



Candida Esophagitis Presenting as an Esophageal Pseudotumor

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ABSTRACT

The typical appearance of *Candida* esophagitis is white plaque-like membranes within the esophagus. We describe a unique case of *Candida* esophagitis that presented as a bulky, malignant-appearing, positron emission tomography-computed tomography-avid mass on endoscopy. Esophageal candidiasis persisted despite a standard course of antifungal medications (fluconazole 400 mg daily for 14 days), and eradication was successful only after fluconazole 800 mg daily was administered. Malignancy was excluded based on 2 separate sessions of endoscopy with multiple biopsies and finally with endoscopic full-thickness resection assisted by preresection closure with an over-the-scope clip.

INTRODUCTION

Candida is a fungal microorganism that exists as part of the normal flora within the gastrointestinal tract. However, oropharyngeal and esophageal *Candida* infections can develop in patients with a predisposing condition. As a pathologic phenomenon, *Candida* esophagitis typically presents with odynophagia or dysphagia that resolved after a short course of antifungal medications. In rare circumstances, esophageal strictures have been reported in cases of extensive *Candida* infection.^{1,2} We report the first description of *Candida albicans* esophagitis presenting as a bulky esophageal pseudotumor.

CASE REPORT

A 74-year-old man underwent esophagogastroduodenoscopy (EGD) for 12 months of worsening dysphagia to solid food associated with unintentional 20 lb (9 kg) weight loss. Medical history was pertinent only for gastroesophageal reflux disease. EGD identified a 3 cm ulcerated mass with an overlying white exudate in the midesophagus (Figure 1). Multiple biopsies were obtained, which identified *C. albicans* in a background of epithelial atypia (Figure 2). The patient was treated with a 14-day course of fluconazole 400 mg daily. EGD was repeated 2 weeks later, which redemonstrated the mass with overlying white exudate. Given that the appearance was concerning for malignancy, endoscopic ultrasound was also performed. The mass was hypoechoic and appeared to extend past the muscularis propria (Figure 3). No adjacent organ or lymph node involvement was seen. Multiple biopsies were then obtained, which again identified *C. albicans* in a background of epithelial atypia. A positron emission tomography-computed tomography (PET-CT) scan was also performed. The mass was positron emission tomography-avid, with a standard uptake value (SUV) of 9.07 (Figure 4). The patient was treated with a 14-day course of fluconazole 800 mg daily. Given persistent candidiasis and continued suspicion for malignancy, decision was made to perform endoscopic full-thickness resection of the mass to rule out invasive malignancy and to perform antimicrobial susceptibility testing if *Candida* organisms were still identified. Endoscopic full-thickness resection was performed as follows: The lesion was suctioned into the distal cap, and a flat over-the-scope clip (Padlock; STERIS Medical, Mentor, OH) was deployed. The lesion was resected using snare cautery above the over-the-scope clip, and the specimen was retrieved (Figure 5). Histopathology was interpreted as acute esophagitis and epithelial hyperplasia without any evidence of malignancy. There was no growth on fungal cultures.

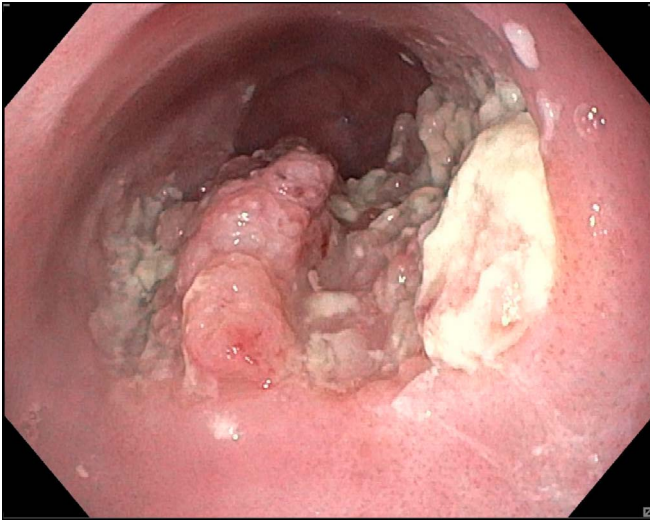


Figure 1. Three-centimeter midesophageal mass with overlying white exudate.

DISCUSSION

Candida is a commensurate fungal microorganism of the gastrointestinal tract; colonization rates are as high as 20% in healthy asymptomatic adults.³ *C. albicans* accounts for nearly 50% of candida infections within the esophagus. Other candida species that colonize or infect the human esophagus include *Candida tropicalis*, *Candida parapsilosis*, *Candida glabrata*, and *Candida krusei*.⁴ Candida infections classically develop in the setting of a predisposing immunosuppressive condition such as recent antibiotic or corticosteroid use, diabetes mellitus, dysmotility, or malignancy.¹ Yet *Candida* esophagitis can occur in immunocompetent hosts and is actually the most common esophageal infection in immunocompetent persons. Our patient did not have any known predisposing condition, and he tested negative for human immunodeficiency virus. As a pathologic phenomenon, *Candida* esophagitis typically presents with dysphagia or odynophagia in the presence of white plaque-like membranes within the esophagus or oropharynx.⁵ Definitive diagnosis is

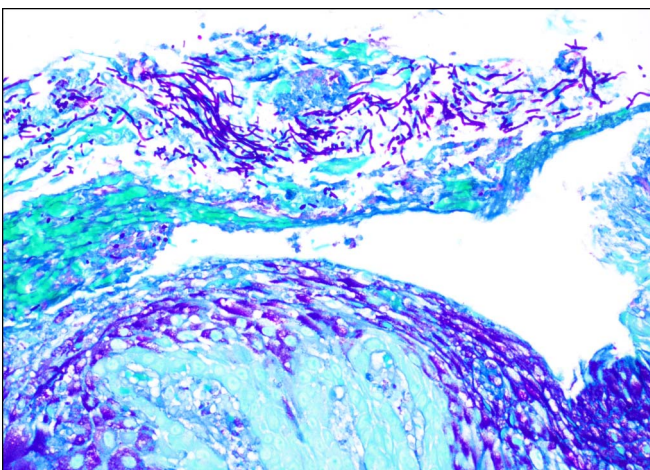


Figure 2. Periodic acid-Schiff stain of the midesophageal mass demonstrating fungal fragments and cellular atypia.

