Dr MUSTAPHA MAHFOUD Mohammed V university faculté of medicine department of orthopaedics and traumatology, Ibn sina hospital, rabat, morocco.
PH - 00212661099541
E-mail: mahfoud55@yahoo.fr



Figure 4 hoffman external fixator

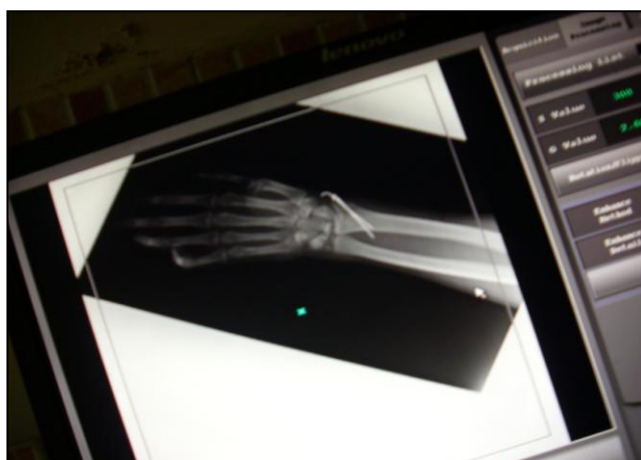


Figure 5 : pinning in left wrist

DISCUSSION

The bipolar forearm dislocation or The floating forearm dislocation is rarely seen. This term was first used by Jupiter in 1994 (7) and concerned generally young age group between (23-35) years of age who fall onto their wrist or elbow and suffer from a severe sudden trauma(8),(10). Our patient was also at the age of 25 years, but the traumatic etiology is a fall from considerable height with elbows and wrists in extension. Three cases of concurrent elbow and perilunate dislocations after falls onto an outstretched hand have been reported (11). There are few reports of radiocarpal dislocation associated with ipsilateral dislocation of the elbow (4),(12), (13). When the fall is made on the two palm of hand with the wrist in dorsal flexion and the elbow extended almost complete and the arm in abduction; we suggest this is the mechanism of bilateral dislocation of elbow associated to fracture-dislocation of two wrists .There is only one case of bipolar bilateral dislocation was reported in the literature that is not accompanied by a fracture (1).Our case is the second one but it was associated with articular comminuted fracture of two distal radius. There is no recommended treatment model for bipolar forearm dislocations in the literature. While elbow dislocations were usually treated with closed reduction, open reduction and fixation method was chosen for wrist dislocations (3, 5, 10).The case is different from the other cases regarding the treatment method. It is the first case which was treated

under general anesthesia successfully orthopedic reduction, contention for 3 weeks, Hoffman external fixator in the right wrist, and Pinning in the left wrist.

Conclusion

The bilateral elbow dislocation associated with fracture-dislocation of two wrists is rarely seen together. The mechanism was fall from a considerable height with two wrists in dorsal flexion and elbow extended almost complete and arm in abduction. The diagnosis was clinical and confirmed by standard radiology Treatment consisted to a reduction of dislocations in emergency under general anesthesia. The fracture was treated after five days with external fixator and pinning. At-Month 12 the patient only complained of moderate pain for exceptional efforts. Complete amplitude elbow was restored. The flexion and extension were respectively 50° and 40°in the left wrist, the pronosupination was 75°.At right wrist the flexion and extension were 40° and 30°, the pronosupination was 45°.The wrist radiography showed two radius consolidated.

References

- [1] H.Zejjari, J.Louaste, M. Chkoura, K.Rachid : Floating forearm bilateral. Chir main 2009 ; 30(2) :155-158 french.
- [2] Herzberg G, Content JJ, Linscheid RL, Amadio PC, Cooney WP, Stadler J. Perilunate dislocations and fracture-dislocations: a multicenter study. Hand surg (Am) 1993; 18:768-79
- [3] A. Daoudi, A. Elibrahimi, W.D.Loudiyi, A.Elmrini, K.Chakour, F.Batayeb. Floating forearm: elbow and wrist dislocation: chir main 2009 ; 28(1) :53-56 French
- [4] Rosson JW. Triple dislocation of the upper limb J R surg Edimb 1987;32 : 122
- [5] Y.Najeb, B.Essadki, M.Latifi, T. Fikry: Bipolar dislocation of the forearm. Chir main 2007 ; 26 :62-64 french
- [6] Kerr CD, Gunderson RJ. Concomitant dislocation of the wrist with posterior radial head subluxation: Case report J Trauma 1995; 38:941-3.
- [7] Jupiter JB, Kour AK, Richards RR, Nathan J, Meinhard B .The floating radius in bipolar fracture-dislocation of the forearm. J orthop trauma 1994; 8:99-106.
- [8] Masmjean E, Cognet JM. Bipolar dislocation of the forearm : Elbow and perilunate dislocation .Rev chir orthop reparatrice .Appar mor 2001 ; 87(5) :499-502 French Sbai M.A. , Khorbi A.,Benhmi
- [9] da N.,Daas S., Souissi M., Maizour R.,Tebib M. Bipolar dislocation of forearm . Archives 2010 ; 3(1) :45

- [10] A.Waaziz, M.Moujtahid, A. Bendriss .The floating forearm: elbow and perilunate dislocation. Chirg main 2006 ; 25 :54-57 french
- [11] Chen WS. Concurrent périlunate dislocation in patients with elbow dislocation: three case reports J .Trauma 1994; 37: 504-7.
- [12] Dodd CA. Triple dislocation of the upper limb. J trauma 1987; 27:1307.
- [13] Prased K, Dayanandam B, Gakhar H, Attarwala U, Karras K. Concomitant elbow and perilunate dislocation: Floating forearm. Internet J orthop Surg 2008;8