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Gastric cryptococcal infection as an initial presentation of AIDS: a rare case report

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ABSTRACT

Cryptococcus neoformans has been recognized as a human pathogen over centuries. This has achieved new prominence in the recent years as it is an opportunistic fungi causing fatal, deep mycotic infections in immunocompromised states. Although *cryptococcus* is principally a pathogen of central nervous system, wide variety of other organs may also be involved. Gastrointestinal cryptococcosis is rarely reported either as an isolated finding or in a disseminated disease. However, even with the strikingly increased incidence of the disease, occurrence of obvious gastrointestinal symptoms directly attributable to cryptococcosis is outstandingly rare. We report a case of gastric cryptococcal infection with esophageal herpes as an initial presentation in an AIDS patient.

1. Introduction

Cryptococcus neoformans is a ubiquitous, yeast like fungus found rampantly in the soil with avian droppings. Although *Cryptococcus* most commonly involves the central nervous system in AIDS patients, gastrointestinal tract (GIT) can also be affected. As documented by Laguna *et al*[1], up to 90% of HIV-positive patients experience GI symptoms during the course of their disease. GI opportunistic infections are more commonly seen in esophagus and intestine. The esophageal symptoms are usually due to candidiasis, cytomegalovirus (CMV) or herpes while diarrhea may be caused by shigella, giardia, campylobacter like organisms, entamoeba, chlamydia, gonorrhea and syphilis[2]. However, Opportunistic infections are less common in the stomach. We report a rare case of cryptococcal gastritis with esophageal herpes infection, diagnosed on endoscopic biopsy in an AIDS patient who presented initially with gastric symptoms[3].

2. Case report

A 48 year old male patient presented with history of odynophagia since 15 days and intractable vomiting since 3 days. Patient was diagnosed to be human immunodeficiency virus (HIV) positive 1 month earlier but was not started on antiretroviral therapy. Clinical examination revealed oral candidiasis which was treated with oral fluconazole. Investigations revealed elevated erythrocyte sedimentation rate (ESR) and CD4 count of 10 cells/cumm. All other routine investigations were within normal limits. An upper GI endoscopy showed esophageal, gastric and duodenal erosion from which biopsies were performed. Gastric biopsy showed inflamed antral mucosa and crypts surrounded by numerous encapsulated, budding, periodic acid Sciff (PAS) and silver stain positive yeast forms measuring 4-15micron size suggestive of *cryptococcus* (Figure 1). Esophageal biopsy showed cells with intranuclear inclusions of herpes simplex virus(Figure 2). No cryptococci were identified in the esophageal biopsy.

3. Discussion

Cryptococcus neoformans is known to cause significant

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fatal deep mycotic infections in immunocompromised patients. Individuals at high risk for cryptococcosis include patients with immunocompromised states, hematological malignancies, solid organ transplants recipients, patients on glucocorticoid therapy and those with advanced HIV infection. Though cryptococcus is a common fungal pathogen in HIV, cryptococcal infection is usually seen at CD4 counts < 200 cells/cumm manifesting primarily in the lung, brain, eye or central nervous system (CNS) with the two most common manifestations being meningoencephalitis and pulmonary infiltrates[4,5]. Dissemination is a rare feature of cryptococcosis, involving many organs which may be clinically silent but found during autopsy[6].

