ATPase pump dysfunction result from metabolic changes could lead to axonal membrane depolarization and recovery cycle disturbance. Change in temperature has a great impact on sodium channel kinetics and impress the action potential duration and amplitude (19). In feys, et al. study sensory conduction velocity was normalized after cooling, but motor conduction velocity was remained impaired after 20 minutes (23).

Another theory for PNS involvement in MS is antigenic cross-reactivity, which might happen due to peripheral demyelination. It is obvious that gross demyelination in PNS does not occur in MS, and peripheral myelin has structural impairment in most cases and this could lead to create a resistant zone and intermodal leakage. Anti chondroitin sulphatase antibody, anti myelin associated glycoprotein antibody, and anti gangliosides antibody have been described in PNS involvement in MS (21).

Electrodiagnostic tests for PNS involvement in MS patients could find evidence of minor PNS or fiber pathology in early stages (22).

Although PNS involvement frequency in MS varies in different population, recognizing clinical and subclinical PNS impairments in MS patient is important.

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Conflict of Interest

The authors declare no conflict of interest.

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