



Median Nerve Compression by the Ligament of Struthers: Clinical Image

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Key words

- Bony spur
- Entrapment
- MRI
- Ultrasound

Abbreviations and Acronyms

US: Ultrasound

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BACKGROUND

The most common site of median nerve compression is the carpal tunnel at the wrist. In the case of weakness of finger flexors in a patient with suspected carpal tunnel syndrome or persistence of symptoms after carpal tunnel release, a more proximal compression site should be considered, including compression at the level of the pronator teres muscle.^{1,2} This report presents a case of compression of the median nerve by a ligament of Struthers. This fibrous band, described by Struthers in 1848,³ extends from a supracondylar

In case of weakness of finger flexors and/or persistence of symptoms after carpal tunnel release, a more proximal compression site of the median nerve should be considered. In this report we present a case of compression by a ligament of Struthers. It was detected with ultrasound, which showed a clear thickening of the nerve at the site of a bony spur on the humerus, which was confirmed with magnetic resonance imaging. Surgical decompression resulted in partial recovery of weakness. This case shows the added value of ultrasound in the detection of more proximal median nerve compression such as a ligament of Struthers.

bony spur on the humerus toward the medial epicondyle.^{4,5} Rarely, the ligament may cause compression of the median nerve,⁶ sometimes caused by trauma.^{7,8}

CASE DESCRIPTION

A 71-year-old male was referred because of progressive weakness in finger flexion of his left hand 3 years after carpal tunnel surgery elsewhere. He had first noticed these symptoms while playing the guitar. At presentation, he had severe weakness of the flexor digitorum profundus, flexor pollicis longus, and flexor digitorum superficialis muscles (Medical Research Council scale 0, 0, and 2, respectively). On electromyographic analysis, there were signs of denervation in these muscles. Ultrasound (US) demonstrated a thickened median nerve at the level of the humerus and compression by a ligament of Struthers (Figure 1). The bony spur and close relation of the median nerve with the ligament were confirmed on

magnetic resonance imaging scan (Figure 2).

He was operated under general anesthesia, during which the median nerve was released by transection of the ligament of Struthers (Figure 3). Postoperatively, patient's strength of flexor digitorum profundus, flexor digitorum superficialis, and flexor pollicis longus slowly improved to Medical Research Council scale 3, 3, and 4, respectively, 2 years after the surgery. His grip strength, tested on a handheld dynamometer, improved from 3 kg to 20 kg on the left side (right side 52 kg). Repeated US showed a decrease in the cross-sectional surface area of the median nerve at the previous site of compression.

CONCLUSIONS

This case shows the added value of US in the diagnosis of a ligament of Struthers as a potential compression site of the median nerve. One other case, detected with US,

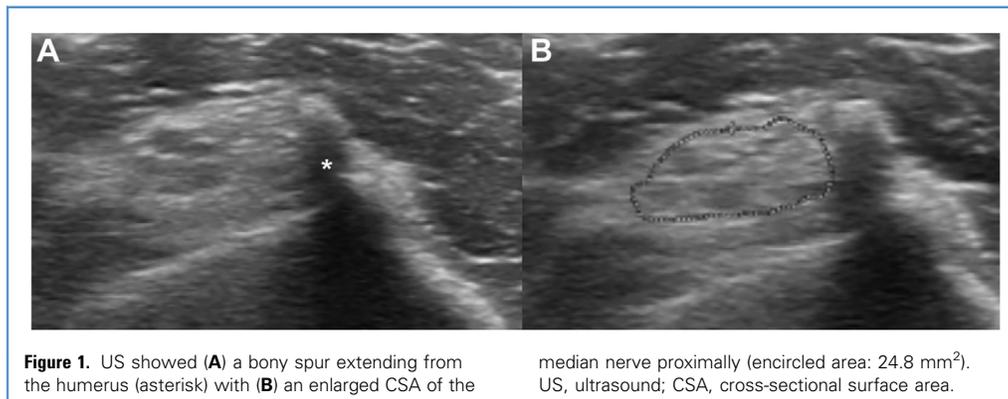
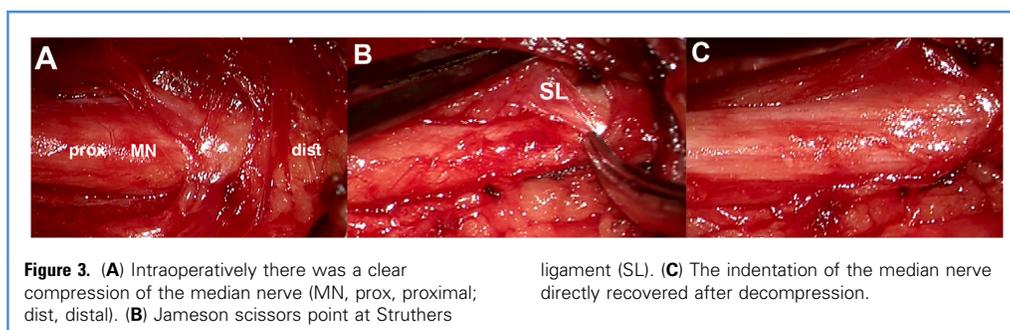
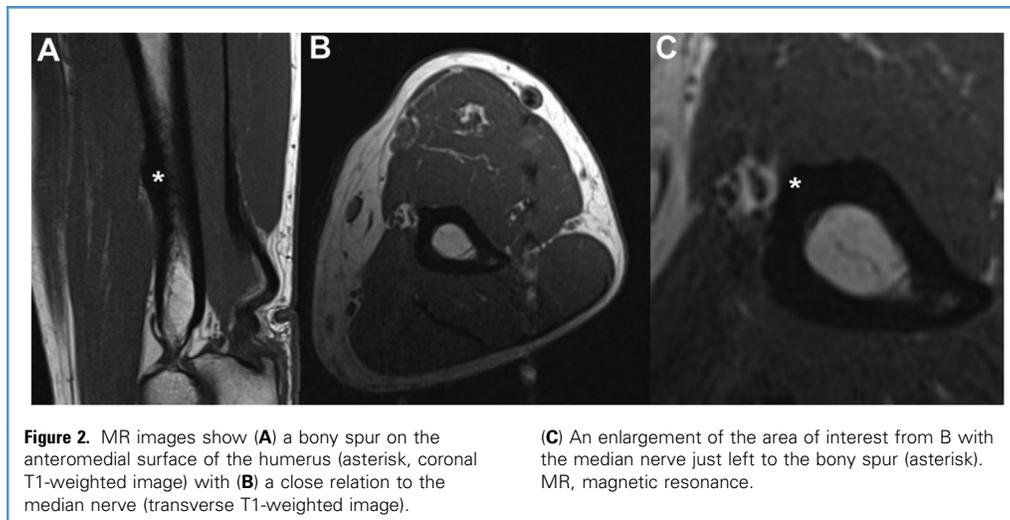


Figure 1. US showed (A) a bony spur extending from the humerus (asterisk) with (B) an enlarged CSA of the

median nerve proximally (encircled area: 24.8 mm²). US, ultrasound; CSA, cross-sectional surface area.



has previously been reported, but in that case, symptoms had spontaneously improved and the median nerve on US had a normal aspect.⁷

CRedit AUTHORSHIP CONTRIBUTION STATEMENT

G.C.W. de Ruiter: Writing – review & editing, Writing – original draft, Visualization. **M. Wesstein:** Writing – review & editing, Investigation. **A. Kurvers:** Writing – review & editing, Supervision.

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