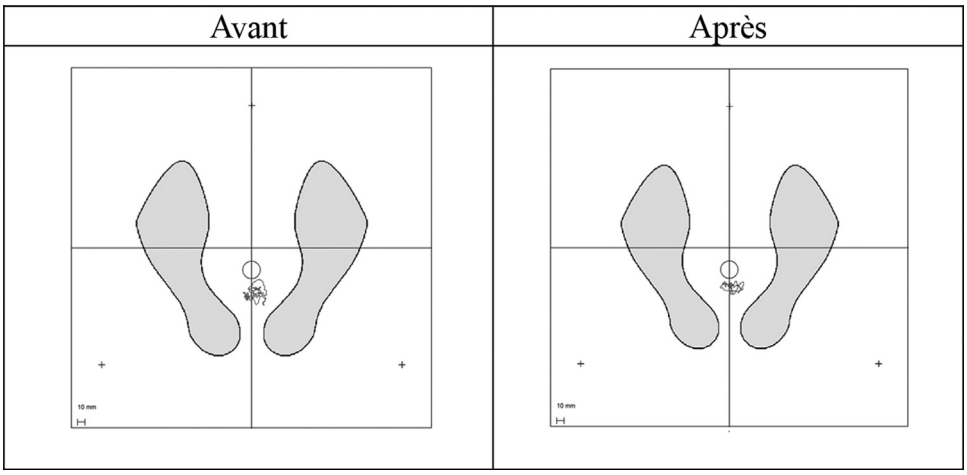

Figure 1 Évaluation posturographique une semaine avant et une semaine après les séances de boxe éducative.

moins atteint, notamment pour lutter contre la fatigue. Ceci peut trouver une explication dans la mesure où les interventions chirurgicales sur les membres inférieurs chez les IMC jouent un rôle sur leur organisation posturale [3]. En effet, certains déséquilibres tels que le raccourcissement musculotendineux d'un des deux membres inférieurs, comme ici pour G. N., conséquence pour lui de 12 opérations dont 8 du côté droit, entraînent une réorganisation posturale se traduisant par un transfert du poids du corps vers le côté le plus atteint. On note également la faible amplitude des déplacements du CdP associée à une diminution de la surface de l'ellipse de confiance, témoignant d'une meilleure stabilité du sujet à l'issue de ces 2 mois de pratique.

Les résultats de l'évaluation fonctionnelle confirment les données posturographiques, avec des améliorations significatives de l'équilibre postural. Ceci se traduit de deux façons : au niveau de la durée du maintien de cet équilibre sur un support réduit et au niveau de l'extension fonctionnelle.

Dans la mesure où les déplacements quotidiens de G. N. sont effectués en fauteuil roulant manuel et qu'il n'a accès à une pratique physique que lors des séances d'éducation physique scolaires et uniquement en fauteuil, il semble possible d'affirmer que les progrès observés au niveau de cet équilibre postural et lors des tests fonctionnels sont dus à la pratique régulière d'une activité physique [3] comme la boxe éducative [4], pratique considérée ici comme de nature intensive pour quelqu'un comme G. N.

Déclaration de liens d'intérêts

Les auteurs déclarent ne pas avoir de liens d'intérêts.

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Simultaneous bilateral and asymmetrical fracture of the radial head in a judoka: Exceptional injury by an exceptional mechanism

Fracture bilatérale et asymétrique de la tête radiale chez un judoka : lésion exceptionnelle par un mécanisme exceptionnel

Introduction

The fracture of the radial head is the most common elbow fractures among adults [1], it represents 33% of fractures of

Figure 1 X Rays of the right elbow in profile view showing the fracture of the Mason II radial head (white arrow).

the elbow joint [2]. However, simultaneous bilateral involvement of the radial head is rare even exceptional entity [2], never reported in sport trauma.

We report the case of a 34-year-old man with simultaneous bilateral and asymmetrical fracture of the radial head by direct mechanism during the practice of judo.

Case report

A 34-year-old man, right-handed, with no medical history, non-smoking, admitted to the emergency of our hospital for pain and functional impotence of the 2 upper limbs following a fall on both elbows during a judo match.

Clinical examination revealed swelling of both articulations with pain during palpation more marked on the right side. Both elbows motion in flexion/extension and pronation/supination was limited and painful. The neurovascular examination of the 2 upper limbs was normal, as well as the examination of the wrists and shoulders.

X rays examination showed on the right elbow a fracture of the radial head classified Mason II (Fig. 1) and on the left elbow a fracture of the radial head classified Mason I (Fig. 2). A CT scan of the right elbow was performed to assess the degree of fracture displacement (Fig. 3).

Functional treatment was decided for the left fracture and an internal fixation for the right one. Under general anesthesia with tourniquet in the base of the right upper limb, an external approach of the elbow was performed. The displaced fragment was reduced and fixed by 2 screws of 1.5 mm (Fig. 4). After 14 days of immobilization by posterior splint, progressive rehabilitation was started for the 2 elbows lasting 8 weeks.

Figure 2 X Rays of the left elbow in profile view showing the fracture of the Mason I radial head (white arrow).

Figure 3 CT image showing the degree of displacement of the fracture of the right radial head.

