

Crohn's Kidney Disease: Recurrent Acute Kidney Failure in a Patient With Crohn's Disease

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Abstract

Context: Short bowel syndrome is a rare and devastating complication in chronic inflammatory bowel disease following functional or anatomic loss of extensive segments of the intestine. **Case Report:** A 60-year-old male patient with Crohn's disease had undergone multiple resections of the intestine and developed short bowel syndrome. Despite up to 4-5 liters of orally fluid, sufficient calcium and magnesium intake, he suffered from recurrent acute kidney injury due to profound volume depletion and those electrolyte deficiencies. Administration of intravenous fluid and electrolyte replacement treatment at regular intervals prevented further kidney injuries. **Conclusion:** We present a case of recurrent acute kidney failure in a patient with Crohn's disease, and aimed to remark importance of receiving sufficient parenteral fluid and electrolyte support in those with short bowel syndrome.

Keywords: Acute kidney failure, Crohn's disease, Hyponatremia

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Introduction

Crohn's disease have unfavorable effects on kidney functions due to malabsorption and dehydration such as acute kidney failure, calcium oxalate-uric acid stones and electrolyte abnormalities.^[1-3] Impaired water, Na⁺, and Cl⁻ absorption in the diseased colon are the main fluid and electrolyte transport abnormalities in Crohn's disease.^[4] Besides, hypomagnesemia and hypocalcemia are common disorders encountered in Crohn's disease. Both, the diseased colon and short bowel syndrome, consequence of multiple intestinal resection, can result in recurrent acute kidney failure and electrolyte imbalance in Crohn's disease.

Case Presentation

We present a 60-year-old male patient with Crohn's disease who came to our emergency department complaining of headache, nausea, vomiting and muscle weakness. He was diagnosed with pre-renal acute on chronic kidney failure, hyponatremia, hypomagnesemia and hypocalcemia as has been diagnosed many times in his past medical history. He was in remission for Crohn's disease but had developed short bowel syndrome because of multiple intestinal resection. Kidney function and electrolyte deficiency improved with fluid and electrolyte replacement in a short course of hospitalization. Administration of intravenous fluid and electrolyte replacement treatment at regular intervals prevented further kidney injuries and occurrence of symptomatic electrolyte disorders.

Conclusion

Clinicians often encounter with deterioration in kidney function and electrolyte deficiency in the course of the Crohn's disease. Acute kidney failure, hydronephrosis and rarely amyloidosis due to dehydration, obstruction of ureter caused by inflamed intestine and abnormal

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protein deposition, respectively, are some of those clinic problems. Besides, numerous electrolyte deficiency including hyponatremia, hypomagnesemia, and hypocalcemia have been declared. We aim to remark for clinicians to be in an attempt for the sufficient support of fluid and electrolyte in Crohn's disease, especially in patients with multipl segmental intestinal resection.

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