Threshold electrotonus in CIDP: correlation with clinical profiles

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摘要

Abstract

Chronic inflammatory demyelinating polyneuropathy (CIDP) is characterized by multifocal demyelination along the course of the nerves, and involvement of the intermediate segments may correlate with more severe demyelination associated with breakdown of the blood-nerve barrier. Threshold electrotonus was used to study whether altered membrane properties of the median nerve at the wrist (intermediate segment) are associated with clinical profiles in 21 CIDP patients. In response to hyperpolarizing conditioning stimuli, the threshold changes were significantly greater for CIDP patients than for normal controls (n = 49). The pattern was similar to that of 11 patients with Charcot-Marie-Tooth disease type 1a, who exhibited abnormally high thresholds to hyperpolarizing currents. The abnormal threshold electrotonus was present in 48% of the CIDP patients and was associated with longer disease duration, more severe disability, poorer response to immune treatments, and slower nerve conduction velocities. Threshold electrotonus can be used to detect demyelination at the tested sites and may provide new information about pathophysiology and distribution patterns of demyelination in CIDP