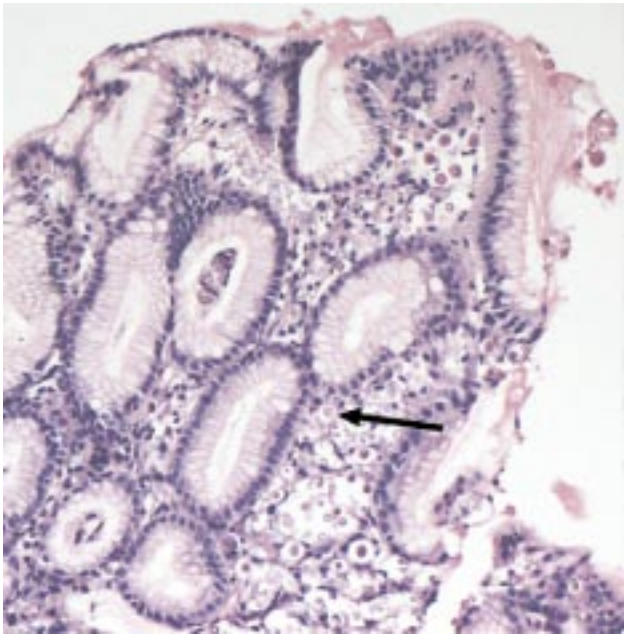

Figure 1. Gastric antral mucosa and crypts showing encapsulated budding yeast forms (H&E 200×).

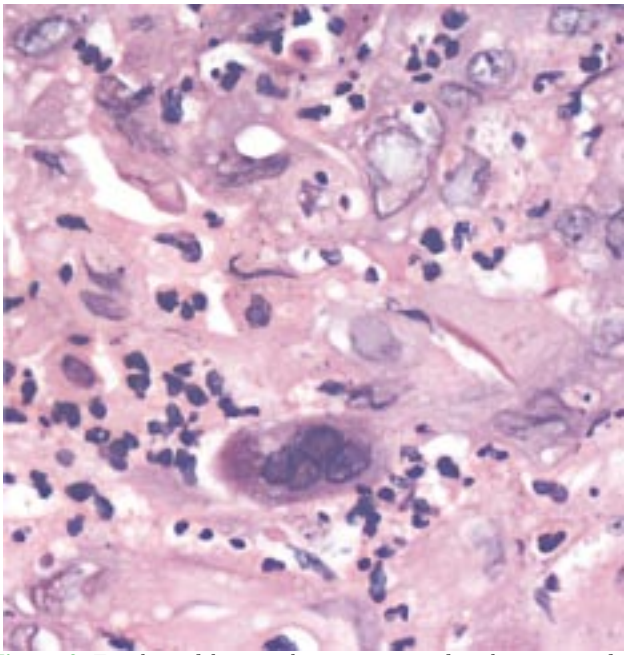

Figure 2. Esophageal biopsy showing intranuclear herpes simplex inclusions(H&E 400×).

Gastrointestinal and hepatobiliary disorders are among the most frequent complaints in patients with HIV disease. Review of literature identifies only few reports of gastrointestinal involvement in AIDS or other immunosupressed patients. Although the usual site of entry for cryptococci is inhalation, GI tract may also serve as a portal of entry by aspiration of contents [6,7].

In AIDS patients, though CMV or *Cryptosporidium parvum* infections are usually causative in gastric ulceration and inflammation, other organisms like *Toxoplasma gondii*, *Leishmania donovani*, *Mycobacterium avium*–intracellulare complex (MAC), *Treponema pallidum*, *Bartonella henselae*, *Bartonella quintana*, and *Cryptococcus neoformans*, and phlegmonous have also been documented[1].

Diagnosing GI cryptococcosis can be difficult due to the paucity of organisms, lack of recognition of the yeasts as cryptococci or lack of awareness that such infection can occur in GI tract, leading to under reporting of these cases. Further, gastric mucin and cryptococcus both show positivity with mucin stains, making identification more difficult. Out of 24 autopsy cases of AIDS reviewed by Washington *et al* [7],only 8 cases had evidence of gastrointestinal cryptococcosis, of which only 3 cases were diagnosed antemortem.

Though intravenous amphoterecin -B is the treatment of choice for disseminated and cryptococcal meningitis, no distinct literature is available regarding the managenment of gastric cryptococcosis. Owing to patient's financial constraint and disinclination for management, treatment could not be instituted in our case.

In conclusion, we would like to emphasize that the clinician must always weigh the discomfort and invasiveness of a procedure against the severity of the patient's complaints and the likelihood of identifying a treatable condition. Thus, patients who are incapacitated by severe gastrointestinal symptoms should be evaluated more extensively with endoscopic or imaging studies than patients whose symptoms do not interfere with daily activities.

Conflict of interest statement

We declare that we have no conflict of interest.

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