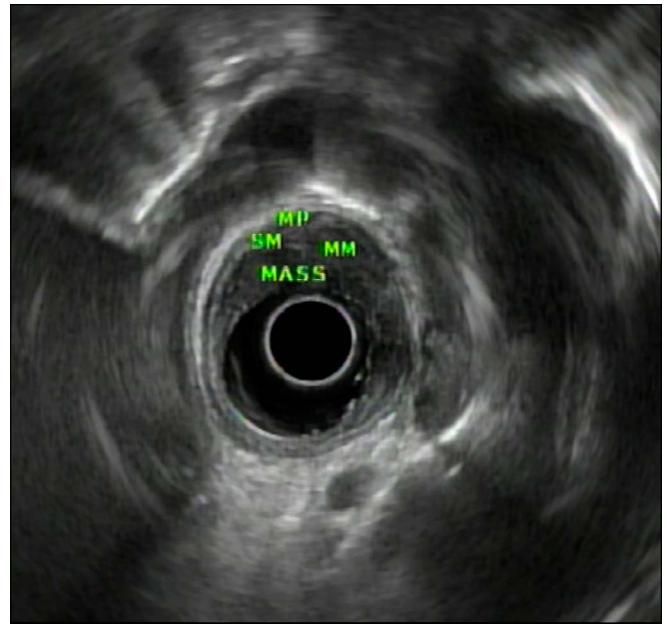


Figure 3. Endoscopic ultrasound of the midesophageal mass demonstrating extension past the muscularis propria.

dependent on visualization of the microorganism on biopsies or brushings obtained endoscopically. Esophageal strictures are a rare late complication that can occur in both immunocompromised and immunocompetent patients.^{1,2}

To the best of our knowledge, this is the first case of *Candida* esophagitis presenting as an esophageal pseudotumor. Yang et al reported a case of *Candida* esophagitis that presented with high SUV on PET-CT, but in their case, no mass was seen on endoscopy.⁶ Our case highlights several important points for endoscopists who may encounter such a lesion:

1. *Candida* esophagitis can present as a bulky esophageal mass.
2. Reactive changes from a bulky esophageal mass due to *Candida* can be misinterpreted as deep invasion on endoscopic ultrasound.

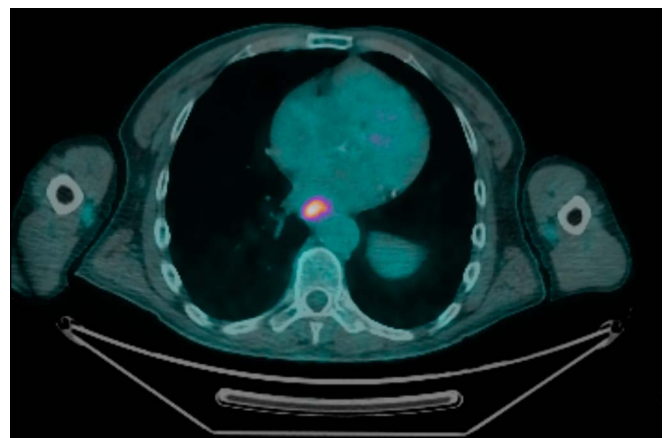


Figure 4. A positron emission tomography-avid midesophageal lesion is visualized with a standard uptake value of 9.07.

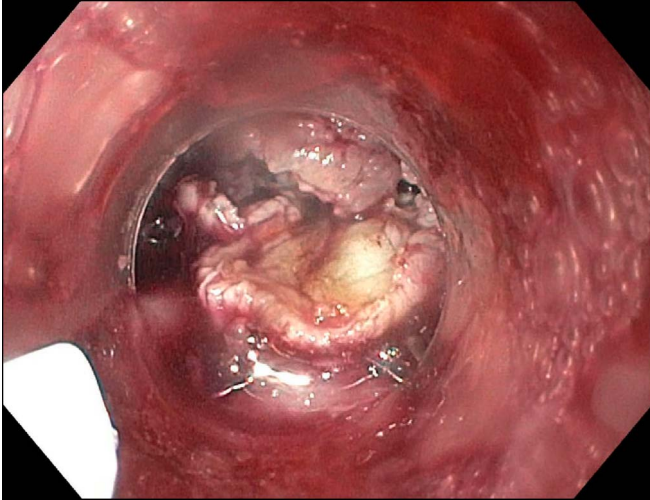


Figure 5. Midesophageal over-the-scope clip (Padlock; STERIS Medical) placement, followed by snare cautery resection above the clip.

3. PET-CT cannot differentiate malignancy from candidiasis because both may demonstrate increased SUV.
4. A standard course of antifungal medications may not be sufficient; in our case, eradication was successful only after a double dose of fluconazole was administered.

DISCLOSURES

Author contributions: ST Frost and T. Abdelfattah wrote the article and reviewed the literature. TU Shah revised the article, provided the images, and is the article guarantor.

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