Endoscopic Findings of Gastric Cryptococcosis in an Immunosuppressed Patient

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ABSTRACT
A 34-year-old man with a recent HIV diagnosis presented to the emergency department with a holocranial headache and skin lesions due to cryptococcosis. He was admitted and during treatment, he presented nausea, persistent vomiting, and epigastric pain. Esophagogastroduodenoscopy revealed multiple round lesions with reddish elevated edges and a pale center in corpus and antrum which were positive for Cryptococcus in pathology analysis.

INTRODUCTION
Immunosuppression states lead to host infections by opportunistic organisms, such as Cryptococcus, which can compromise organs such as lungs, brain, skin, and, rarely, the gastrointestinal (GI) system. GI involvement can present a wide variety of symptoms including dyspepsia, persistent vomiting, and upper GI bleeding. In patients undergoing endoscopy, findings can vary from gastric ulcers, nodules, and whitish petechiae. Gastric cryptococcosis is usually a manifestation of a disseminated infection, and the prognosis in most case reports is poor.

CASE REPORT
We present a 34-year-old man with a recent diagnosis of HIV infection without treatment who presented to the emergency department with 4 weeks of oppressive holocranial headache associated with nausea and intermittent vomiting. During this period, he presented with fever and nonpruritic crusted papular lesions of 2–10 mm on the face, chest, and extremities. His vital signs were stable on admission. Blood tests revealed only mild anemia with hemoglobin 12.3 g/dL and severe hypoalbuminemia. Owing to the intense headache, we performed a lumbar puncture, which was positive for cryptococcosis infection. Skin biopsy and serial blood cultures were also positive for Cryptococcus. Treatment with amphotericin B deoxycholate was initiated. During hospitalization, the patient presented with nausea, persistent vomiting, epigastric pain, and moderate anemia (hemoglobin 7.1 g/dL) without evident gastrointestinal losses. Esophagogastroduodenoscopy revealed multiple round lesions 3–4 mm in length with reddish elevated edges and a pale center in the corpus and antrum (Figure 1). Gastric lesion biopsies were obtained, and the diagnosis was Cryptococcus neoformans (Figures 2 and 3). During the hospitalization course, the patient presented with infection of skin lesions and nosocomial pneumonia with rapid pulmonary deterioration, and no other endoscopic procedures could be performed. The patient died within days of pulmonary infection. Neither viral load nor CD4 count could be obtained for financial reasons.

DISCUSSION
Cryptococcosis is a fungal disease which generally affects immunocompromised patients, especially those infected HIV. It mainly comprises the respiratory tract and neural system; however, other organs can be involved in disseminated states. Gastrointestinal cryptococcosis has been rarely reported in the literature and can affect the esophagus, stomach, duodenum, and colon. The clinical presentation can be unspecific ranging from dysphagia, dyspepsia, epigastric pain, nausea, vomiting, and diarrhea to upper GI bleeding. Our patient presented with persistent vomiting and epigastric pain, which has been reported before by Eyer-Silva et al in a 34-year-old patient with a previous...
diagnosis of HIV and a low CD4 count. In endoscopy, cryptococcosis infection can have different presentations, and there is no pathognomonic lesion. Our patient’s lesions were rounded, elevated, with reddish edges and a pale center. These lesions have not been described before. The distribution of the lesions was in the corpus and antrum. Chalasani et al\(^8\) described 3 cases of gastroduodenal cryptococcosis with gastric body and duodenal involvement and identified white plaque-like lesions, nodules, erosions, and lesions resembling inflammatory polyps. Liu et al\(^2\) presented a case of disseminated cryptococcosis infection and upper GI bleeding with evidence of multiple irregular ulcers in the stomach and red-pigmented lesions with therapeutic endoscopy indication. During hospitalization, the patient presented a major drop in hemoglobin from 12.3 g/dL to 7.1 g/dL in the absence of GI bleeding signs and no upper endoscopic findings suggesting gastrointestinal losses. Although colonoscopy could not be performed because of clinical progressive deterioration, anemia could be explained as an adverse event from amphotericin B administration or systemic infection. In the pathology analysis, we could identify rounded structures between 4–7 \(\mu\)m with signs of gemmation and narrow-based morphologically compatible with *Cryptococcus*. In addition, Grocott-Gomori methenamine silver stain was used, which confirmed the yeast-like structures.\(^9\)

Prognosis in these patients is very poor, usually because of disseminated infection and marked immunosuppressed states. Our patient had a fatal outcome attributable to complications during hospitalization.

**DISCLOSURES**

Author contributions: L. Flores, C. Alvizuri, D. Ramírez, and Y. Salas wrote the manuscript and reviewed the literature. M. Ojeda edited the manuscript, approved the final manuscript, and is the article guarantor.

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Informed consent was obtained for this case report.

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