

### **Paraparesis after Bariatric Surgery due to Copper Deficiency Neuropathy**

We describe a woman with progressive weakness after gastric bypass due to copper deficiency neuropathy despite nutrient supplementation. Her case was exacerbated by antidepressant malabsorption. Bariatric surgery is indicated for patients with BMI  $\geq 40$  or BMI  $\geq 35$  and an obesity-related comorbidity. Complications may occur after surgery due to nutrient malabsorption. Our patient is a 37-year-old female that presented with 2 months of progressive leg weakness, pain, cramps, numbness, and tingling after gastric bypass. She also takes sertraline for depression. Despite prescription of oral supplements with multivitamins and copper, her weakness worsened. Her family reported that her depressed mood resulted in decreased food intake and non-adherence with nutritional supplementation despite antidepressant therapy. Examination showed decreased muscle tone and strength in the lower extremities more than upper extremities, especially foot dorsiflexion and plantar flexion. Vibration was decreased bilaterally, as was sensation to pinprick up to mid-tibia. The patellar and ankle reflexes were absent. She was unable to stand without assistance. Lab testing showed iron deficiency anemia, magnesium, copper, vitamin A, and D deficiencies. Nerve conduction studies demonstrated severe axonal sensory motor neuropathy. She improved significantly after receiving parenteral nutrition, including copper. Her depression was also a culprit because although a sertraline level was not measured, reduction of absorption by 50% was previously documented. We aim to raise awareness of a lesser identified consequence of bariatric surgery that can have severe neurological complications, which was worsened by malabsorption of antidepressants. Copper deficiency is a known cause of myelopathy and optic neuropathy but rarely of peripheral neuropathy in the literature. Similarly, great attention should be paid to psychiatric health of patients by all providers as it can lead to better patient outcomes.