Noninvasive microscopic imaging of sensory receptors in neuropathy

A 53-year-old woman with small fiber neuropathy and right trigeminal neuropathy had numbness in the right hand (digits IV/V) for 2 months, with reduced sharp and vibration sensation and preserved strength. Nerve conduction studies (NCS) disclosed absent right fifth digit and dorsal ulnar cutaneous sensory potentials, with normal ulnar motor NCS. In vivo reflectance confocal microscopy (RCM) was performed to assess skin innervation and distinguish sensory axon loss from demyelinating/conduction deficits (figure). Markedly reduced Meissner corpuscle density indicated sensory axon loss, directing diagnostic evaluations away from sensory demyelinating neuropathies; her sensory neuropathy was likely related to Sjögren syndrome. In vivo RCM is painless, noninvasive, and may complement NCS for diagnosis, prognosis, and treatment.

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