Teaching *NeuroImages*: Sonographic detection of intraneural perineurioma in therapy-refractory carpal tunnel syndrome

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A 55-year-old man with typical clinical and electrodiagnostic findings of carpal tunnel syndrome complained of progression of his symptoms. Since repeated surgical interventions did not provide any relief, sonographic examination was performed and depicted a massive median nerve enlargement with hyperechoic perineurial tissue (figure, A). Beyond postoperative perineural fibrosis, the findings were suspicious for an underlying tumor. MRI revealed a tumorous nerve swelling and surgical neurolysis of hypertrophic fascicles followed (figure, B and C). Histopathology confirmed the diagnosis of intraneural perineurioma, a rare, benign, slow-growing peripheral nerve sheath tumor of perineurial cell origin (figure, D and E).¹ Nerve sonography is recommended in therapy-refractory cases, as it might uncover unusual causes of entrapment syndromes.²

AUTHOR CONTRIBUTIONS

Christos Krogias: drafting the manuscript, acquisition of data, analysis and interpretation of data, study concept or design, study supervision. Ralf Gold: revising the manuscript, analysis and interpretation of data. Thomas Schelle: revising the manuscript, analysis and interpretation of data. Josef Böhm: revising the manuscript, analysis and interpretation of data. Andreas Junker: revising the manuscript, acquisition of data,

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REFERENCES

1. Mauermann M, Amrami K, Kuntz N, et al. Longitudinal study of intraneural perineurioma: a benign, focal hypertrophic neuropathy of youth. *Brain* 2009;132:2265–2276.
2. Cartwright MS, Walker FO. Neuromuscular ultrasound in common entrapment neuropathies. *Muscle Nerve* 2013;48:696–704.

(A) Sonography reveals enlarged nerve (encircled area, 0.58 cm²) at wrist. (B) T1-weighted MRI depicts enlarged fascicles (black arrow). White arrow: tendons. (C) Resection of epineural sheet reveals tumorous transformation of fascicles with perineural swelling (asterisk). (D) Hematoxylin & eosin stain: intrafascicular tumor cells surrounded by collagen fibers. (E) Epithelial membrane antigen-stained positive tumor cells.

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