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Rupture of the Short Head of the Biceps and Coracoid Fractures: Mechanism and Refixation

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ABSTRACT

Injuries of the short head of the biceps are rarely seen in clinics as seen by a lack of published articles. Most of the literature report on coracoid fractures, whereas these scapula process fractures remain less common in the upper extremity. They are caused by direct impact or are associated with acromioclavicular or anterior shoulder dislocation as it may occur in sports. The attached biceps short head, coracobrachialis and pectoral minor tendon are likely to tension an avulsion and displace a fragment. The most favorable treatment is a non-operative therapy, especially if the displacement of fragments is little and the coracoclavicular ligaments maintain the fragments in position. Widely displaced fractures cause a high non-union rate and surgical reposition and fixation is recommended in such cases. Different fixation techniques are present due to its rare and heterogenic occurrence. However, surgically treated fractures are likely to heal and patients gain full range of motion after three months. We present a case report from our department and demonstrate different operative techniques in a cadaver model.

Introduction

Injuries of the short head of the biceps and associated fractures of the coracoid are little considered in the literature. Ruptures of the short head of the biceps are very rare and little is known from the common literature. Gilcreest et al.¹⁸ reviewed 100 injuries to the biceps muscle and only two were associated with the short head – one partial and one full tear. No consistent cause for this type of injury can be given.^{15,31,34} A case report of an isolated rupture of the short head of the biceps can be found describing a degenerated tear of the tendon of a 67 years old farmer.³¹

Fractures of the coracoid process occur more often compared to short biceps tendon injuries due to high impact during sports or accidents. Reports also show an association with anterior shoulder dislocation. The base of the coracoid is mostly affected when fracturing. Treatment options range from conservative to surgical refixation, whereas no state of the art can be concluded.

This article will give an overview of anatomy and what is known about biomechanical properties of the short head of the biceps and injuries to the coracoid. Furthermore, we will review surgical treatment options and present a case report from the department of orthopaedic sports medicine in Munich.

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