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Purpose

Traditionally, mild Volkmann's contracture was treated with tendon lengthening or scar tissue release. Although those procedures have good results, they are relatively complicated and traumatic. We recently have found a pathological structure in mild Volkmann's contracture, which originated from the proximal ulnar and connects to the affected muscle. Purpose of this study was to review the clinical results of resecting this structure for the treatment of mild Volkmann's contracture.

Methods

Twenty-nine patients with Volkmann's contracture were treated over a 9-year period. Among them, six patients were mild type according to Tsuge's classification. The median age of the six patients was 23 years (18-29). Interval from injury to operation ranged from three months to 15 years. Dissection of the contracture tissue was performed. The functional outcome was determined by comparing the range of motion of the affected finger, grip strength, and overall patient satisfaction.

Results

A small cicatricial band were found and excised on 4 patients who suffered from Volkmann's contracture for more than 8 years. The entire band was originated from the proximal ulnar. Divided the small band leads to instant extension of the contracture finger. The other 2 patients, who had the history less than 3 years, there was no similar structure found. Dissection and release of the scar tissue was performed in these 2 cases. All the 4 patients treated with band resection got normal range of motion at 3-5 weeks, and there is no recurrence during up to 39-month follow-up. There is no difference in grip strength before and after surgery at long-term follow-up. All the patients were satisfied with the outcome.

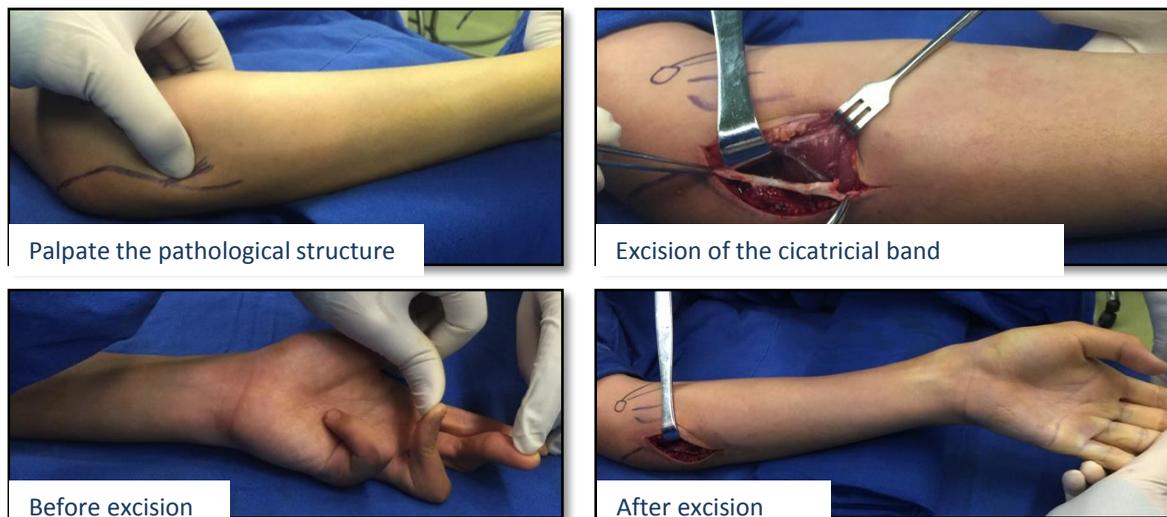


Fig 2. Excision of the cicatricial band leads to instant extension of the contracture finger.

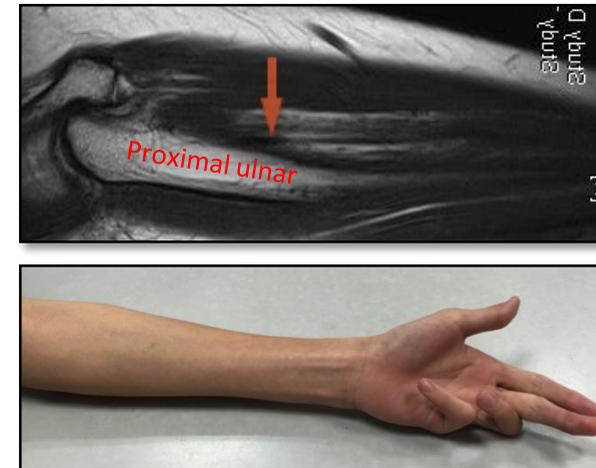


Fig 1. A 20-year old man with mild Volkmann's contracture of the left hand. MRI shows the pathological structure originate from the proximal ulnar.



Fig 3. Post-operative follow-up shows satisfactory functional recovery.

Conclusions

Chronic mild Volkmann's contracture commonly has a small band that limits finger movement. Resection of this band produces complete functional recovery. This is an easy and mini-invasive procedure with quick recovery.