



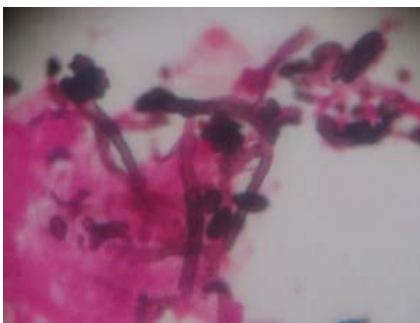
A case of gastric double mycoses infection

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Abstract :

Abstract Fungal infections of the stomach are very rare, more so in the absence of immunosuppressed states like diabetes mellitus, post-renal transplant, AIDS etc. We hereby present the case report of Gastric Candidiasis and Mucormycosis in a female patient who presented with symptoms of dyspepsia who responded to medical management.



Keyword :Stomach, Candidiasis, Mucormycosis

Histopathology:

Introduction:

Fungal infections of the stomach are rare. When present they are usually seen in immunocompromised individuals like patients with diabetes mellitus, AIDS, those on corticosteroids

(post –transplant patients) etc. Mucormycosis is a systemic fungal infection caused by members of the class, Zygomycetes, order Mucorales. Five genera in the order Mucorales that cause disease in humans are: Rhizopus, Mucor, Absidia, Saksenaea and Cunninghamella. Sporangiospores are typical infective forms while angioinvasive hyphal forms are responsible for tissue invasion and dissemination. Malnutrition, persistent ingestion of non-nutritional substances (pica), gastric ulcers, severe systemic illness, age extremes and systemic immunosuppression are the typical predisposing conditions for GI mucormycosis. Diagnosis of mucormycosis can be made by biopsy, histopathological examination and culture in Sabouraud dextrose agar. Usually, surgical intervention is necessary. Very few cases of mucormycosis have been reported to have been cured totally by medical means alone. Systemic amphotericin B is the mainstay of treatment. Liposomal amphotericin B may be more efficacious and less toxic allowing higher dosages (up to 10 mg/kg/day). Reversal of underlying medical disease and surgical debridement is necessary for successful management.

Candidiasis is a primary or secondary mycotic infection caused by members of the genus *Candida*, primarily *Candida albicans*. In healthy individuals, *Candida* infections are usually due to impaired epithelial barrier functions and can occur in all age groups, but are most common in the newborn and the elderly. GI Candidiasis may cause ulcerations of the stomach and less commonly the duodenum and intestine. Colonization and invasion of the stomach or intestinal mucosa is often accompanied by the excretion of large numbers of yeasts which may be detected in stools. Tissue sections should be stained using PAS digest, Grocott's methenamine silver (GMS) or Gram stain. Medical therapy involves caspofungin, fluconazole, an amphotericin B preparation, or combination therapy with fluconazole plus amphotericin B.

Case report:

A 40 year old lady presented with abdominal pain of 1 month duration. Pain was localized to the epigastrium, intermittent, non-specific in character, not radiating, not related to food intake with no specific aggravating or relieving factors. She also had symptoms of anorexia and abdominal bloat. There was no history of significant weight loss or upper gastrointestinal bleeding. No history of diabetes mellitus or any other immunosuppressed state. She gave a history of similar complaints 5 years ago when an OGD revealed distal esophagitis and fundal gastritis. Since then she has been on proton pump inhibitors on and off. Clinical examination revealed a moderately built and nourished lady with pallor. The rest of the clinical examination was found to be normal. Basic laboratory investigations showed hemoglobin of 8 gm/dl and a normochromic normocytic picture on the peripheral smear. Other lab investigations were found to be within normal limits, including blood sugar and HIV status.

An upper GI scopy was done which revealed a small, sessile polyp 1.5 × 1 cm in size just below the OG junction along the lesser curvature of the stomach. A biopsy of the gastric polyp was taken and sent for HPE. She was started on PPI therapy and kept under close monitoring. Meanwhile, the HPE report was obtained which revealed fragments of gastric mucosa with lamina propria showing edema, congestion and diffuse infiltration by chronic inflammatory cells. Apart from this, multiple colonies of fungus consisting of branching mycelial filaments with budding yeast-like cells with thin walls admixed with broad, branching non-septate hyphae (rhizoids) - consistent with a diagnosis of gastric candidiasis and mucormycosis. A probability of contamination was ruled out because of the presence of inflammatory cells seen as part of the body's defence mechanism against the fungal infections.

Since the HPE revealed an active dual fungal infection, she was started on IV Amphotericin-B in a dose of 1.5 mg/kg for 6 weeks along with proton pump inhibitors. After 6 weeks, a repeat endoscopy was done to assess the response to treatment. Repeat OGD revealed a normal gastric mucosa. Patient has been on follow-up for the past 6 months and she continues to be asymptomatic.

Discussion:

Though isolated cases of gastric mucormycosis and gastric candidiasis have been reported, a combination of candida and mucormycosis in the stomach of humans has not been reported in literature. Only one case of similar combined infection has been reported in humans in the cecum in a case of chronic kidney disease by Baig et al, Department of Nephrology,

Kasturba Medical College, Manipal (9). Abbott Se et al reported gastric mucormycosis and moniliasis in an immunosuppressed pig following renal transplantation. Shiva Prasad BN et al reported a case of a 28 year old man, who presented with gastric ulcer the biopsy of which revealed presence of mucormycosis(1). However, this patient succumbed to the infection despite amphotericin therapy.

Shahapure has also reported gastric mucormycosis in an immunocompetent person, a 35 year old man who was treated successfully with amphotericin(2). Sharma et al. , also reported isolated GI mucormycosis in eight patients of which two were middle-aged without predisposing factors(3). Fungal elements are frequently noted overlying the base of chronic peptic ulcers of the stomach. It has also been postulated that the number of fungal elements might be increased in the stomach of patients who are receiving potent medications such as H2-receptor antagonists to reduce gastric acidity, but there have not been adequate control studies, and the deleterious effects from the presence of the fungi in these cases have not been substantiated. Al-Rikabi AC et al presented a case of invasive mucormycosis (phycomycosis) occurring in the base of a chronic gastric ulcer in a 55 years old diabetic male (4). The results of a study by Jung MK et al, suggest that benign ulcers with candidiasis can be effectively treated by a proton-pump inhibitor without antifungal medication. However, surgical resection should be considered for malignant ulcers with candidiasis (5). James J. et al reported a case of extensive gastric and intrahepatic mucormycosis that responded to combination posaconazole and LAMB without surgical debridement (8). N.Prasad et al reported the successful outcome of gastric mucormycosis along with *Strongyloides stercoralis* infection in a renal transplant patient, who has survived for 5 years (6).

Conclusion:

This case is being presented for the rare presentation of a) Combined fungal infection in the stomach of an immunocompetent person b) Fungal infection presenting as a polyp (usually reported in ulcers) and c) Rare occurrence of response to medical treatment (antifungal) alone without the need for any surgery.

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