Introduction

A 57-year-old female with a 30-year history of Crohn’s disease presented with generalized weakness and numbness, tingling and loss of sensation in the hands and feet. The patient had been unsteady on her feet for the past month and was now wheelchair dependent. Due to chronic nausea and occasional vomiting, her weight had gradually declined to 78 lbs/35.5 kg, or 70 percent of her ideal body weight (IBW).

Possible adverse effects of medication were reviewed along with electrolyte and trace element status. The patient took oral multi-vitamins and B12 injections. A neurologist was consulted, and a MRI/EMG work-up determined bacteria potential in the spine and the need for a spinal tap. Due to lack of appetite with chronic nausea and other GI symptoms, the patient consumed 200 to 400 calories a day resulting in malnutrition. A jejunostomy tube feeding failed due to lack of adequate absorption. The GI physician and homecare provider worked to start parenteral nutrition (PN) using a protocol to gradually increase to her goal macronutrients while providing full micronutrients daily.

Method

An initial micronutrient assessment of the patient suggested that her symptoms were due to these deficiencies:
- Anorexia (B1, biotin)
- Muscle weakness (B6, B12)
- Peripheral paralysis (B6, B12, folate, chromium)
- Cheilosis (B2)
- Dermatitis (B6, biotin)
- Anemia (B1, B12)
- Lack of hair growth (protein, calories)

Results

After the first week on PN, the patient regained her appetite. By the second week, her nausea subsided although the peripheral numbness continued. At the fourth week, the patient had gained 6 lbs, and found she could walk on her own from the bedroom to bathroom. By the fifth week, she presented with the ability to feel her palms, although the lack of sensation in her fingers continued. The patient also found she had feeling in her thighs down to her knee. A good appetite continued. By the ninth week, the patient had gained 22 lbs, was able to walk readily throughout her apartment, climb stairs independently, vacuum from her wheelchair and load the dishwasher. Sensitivity improved as it moved down to her calves and fingers. The nausea was gone and her oral intake was up. The patient had regained to 89 percent of her IBW.

The patient was able to consume approximately 900 calories, and the PN was discontinued after 11 weeks. She was counseled on her oral diet requirements to include a daily multivitamin-mineral to continue repletion of weight and nutritional status. The patient was able to tolerate only a single dose of the multivitamin-mineral.

Conclusion

This case demonstrates the challenges in absorption of micronutrients and macronutrients for patients with Crohn’s disease. The combination of B vitamin and chromium deficiency with GI symptoms caused malabsorption and significant loss of weight and bodily function. The physician recognized the challenges of the patient’s GI status in repleting her orally and enterally. Repletion of macro and micronutrients using short-term PN at home positively impacted not only the patient’s health, but also her quality of life.