Complete removal of the epitrochleoanconeus muscles in patients with cubital tunnel syndrome: results from a small prospective case series

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Introduction

In about 3% of all surgical procedures for cubital tunnel syndrome the surgeon is faced with an anomalous muscle, called the epitrochleoanconeus muscle (EM). This muscle, which is normally present in monkeys, probably is a remnant of evolution that in most humans has evolved into the Osborne ligament. Different surgical strategies how to decompress the ulnar nerve (UN) in the presence of this muscle have been proposed, including myotomy, myectomy or transposition of the ulnar nerve. In this study, we prospectively followed a small series of patients, in which the muscle was completely removed.

Methods

All patients that were treated between January 2014 and June 2016 for primary, persistent or recurrent symptoms of cubital tunnel, and in whom an epitrochleoanconeus muscle was encountered before or during surgery were included. Sonographic analysis was performed (Figure 1A) in case the presence of an epitrochleoanconeus muscle was suspected during clinical examination. An additional MRI scan was made if the presence could not be ruled in or out on the basis of this analysis (Figure 1B).

Results

The epitrochleoanconeus muscle was encountered in a total of 5 patients who were referred for cubital tunnel surgery (total of 7 cases, with bilateral epitrochleoanconeus muscles in two patients). Characteristics of the patients are presented in Table 1. Most patients (4 out 5) had complete relief of symptoms (Likert 1) at the first follow-up (6 weeks). Only one patient (Case 4) had persistence of symptoms, which in his case consisted of numbness and weakness.

Conclusions

Complete excision of the epitrochleoanconeus muscle in patients with cubital tunnel syndrome often leads to complete recovery of symptoms. Further support for this surgical surgical strategy was found from histopathologic analysis. Consequences of this surgical strategy are that careful preoperative work-up with ultrasonography and/or MRI should be performed in all cases of cubital tunnel syndrome and that the procedure should be performed under general anesthesia.