Acute partial rupture of the common extensor tendon

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KEYWORDS

Elbow;
Common extensor
tendon;
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Abstract Rupture of the common extensor tendon is the most common acute tendon injury of the elbow. The authors describe a case of a patient with a clinical history of tendinopathy caused by functional overload of the common extensor tendon, treated also with infiltrations of steroids, and subsequent partial rupture of the tendon during sport activity. The diagnosis was made clinically and at ultrasound (US) examination; US follow-up after some time showed the healing of the lesion. This case confirms that injections of steroids may be a contributory cause of tendon rupture, and emphasizes the sensitivity and specificity of US in the study of pathologies of the elbow tendons.

Sommario La rottura del tendine comune degli estensori è la lesione acuta più frequente dei tendini del gomito.

Viene presentato il caso di un paziente con pregressa tendinopatia da sovraccarico funzionale del tendine comune degli estensori, trattata anche con infiltrazione di steroidi, e successiva rottura parziale del tendine, durante l'attività sportiva. La diagnosi è stata clinica ed ecografica e il controllo ecografico a distanza di tempo ha evidenziato la guarigione della lesione. Il caso in esame conferma come le iniezioni di steroidi possano rappresentare una concausa delle rotture tendinee e sottolinea la sensibilità e la specificità dell'ecografia nello studio della patologia tendinea del gomito.

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Introduction

Ruptures of the elbow tendons are rare. They mainly affect the common tendon of the extensor muscles [1,2] rather than that of the flexor muscles and the distal tendon of the biceps and triceps tendon. These lesions generally occur

due to a degenerative disease (epicondylitis) [3,4] and steroid injections [5]. Ruptures of the tendons can be classified as full or incomplete, acute or chronic and traumatic or spontaneous. The cases of rupture of the common extensor tendon diagnosed at US examination are most frequently incomplete, acute and spontaneous [1,2].

US appearance of acute, incomplete rupture is characterized by partial rupture of the tendon fibers with hematoma formation interposed between the injured fibers (Fig. 1). In complete rupture, US shows absence of the tendon and the presence of hematoma. In chronic lesions there is no hematoma, and the ruptured tendon stumps

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Fig. 1 On the side of the elbow, at the level of the common extensor tendon insertion (a: diagram), US (b, c) shows inhomogeneous echotexture of the tendon due to epicondylitis and a deep partial rupture with interposed hematoma formation (arrows) between the injured fibers.

may be surrounded by fibrous or granulation tissue appearing as a hyperechoic structure [1,2].

Clinical case

The patient, a 35-year-old male, was an amateur cyclist who frequently went cycling and did other physical activity which included also working out in the gym. He presented a clinical history of chronic pain at the level of the epicondyle which had been treated in various ways including three cortisone infiltrations during the acute phase. During a session in the gym, while he was lifting a barbell, he felt a sharp but not particularly severe pain.

Clinical examination caused suspicion of acute partial rupture of the common extensor tendon. US examination performed three days after the event showed inhomogeneous tissues adjacent to the common extensor tendon with the presence of patchy areas of myxoid degeneration and small calcifications as well as rupture of the fibers with interposed hematoma formation (Fig. 1). Clinical diagnosis of acute partial rupture of the common extensor tendon

was thus confirmed in this patient who had a clinical history of epicondylitis. After appropriate treatment, US follow-up showed complete healing of the lesion.

Discussion and conclusions

The common extensor tendon inserts to the epicondyle of the humerus (Fig. 1 a) [4].

It receives fibers from extensor carpi radialis brevis which forms the deep part of the tendon, from extensor digitorum communis and from the index finger which represents the superficial part of extensor carpi ulnaris and extensor digiti minimi.

The most frequent pathology of the common extensor tendon is epicondylitis [3,5,6], which is caused by continuous stress, minor traumas and aging [1,2] and it 'is' characterized by loss of the normal tendon structure showing myxoid and hyaline degeneration, angiofibroblastic proliferation, fibrosis and calcifications. These changes cause the tendon to lose its elasticity and become easily damaged [1,2].

The clinical symptom of epicondylitis is pain. This condition can be treated in various ways and also by infiltrations of steroids. The literature does not report many cases of correlation between tendon ruptures and the use of steroids, but ruptures are certainly more frequent after this type of treatment. Rupture of the common extensor tendon is usually partial and acute at diagnosis, and it is characterized by rupture of the fibers with interposed hematoma. Diagnosis is made clinically and at US examination formation.

The present case demonstrates the potential of US in the study of tendon pathologies of the elbow. The examination is fast, non-invasive and inexpensive and provides a dynamic evaluation of the tendons. It furthermore presents an elevated sensitivity and specificity [1,2] and confirms that the use of steroids is an important contributory factor to tendon rupture.

Conflict of interest statement

The authors have no conflict of interest.

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