At the 12-month follow-up, the left elbow reached a flexion-extension motion range of 0° and 130°. While the right elbow kept an extension at −10° and a flexion at 120°. Pronation/supination motion was normal for both elbows. Morrey elbow score was excellent for the 2 elbows. The patient resumed the practice of judo at the end of the eighth month of follow-up.

Discussion

The bilateral fracture of the radial head remains a rare entity [1], an epidemiological study performed on 2296 fractures of the radial head from 1992 to 2007 reported an incidence of 1.48% [3]. The cases described in the literature report generally symmetrical fractures both classified Mason I. We found only one case report describing the association of asymmetrical fractures of the radial head classified Mason II and Mason III due to RTA [2]. Our report represents the first case of simultaneous asymmetrical fractures of the radial head due to sport activity.

The mechanism usually described is the fall on an extended hand with partially flexed elbow and supined forearm [1]. Indeed, there is an angle of 15° between the neck and the head of the radius making this epiphysis susceptible to fractures [1]. When the forearm is pronated, the anterolateral margin of the radial head comes into contact with the capitellum and makes it vulnerable to this type of shear fracture [1]. In our case, the described mode is different and exceptional because it is a direct trauma of the 2 elbows due to a fall.

Clinically, patients usually come with acute pain and swollen elbows. The diagnosis can be done on elbow X rays with two orthogonal incidences (AP and lateral views). However, it is not uncommon to use oblique incidences for the detection of fracture [1]. 3D reconstruction CT is rarely necessary and adds only 1% of sensitivity compared to conventional radiography [4,5] but remains useful for therapeutic decision in doubtful cases. Magnetic resonance imaging (MRI) may be useful for the detection of cartilaginous and soft tissues lesions and helps to diagnose associated lesions in 76% to 95% of cases [6]. Nevertheless, these lesions do not require any additional treatment [7]

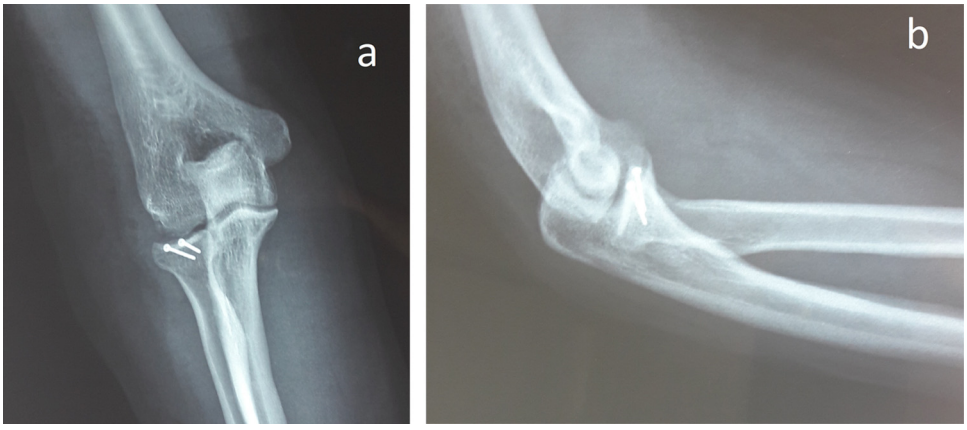

Figure 4 X Rays in antero-posterior (a) and profile view (b) of the right elbow showing internal fixation by 2 screws.

which does not justify the systematic use of this imaging technique.

Thus, the treatment options will be based on conventional radiography and precisely on the Mason classification [8] which was completed by Johnston [9]. The goal of the treatment will be focused on the restoration of elbow motion. The Mason type I fracture must be treated conservatively by immobilization in the inflammatory phase followed by functional rehabilitation [1]. The treatment of Mason type II and III fractures remains controversial. The surgical intervention is influenced by the presence of mechanical block, joint instability and the surgeon's experience [1]. Surgical treatment may be internal fixation, resection of the radial head or prosthetic replacement. Recently, Guzzini and al [10] reported good and excellent mid-term results in Mason type II fractures even treated conservatively.

Some authors propose an evacuation puncture of the hemarthrosis in cases of Mason type I fracture; indeed, Fleetcroft [11] reported a prospective study with a follow-up of two years, patients in the aspirated group had earlier pain relief and a faster return to normal mobility. The author also reported during the follow-up that the movements of the non-aspirated elbows continued to deteriorate. Carley [12] also suggested that aspiration may be beneficial for patients with traumatic elbow effusion, but there was insufficient evidence to recommend it as a routine procedure. As for, Holdsworth reported no long-term benefit in a prospective controlled trial of 80 cases [13].

Functional recuperation will depend on several factors. Holdsworth et al. [13] concluded that functional recovery was better in younger patients and inversely related to the severity of the fracture.

Conclusion

Simultaneous bilateral fracture of the radial head is a rare entity which the clinician must think in front of a bilateral pain of both elbows following a fall. That said, diagnosis and treatment essentially reeducation must be undertaken as quickly as possible to restore the elbow functionality and allow the patient to return to previous sport activities.

Disclosure of interest

The authors declare that they have no competing interest.

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