Struthers’ ligament and traumatic median nerve injury: case illustration

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A 31-year-old right-handed man sustained a penetrating injury to the medial aspect of his right arm that resulted in brachial artery laceration. He underwent a brachioradial artery bypass. At the time of surgery, neither the right median nerve nor the ulnar artery was found in its usual location in the vicinity of the brachial artery. The patient was referred 5 months later with a clinical and electrophysiological picture of complete median nerve injury. MRI showed right median nerve discontinuity, with a proximal stump neuroma in the humeral supracondylar area. A linear structure joining a supracondylar spur to the medial epicondyle was identified as Struthers’ ligament, with the median nerve deviating away from the brachial artery (Fig. 1 left). Median nerve reconstruction using autologous sural nerve graft was offered. Intraoperatively, the median nerve was found medial to its normal course and trapped under a rigid band (Fig. 1 right). The Struthers’ ligament was resected to release the median nerve and perform a tension-free graft reconstruction toward the distal stump (Fig. 1 right). This case illustrates that, although rare, the presence of Struthers’ ligament can be associated with significant neurovascular variations. Originally described in 1848, Struthers’ ligament is estimated to be found in 1%–2% of individuals, but its prevalence may vary according to the studied population. Struthers’ ligament is well recognized as a cause of median nerve entrapment. To the best of our knowledge, this is the first report of its influence on the management of a traumatic nerve injury.

References

Disclosures
The authors report no conflict of interest concerning the materials or methods used in this study or the findings specified in this paper.

Author Contributions
Conception and design: Khuong. Acquisition of data: Khuong. Analysis and interpretation of data: Khuong. Drafting the article: Lessard Bonaventure. Critically revising the article: both authors. Reviewed submitted version of manuscript: both authors. Approved the final version of the manuscript on behalf of both authors: Khuong. Administrative/technical/material support: Khuong. Study supervision: Khuong.
FIG. 1. **Left:** Preoperative coronal unenhanced fat-suppressed proton density–weighted MR image showing Struthers’ ligament as a low-signal linear structure (white arrow) arising from the cortex of the humerus with the median nerve (white arrowhead) in the background, displaying a high signal intensity. **Right:** Intraoperative photograph showing Struthers’ ligament (white arrow) as a fibrous band medial to the humerus, indenting the median nerve (white arrowhead). The median nerve displays a gap between the proximal stump (white arrowhead) hypertrophic neuroma and the atrophied distal stump (black arrowhead), which resumes its usual course toward the forearm midline.