Small Bowel Perforation Due to Disseminated Histoplasmosis in an Immunocompetent Patient: A Case Report

Leo Kokorev, MD; Andrew C. Mallette, MD

Histoplasmosis - endemic mycosis by *Histoplasma capsulatum*
- Worldwide, prevalent in Ohio & Mississippi river valley regions
- Spores in bird and bat dropping enter via respiratory tract

Only 5% of infections symptomatic, symptoms usually self-limited
Advanced / disseminated infection largely in immunocompromised patients: immune disorders, AIDS, anti-TNF-alpha drugs, transplant recipients, elderly

Most common symptoms: fever, resp. issues, flu-like symps.
- Less common: pericarditis, rheumatological issues, skin lesions, hematologic disorders, adrenal insufficiency, CNS involvement, and GI involvement.
- GI manifestations: abd. pain and altered bowel habits are the most commonly reported symptoms but features such as ulceration anywhere from mouth to anus, GI obstructions due to associated polypoid masses or strictures, GI hemorrhage, and bowel perforations are rare but previously reported occurrences.

Case:
54yF w/ HTN, CKD, asthma, initially w/ recurrent nephrolithiasis - CT also w/ incidental bilateral adrenal lesions.
Underwent perc. nephrolithotomy and adrenal biopsies - adrenal path w/ histoplasmosis.
Itraconazole initiated, not immunosuppressed, HIV negative.
Months later, pt. re-presented to ED w/ 3 days of worsening abdominal pain, nausea, and emesis.
ED: hypotensive, peritonitic, WBC 18k, AKI
CT w/ scattered pneumoperitoneum, portal venous gas, areas of small bowel thickening, and pelvic free fluid.
OR ex lap: diffuse contamination w/ purulence and succus.
- Focal distal ileal perforation x1, perforated segment resected w/ stapled ileo-ileal anastomosis.
Path: perforation w/ intense histoplasmosis infection w/ transmural inflammation, no granulomas.
Post-op: with supportive ICU care and initiation of amphotericin B, the patient slowly improved. Transferred to floor POD 13. Subsequent histoplasma culture and antigen tests negative. Following a 32-day course of amphotericin B, pt. transitioned to itraconazole, remained well, discharged on POD 34. In subsequent weeks, she was seen in clinic and made a full recovery.

Discussion:
Disseminated histoplasmosis typically affects immunocompromised patients with bowel perforation being a rare occurrence. In addition to this patient being immunocompetent, it is also unusual that the patient failed appropriate initial treatment with itraconazole and developed an associated bowel perforation. The case raises the importance of keeping disseminated fungal infection in the differential for patients being treated for bowel perforation, including those who are immunocompetent or currently undergoing treatment for known fungal infection. Diagnosis can be established through antigen or antibody testing of serum, urine, BAL, or CSF samples as well as through cultures, cytology, or histopathology with methenamine silver and PAS stains noted to be most useful in detection. Histoplasmosis associated bowel perforations signify severe infection and, along with appropriate surgical management, should be treated with amphotericin B for 1-2 weeks followed by itraconazole 200mg BID for at least 12 mo.

The University of Mississippi Medical Center