

Lower Gastrointestinal Bleeding Secondary to Intestinal Histoplasmosis in a Renal Transplant Patient

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ABSTRACT

Histoplasmosis is the most common endemic mycosis in the United States. Symptomatic gastrointestinal histoplasmosis is a rare entity. We report a case of isolated intestinal histoplasmosis that manifested as severe lower gastrointestinal bleeding in a renal transplant patient. The patient developed hematochezia, and colonoscopy showed diffuse, extensive areas of cratered, ulcerated mucosa in the entire colon. Biopsy showed prominent mucosal and submucosal infiltrate of plump histiocytes containing intracytoplasmic yeast forms morphologically compatible with florid histoplasmosis.

INTRODUCTION

Histoplasma capsulatum is a soil-dwelling, saprophytic, dimorphic fungus that causes fungal disease after inhaling particles from the ground contaminated with a bird's droppings in well-recognized endemic areas.¹ While disseminated histoplasmosis is a well-known disease entity, gastrointestinal (GI) histoplasmosis is an uncommon disease with variable manifestations. This disease has a tendency to occur in immunocompromised populations, with a significant prevalence noted in the AIDS population.^{2,3} The disease entity can have catastrophic consequences if there is a delay in the diagnosis and treatment. Appropriate treatment with an antifungal regimen can lead to rapid recovery.

CASE REPORT

A 69-year-old man with a history of coronary artery disease, congestive heart failure, and end stage renal disease after kidney transplant from a cadaveric donor was admitted initially for urosepsis secondary to pyelonephritis. The transplant had a cytomegalovirus (CMV)-negative recipient/positive donor profile. He was on tacrolimus, mycophenolate, and prednisone. He was treated with antibiotics and showed clinical improvement. During his hospital stay, the patient developed hematochezia over the course of 24 hours. On examination, he reported having spikes of fever over the previous 48 hours prior to the GI bleeding. A digital rectal examination revealed maroon-colored blood in the rectal vault, while the rest of the physical examination was within normal limits. Labs showed a significant drop in hemoglobin from 7.9 to 6.6 g/dL, with an inadequate response to 2 units of blood transfusion. Additionally, the patient tested negative for *Clostridium difficile* infection. A colonoscopy after appropriate resuscitation showed maroon-colored clotted blood in the rectum along with diffuse, extensive areas of cratered, ulcerated mucosa in the cecum and the ascending, transverse, descending, and sigmoid colon areas (Figure 1). Biopsies revealed prominent mucosal and submucosal infiltrate of the plump histiocytes containing intracytoplasmic yeast forms, morphologically compatible with the histoplasma species seen on the periodic acid schiff stain (Figure 2).

The findings were consistent with colonic histoplasmosis. CMV/herpes simplex virus stains were negative on the biopsy sample. A silver stain showed innumerable intracytoplasmic yeasts, morphologically compatible with the

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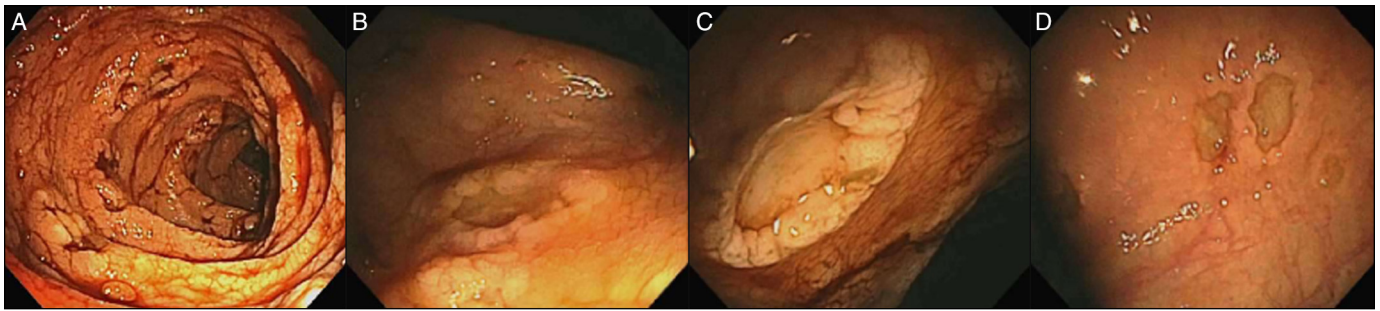


Figure 1. Colonoscopy revealing (A) maroon-colored clotted blood in the rectum, (B) cratered, ulcerated mucosa in the cecum, (C) an ulcer in sigmoid colon, and (D) an ulcer in splenic flexure.

histoplasma species, as well as a few larger yeast forms with thickened walls and pseudohyphae. The histoplasma urine antigen was positive. The patient was started on an intravenous itraconazole treatment for intestinal histoplasmosis. He showed symptomatic improvement after 3 days of the treatment, including resolution of the hematochezia and improvement in his hemodynamic status.

