**Utilization of brachial plexus imaging as an additional diagnostic tool in the assessment of Multifocal Motor Neuropathy**

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**Introduction:** Multifocal motor neuropathy (MMN) is a rare immune-mediated disorder characterized by muscle weakness of a patient’s limbs and usually without any sensory deficits. NCSs/needle EMG are often preferred diagnostic methods to find conduction block affecting the motor nerves and exclude another pathology.

**Case Report:** We present case suggesting that MMN is a slowly progressive asymmetrical acquired disorder with clinical appearance in the hands and detection of high signal in STIR MRI, which may be due to either of diffuse nerve swelling in brachial plexus.

A 49-year-old female presented for evaluation of possible distal spinal muscle atrophy with 15 years’ progressive left-hand 3 and 4 fingers drop and some weakness in the left-hand. Recently, symptoms began on the right hand, including muscles cramps and increase wasting (atrophy) of thenar and hypothenar on the left hand, fasciculations in the upper limb. NCSs showed probable motor conduction block of the right ulnar and median nerves. CMAPs were too small on the left ulnar and median nerves. Needle EMG was demonstrated chronic neurogenic changes in different muscles. There were T2 hyperintensity and diffuse nerve swelling of the brachial plexus in MRI results, predominantly on the right side. Laboratory presence of anti- GM1 IgM antibodies.

In these case, responds to treatment with intravenous immunoglobulin with significant axon loss was limited.

**Conclusions:** MRI of the brachial plexus can be useful diagnostic tool in selected cases of MMN, especially when EMG/NCSs changes have not precisely and thus provide supportive information.