Hypermagnesemia induced by bowel preparation prior to colonoscopy in a patient without renal failure

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Introduction:
Hypermagnesemia can produce life threatening side effect of treatment with magnesium product in patients with chronic kidney disease. We present a case of severe hypermagnesemia with normal kidney function after colonoscopy preparation with oral magnesium.

Case Presentation:
A 67-year-old asymptomatic man was found to be positive for fecal occult blood test on annual physical check-up. Colonoscopy was performed at a local clinic. After 2 hours, he developed lower abdominal pain, nausea and vomiting. Then, he was carried into our hospital by ambulance. On examination, he was noted to have confusion with dysarthria and quadraparesis. Abdominal computed tomography scan showed obstruction in the sigmoid colon. At this moment, we were still not sure of the cause of his neurological abnormalities. Laboratory test disclosed serum magnesium level 14.4 mg/dL and normal creatinine. Later, we confirmed with his endoscopist that he received magnesium product as colonoscopy preparation. His final diagnosis was hypermagnesemia induced by magnesium product and colonic obstruction. Hemodialysis lowered his serum magnesium level and improved muscle weakness. He had large amount of soft stool after admission and abdominal symptoms improved. Later, his tumor was diagnosed with cancer and was resected.

Discussion:
In this case, hypermagnesemia was diagnosed by routine laboratory test, being performed with no clinical suspicion. Magnesium citrate is still commonly used as bowel preparation like our case. They do not check serum magnesium without clinical suspicion in most hospitals. Even among patients with no history of renal insufficiency, even when we do not have information of what preparation is performed before colonoscopy, we should check serum magnesium level, when patients present with muscle weakness or altered mental status after colonoscopy.