DISCUSSION

Histoplasmosis is a systemic disease that affects the bone marrow, lungs, liver, and spleen, mostly by involving the reticuloendothelial system, with hematogenous spread being the primary mechanism of dissemination.⁴ Geographically, *histoplasma capsulatum* is mostly concentrated in the Ohio,

Missouri, and Mississippi river valleys.^{5,6} Immunocompetent individuals have clinically silent infections and recover without any medical intervention. Immunosuppression is the number one cause of histoplasmosis manifesting as a syndrome, and most cases are reported in the AIDS-affected population.^{2,5} Transplant recipients are the second population with an increased incidence of reported histoplasmosis.⁷ The disease's clinical presentation is variable. Pulmonary involvement as acute or chronic pulmonary disease in the form of pneumonia, pulmonary nodules, cavitary lung disease, and bronchiolitis is the most common presentation. The disseminated disease can present with rheumatological, dermatological, and GI involvement. GI involvement commonly reveals itself as GI bleeding, intestinal obstruction, or perforation.⁸ Hepatosplenomegaly with lymphadenopathy can be seen upon physical examination. In imaging, it may mimic malignancy findings such as an apple core appearance, napkin-ring constrictions, or circumferential thickening of the bowel.⁵

Intestinal histoplasmosis most commonly involves the large intestine as compared to small intestine, especially the ileocecal region.^{4,9-12} Colonic histoplasmosis has a tendency to mimic other diseases, primarily inflammatory bowel disease, colonic adenocarcinoma, or lymphoma. This can lead to the administration of inappropriate therapies or unnecessary surgical interventions. It is important to consider intestinal histoplasmosis in the differential diagnosis for diarrhea, fever, GI bleeding, bowel mass, obstruction, or perforation, particularly in immunosuppressed populations.^{4,5} GI involvement is secondary to a hematogenous spread to the lymphatic tissue of the intestine. Isolated GI histoplasmosis is a rare clinical presentation with few cases reported in the literature.¹³ The most common isolated GI presentation is diarrhea, fever, and abdominal pain.¹⁴⁻¹⁶

Several cases of GI histoplasmosis have been reported.^{15,17,18} Though rare, cases of intestinal histoplasmosis presenting as lower GI bleeding have been reported in AIDS patients. There are only 3 documented cases of intestinal histoplasmosis in the renal transplant population, and all of these patients presented with intestinal perforation.^{7,19} Our case of isolated

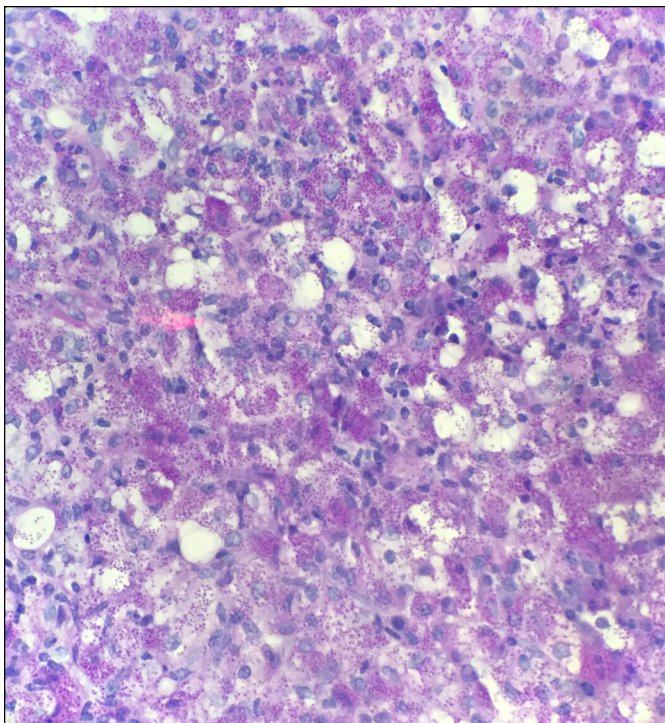


Figure 2. Biopsy showing plump histiocytes containing intracytoplasmic yeast forms.

intestinal histoplasmosis presenting as lower GI bleeding in a renal transplant patient is the first of its type. This clinical presentation should alert gastroenterologists to this possible diagnosis in renal transplant patients.

DISCLOSURES

Author contributions: TA Syed and G. Salem wrote the manuscript and performed the literature review. DJ Kastens edited the manuscript and is the article guarantor.

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Informed consent was obtained for this case report.

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