

# Abstract

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## Copper deficiency myelopathy: A report of two cases.

Plantone D, Primiano G, Renna R, Restuccia D, Iorio R, Patanella KA, Ferilli MN, Servidei S.

**CONTEXT:** Copper deficiency myelopathy represents an often underdiagnosed, acquired neurological syndrome, clinically characterized by posterior column dysfunction. The main causes of copper deficiency are bariatric surgery, increased consumption of zinc, and malabsorption. However, even after a careful history taking and extensive laboratory researches, the etiology of copper deficiency remains undetermined in a significant percentage of cases. Patients affected by copper deficiency myelopathy usually present with sensory ataxia due to dorsal column dysfunction and sometimes with mild leg spasticity. In such patients, spinal cord magnetic resonance imaging (MRI) may show hyperintense lesions in T2-weighted sequences involving the posterior columns of cervical and thoracic cord. These MRI findings are not distinguishable from those of subacute combined degeneration associated with vitamin B12 deficiency.

**FINDINGS:** Here, we describe two patients with gait ataxia and sensory symptoms in which a diagnosis of copper deficiency myelopathy was made. Both patients showed a significant clinical, neuroradiological, and neurophysiological improvement after proper supplementation therapy.

**CONCLUSION:** The patients herein described underline the importance to include serum copper and ceruloplasmin levels as part of the myelopathy diagnostic workup, especially in the cases of otherwise unexplained subacute myelopathy involving the posterior columns. Since copper deficiency myelopathy is a progressive syndrome, early diagnosis is mandatory in order to promptly provide a proper supplementation therapy and, thus, prevent an irreversible neurological damage.

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