Disseminated invasive aspergillosis in an immunocompetent patient

A 57-year-old woman was admitted to our hospital for progressive hypoxic respiratory failure that developed after 10 days of empiric treatment at another hospital for an exacerbation of chronic obstructive pulmonary disease (COPD).

Computed tomography (CT) showed a lesion in the upper lobe of the left lung, with new ground-glass opacities with cystic and cavitary changes raising concern for an inflammatory or infectious cause (Figure 1). Respiratory culture of expectorated secretions grew *Aspergillus*. Assays for beta-d-glucan and serum *Aspergillus* immunoglobulin G (IgG) antibodies were positive, although given the improvement in her oxygenation requirements and overall clinical status, these were thought to be trivial. Tests for immunoglobulin deficiencies and human immunodeficiency virus were negative, ruling out primary immunodeficiency. However, within the next 48 hours, her respiratory status declined, and voriconazole was started out of concern for invasive pulmonary aspergillosis based on results of serum IgG testing.

Despite 2 days of treatment with voriconazole, the patient developed respiratory failure. Repeat CT showed that the ground-glass opacities were more dense, especially in the lower lobes, and new patchy infiltrates were noted in the left lung. The patient developed a right tension pneumothorax requiring emergency intubation and chest tube insertion.
She subsequently developed acute abdominal pain with worsening abdominal distention, diagnosed as pneumoperitoneum. Emergency exploratory laparotomy revealed perforations in the cecum with fecal spillage, requiring ileocectomy and ileostomy.

Pathologic study of bowel specimens confirmed fungal hyphae with “tree-branch” structures consistent with fungal infection in the bowel (Figure 2).

Oral voriconazole was continued. The patient’s respiratory status improved, and she no longer required supplemental oxygen. She was discharged on a regimen of oral voriconazole 200 mg twice daily. However, over the next 12 months, she had additional hospitalizations for severe sepsis from abdominal wound infections, pneumonia, and *Clostridium difficile* infection. She will require lifelong antifungal treatment.

**REFERENCES**


**ACKNOWLEDGMENT:** The authors thank Kimberley Woodward, MD, Inova Fairfax Hospital, Falls Church, VA, for her study of the bowel specimen and for providing the histology slide.

**ADDRESS:** Jessica McLaughlin, DO, Department of Internal Medicine, Inova Fairfax Hospital, 3300 Gallows Road, Falls Church, VA 22042; jmcla013@gmail.com

---

Our patient survived but will require lifelong antifungal treatment

---

**TAKE-HOME MESSAGE**

Although not common, invasive aspergillosis can occur in immunocompetent and near-immunocompetent patients, particularly those with COPD or other underlying lung disease.