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Bilateral traumatic dislocation of the elbow in a case and review of the literature

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Abstract

We report a case of bilateral dislocation of the elbow in a 53 year-old patient. This trauma condition is rare and no often discussed in the literature. It was treated orthopedically 24 hours after the trauma occurred. The orthopedic reduction under General anesthesia despite the delayed management offered a good reduction of both dislocations and a good functional result of both elbows observed 8 months following the treatment.

Keywords: bilateral - elbow - dislocation

1. Introduction

Traumatic dislocations of the elbow are frequent lesions accounting for 10% of elbow injuries [1, 2]. They occur during sports accidents in young people, or during falls for people over 50 years [2, 3]. These dislocations can be posterior, the most frequent varieties with a rate of 90% [2]. The anterior forms are rare [4], often fracture type - dislocation and bilateral forms are very rare in the literature [5, 6]. We report a clinical case of bilateral traumatic elbow dislocation in a 53-year-old patient.

2. Observation

A 53 years man, without pathological priors, was admitted to the University Hospital of Brazzaville on November 5, 2017 after a road accident. The patient stated riding a motorcycle at high speed, when he hit a pole causing a fall with landing in the prone position, both hands thrown forward, elbows in extension and both hands in pronation causing intense pain in two elbows and total functional impotence of both thoracic limbs.

Upon admission, the physical and symmetrical examination revealed swelling of both elbows with posterolateral deformity and loss of anatomical markers of the elbow (Figure 1).



Fig 1: Luxation bilatérale des deux coudes

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The sensitivity and mobility of both thoracic limbs were preserved. X-rays of both elbows showed bilateral dislocation

of the elbow in its postero-external variety (Figures 2a et 2b).



Fig 2a

Fig 2a: Radiographie du coude gauche



Fig 2b

Fig 2b: Radiographie du coude droit

An orthopedic reduction of both dislocations under general anesthesia was performed 24 hours after the trauma and maintained by two plaster splints for 3 weeks. Then, the patient benefited from several functional rehabilitation sessions of both elbows.

Another physical examination was conducted 8 months after orthopedic treatment. Flexion - extension of both elbows was normal.

3. Discussion

Bilateral dislocations of the elbow are very rare [5, 6]. To our knowledge, very few cases are described in the literature.

From an anatomical point of view

The dislocations of the elbow are due to the rupture of the capsulo-ligamentous apparatus or to aplasia of the articular surfaces, notably the humeral muscles, responsible for the anteroposterior stability and the frontal stability of the elbow [7].

Considering the injury mechanism

These dislocations varies from one case to another. In the most frequent cases, the trauma occurs by falling backwards on the hand or wrist, with the arm in abduction and the elbow close to complete extension with or without a frontal traumatic component, especially the valgus [8, 9]. In our case, the circumstances and the mechanism of occurrence of posterior bilateral dislocation were a motorcycle accident, resulting in a fall forward with reception on both hands, thoracic limbs in abduction and antepulsion, elbows almost complete extension. In reviewing the literature, various types of injury mechanisms have been reported. The mechanism comprising a trauma sustained with impact on the posterior region of the forearm, on a bent elbow [1, 8], the mechanism of forced supination on a bend in a half-flexed position, responsible for rotational dislocations [10] and the imprecise mechanisms extremely rare, responsible for divergent dislocations [4]. Bilateral dislocation of the elbow are very rare and rarely described in the literature. The dislocation process has never been so clearly defined.

Regarding the diagnosis, the physical signs of dislocation of the elbow are obvious. In the unilateral form, the injured limb remains in a position often seen in such cases, the sick limb is supported by the healthy one, while in the bilateral form, both limbs are completely in functional impotence explaining the

different attitude and posture than what is usually seen in upper limb trauma cases and the loss of anatomical marks of the elbow.

X-ray with two incidences confirms the diagnosis of the dislocation and reveals the displacement direction.

Regarding the treatment dislocations of the elbow remain a condition often encountered and requires rapid and adequate management. The first choice treatment for recent cases of elbow dislocation is the closed reduction under general anesthesia followed by 3 to 6 weeks plaster immobilisation [1]. When closed reduction is impossible surgery is indicated. However surgery may induce complications such as stiffness or ossifications. In our case the patient was managed in due time and results were excellent.

4. Références

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