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Case report

Simultaneous bilateral distal biceps tendon repair: case report☆

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ABSTRACT

Simultaneous bilateral rupture of the distal biceps tendon is a rare clinical entity, seldom reported in the literature and with unclear therapeutic setting. The authors report the case of a 39-year-old white man who suffered a simultaneous bilateral rupture while working out. When weightlifting with elbows at 90° of flexion, he suddenly felt pain on the anterior aspect of the arms, coming for evaluation after two days. He presented bulging contour of the biceps muscle belly and ecchymosis in the antecubital fossa, extending distally to the medial aspect of the forearm, as well as a marked decrease of supination strength and pain in active elbow flexion. MRI confirmed the rupture with retraction of the distal biceps bilaterally. The authors opted for performing the tendon repairs simultaneously through the double incision technique and fixation to the bicipital tuberosity with anchors. The patient progressed quite well, with full return to labor and sports activities, being satisfied with the result after two years of surgery. In the literature search, few reports of simultaneous bilateral rupture of the distal biceps were retrieved, with only one treated in the acute phase of injury. Therefore, the authors consider this procedure to be a good option to solve this complex condition.

Reparo de ruptura bilateral simultânea do bíceps distal: relato de caso

Palavras-chave:
Rotura/diagnóstico
Rotura/etiologia
Rotura/cirurgia
Traumatismos dos tendões

RESUMO

A ruptura bilateral simultânea dos tendões distais do bíceps é uma entidade rara, pouco relatada na literatura e com definição terapêutica pouco clara. Relatamos o caso de um homem branco de 39 anos que sofreu ruptura bilateral simultânea durante treino de academia em que ao pegar peso com os cotovelos em flexão de 90° sentiu dor súbita na face anterior dos braços e compareceu para avaliação após dois dias. Apresentava abaulamento do contorno do ventre muscular do bíceps braquial e equimose na região da fossa antecubital que se estendia distalmente para a face medial do antebraço, além de grande

☆ Study conducted at the Hospital Ortopédico e Medicina Especializada (Home), Serviço de Cirurgia de Ombro e Cotovelo, Brasilia, DF, Brazil.

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diminuição da força de supinação e dor à flexão ativa do cotovelo. Ressonância nuclear magnética (RNM) confirmou a ruptura com retração do bíceps distal, bilateralmente. Optou-se pelo reparo das lesões simultaneamente com a técnica de dupla incisão e fixação do tendão à tuberosidade bicipital com âncoras. O paciente evoluiu de forma bastante satisfatória, com retorno completo às atividades laborais e esportivas, está bastante satisfeito com o resultado após dois anos da cirurgia. Na pesquisa da literatura, foram achados muito poucos casos descritos de ruptura bilateral simultânea do bíceps distal. Desses, somente um foi tratado na fase aguda da lesão. Portanto, os autores consideram o procedimento descrito como uma boa opção para a resolução dessa complexa condição.

Introduction

Simultaneous bilateral rupture of the distal biceps tendon is an extremely rare entity with few reports in the literature, which can lead to devastating functional effects for the patient.

The literature describes several surgical options for unilateral rupture of the distal biceps tendon, with different approaches, types of suture, and fixation methods. For bilateral ruptures, in turn, there is no consensus on the surgical technique, the most appropriate moment to perform the surgery, or rehabilitation protocols.

In a literature review, it was observed that there are very few reported cases of simultaneous bilateral rupture of the distal biceps. Among them, the surgical treatment took place during the acute phase in only one case, but fixation was performed with a six-week interval between procedures.[1]

The authors report the case of a patient with bilateral simultaneous distal biceps tendon rupture during elbow-flexion resistance exercise, who underwent surgical repair of both sides in one time.

Case report

A 39-years-old white male and right-handed patient presented to our service with history of sudden-onset pain and deformity on the anterior aspect of both arms after attempting to lift weights in the gym with elbows flexed at about 90° two days before.

He had no significant history of previous disease or elbow pain. He practiced weightlifting only as a physical activity seeking health maintenance; he denied seeking substantial muscle hypertrophy. He had been on endocrinological treatment for hormone replacement for six months.

Upon physical examination, an obvious deformity was observed on the anterior aspect of the arm, with bulging contour of the biceps muscle belly and bruisings on the antecubital fossa area extending distally to the medial aspect of the forearm. The patient had pain on palpation and absence of the biceps tendon on the anterior aspect of both elbows. He also presented great strength loss for and pain on flexing the elbows. Neurological and vascular functions were preserved bilaterally.

The images obtained by magnetic resonance imaging disclosed complete rupture of the distal biceps tendons, with 5 cm retraction on the right and 4.6 cm on the left side.

After discussing the case with the patient and family, the authors opted for immediate surgical treatment and repaired the ruptures in both limbs during the same procedure.

The technique used for both limbs was the double incision and tendon anchor fixation.

Surgical technique

The patient was placed on the operating table in supine position, without tourniquets. The surgery was initiated on the right upper limb. A transverse incision of approximately 3 cm was made above the cubital skin fold (Fig. 1). The biceps tendon is easily captured when the skin is retracted proximally and away from the deep tissues. The most distal portion of the degenerated tendon was resected; the tendon was repaired using Bunnell sutures with nonabsorbable No. 5 threads. Then, the radial tuberosity was palpated and a curved Kelly forceps was passed through the biceps tendon tunnel, between the ulna and the radius, and it was advanced until its tip could be palpated on the dorsal aspect of the proximal forearm (Fig. 2). A second incision was made over the forceps; the tuberosity

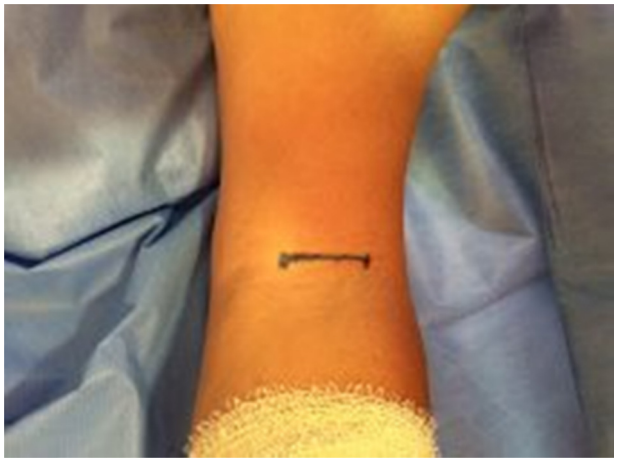

Fig. 1 – Incision mark on the anterior cubital crease.

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