Distal Biceps Brachii Tendon Rupture

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Abstract

The biceps brachii is a multi-joint muscle, consisting of two heads, the long head arising from the superior surface of the proximal bicipital groove and the short head arising from the radial tuberosity (Blackmore, Jander, & Culp, 2006). It is a powerful flexor and supinator of the forearm and is responsible for initiating elbow flexion, maintaining elbow flexion, and assisting with shoulder abduction (Craddock, 2010). Proximal to the elbow, the biceps brachii attaches to the coracoid process of the scapula, and distally it inserts into the radius and the annular ligament of the radial head (Craddock, 2010). The biceps brachii is a critical muscle for activities requiring shoulder abstraction and elbow flexion, such as lifting objects, pushing, and pulling (Craddock, 2010). It is commonly injured due to the stress placed on the muscle during activities that require the arm to be lifted overhead (Craddock, 2010).

Case Report

Patient: A 35-year-old male with no prior medical history presented for rehabilitation post-surgical repair of a Grade II distal biceps brachii rupture. The patient sustained the injury while performing a lifting maneuver resulting in a grade II distal biceps brachii tendon rupture. The patient was referred to the clinic by his primary care physician for rehabilitation. The patient was able to fully lift objects using his unaffected arm, while lifting light objects was limited only by his fear of re-injury. The patient's activities of daily living were achieved with no issues, and his ability to lift light objects was limited only by his fear of re-injury. The limitation of this study is the inability to test the patient's return to his pre-injury activity level (Sarda, 2013).

Discussion and Summary

The increase in activity amongst the population leads to ramifications of increased incidence of injuries such as distal biceps brachii tendon ruptures. Research on the subject is limited to retrospective studies, case studies, and experimental studies with cadavers. As surgical technology improves, so too does the prognosis and outcome of patients who are afflicted with these types of injuries. Prevention, injury management and rehabilitation protocols are limited only by the number of cases that are present and existing literature. Overall, the final prognosis and patient satisfaction with outcomes are very positive. Currently, there are no specific functional tests that are applied to cases of distal biceps brachii tendon ruptures other than activities of daily living, PROM, and ROM, and muscle testing. While most patients retained the ability to perform pre-injury work and activity related function, most of the literature available is based on case studies. Rehabilitation protocols utilized Virk et al. (2014) average 3-6 months duration, with active patients being allowed to return to sport within this time. The fact the patient reported outcome measures such as Oxford, MEPS and DASH reveal an average of 95% good-excellent results post surgery is a promising indicator that evolving surgical techniques for ruptures of the tendon are capable of returning patients to their pre-injury activity level (Sarda, 2013).

References


