

Bronchoesophageal Fistula as a Complication of Cytomegalovirus Esophagitis in AIDS

Cytomegalovirus is the most frequent cause of esophageal ulceration in patients with the acquired immunodeficiency syndrome (AIDS), responsible for almost half of the cases (1). Although cytomegalovirus esophagitis may be complicated by bleeding and stricture (1,2), tracheoesophageal fistula caused by cytomegalovirus has been rarely described, and usually occurs in the setting of other pathogens (3).

A 30-year-old woman with AIDS presented with a six-week history of worsening odynophagia and dysphagia to both solids and liquids, associated with cough, fever, and dyspnea. The evaluation revealed a right middle lobe pneumonia, and upper endoscopy demonstrated severe ulcerative esophagitis extending from 24 cm to 32 cm from the incisors, with biopsies demonstrating cytomegalovirus (Figure 1). A barium esophagram revealed a small bronchoesophageal fistula extending from the mid-esophagus to the right main stem bronchus. Ganciclovir therapy was ineffective, and surgery was performed. Despite maintenance ganciclovir, however, she presented with right-sided chest pain five months later. Endoscopy revealed a deep ulcer with a large fistula (Figure 2), and multiple biopsies of the ulcer demonstrated diagnostic features of cytomegalovirus without other pathogens.

In patients with AIDS, tracheoesophageal fistulas are most commonly due to *Mycobacterium tuberculosis* (4,5). The endoscopic features of a tracheoesophageal fistula caused by cytomegalovirus have not been previously reported. The present patient documents the fact that cytomegalovirus esophagitis alone may cause tracheoesophageal fistula. Despite both surgical therapy and maintenance ganciclovir, relapse of cytomegalovirus esophagitis and fistula recurred at the initial site of infection.

N. Chalasani, K. M. Parker, C. M. Wilcox
Dept. of Medicine, Dept. of Pathology, Emory University School of Medicine and University of Alabama at Birmingham, Birmingham, Alabama, USA

References

1. Wilcox CM, Schwartz DA, Clark WS. Esophageal ulceration in human immunodeficiency virus infection: causes, response to therapy, and long-term outcome. *Ann Intern Med* 1995; 122: 143-9.

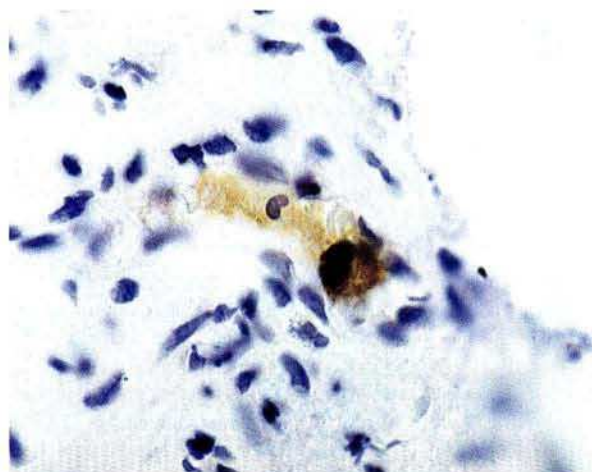


Figure 1: Positive nuclear and cytoplasmic staining for cytomegalovirus antigen was detected in stromal and endothelial cells (monoclonal mouse anti-cytomegalovirus immunohistochemical stain; original magnification $\times 1000$).



Figure 2: Endoscopic image, showing a large fistula (esophageal lumen, left; bronchus, right).

2. Goodgame RW, Ross PG, Kim HS, et al. Esophageal stricture after cytomegalovirus ulcer treated with ganciclovir. *J Clin Gastroenterol* 1991; 13: 678–81.
3. Rusconi S, Meroni L, Galli M. Tracheoesophageal fistula in an HIV-1 positive man due to dual infection of *Candida albicans* and cytomegalovirus. *Chest* 1994; 106: 284–5.
4. Vartian CV, Septimus EJ. Bronchoesophageal fistula due to *Mycobacterium tuberculosis* and cytomegalovirus in a patient with AIDS. *Clin Infect Dis* 1996; 22: 581.
5. Porter JC, Friedland JS, Freedman AR. Tuberculous bronchoesophageal fistulae in patients with the human immunodeficiency virus: three case reports and review. *Clin Infect Dis* 1994; 19: 954–7.

Corresponding Author

C. M. Wilcox, M.D.
University of Alabama at Birmingham
Division of Gastroenterology and Hepatology
UAB Station
Birmingham, AL 35294-0007
USA
Fax: +1-205-934-1537