

Case Report

An unusual case of gastrointestinal fungal infection mimicking colon cancer: a case report

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ABSTRACT

Fungal gastrointestinal infection causing bowel obstruction mimicking the presentation of colon carcinoma is rare. We reported a case of gastrointestinal fungal infection in an immune-competent individual who presented with acute colonic obstruction. He was successfully treated with combination of surgical intervention and antifungal regimens.

Keywords: Fungal infection, Bowel obstruction, Colon carcinoma, Zygomycetes

INTRODUCTION

Any infiltrative intestinal lesion that presented with intestinal obstruction are malignant in nature until proven otherwise. Gastrointestinal fungal infection is one of the non-malignant causes of obstruction especially from class of zygomycetes. There are two orders of class of zygomycetes with different pathogenic potentials which are mucorales and entomophthorales.

These fungi are commonly found in soil and decaying vegetable materials and occasionally as commensals in gastrointestinal tracts of some reptiles, fishes and amphibians.¹ The presentation can be variable which includes rectal pain, abdominal pain and sometimes gastrointestinal bleeding.²

The cases of gastrointestinal fungal infection are emerging worldwide and most cases have been reported mainly from tropical and subtropical regions. We described a case of obstructing colonic mass due to fungal infection in previously healthy individual which was treated with combination of surgical and medical management.

CASE REPORT

This was a case of 47 years old gentleman who presented with 2 years history of worsening intermittent left iliac fossa pain. He also complained of alteration in bowel habit and presence of mucous in stool. There was no family history of cancer and no prior history of abdominal surgery or trauma. Abdominal examination revealed palpable tender mass over left iliac fossa region. Digital rectal examination and other systems examination was unremarkable. All blood parameters were normal except for the presence of leukocytosis with no eosinophilia.

Abdominal radiograph revealed dilated transverse colon. Contrast enhanced CT abdomen and pelvis revealed mid-distal descending colonic enhancing wall mural lesion with intraluminal tumor mass protrusion. A diagnosis of colon cancer was made based on these findings. He subsequently underwent emergency left hemicolectomy. Gross examination of the specimen revealed fungating colonic mass about 10 cm in length with multiple intraluminal diverticulosis. The histopathological examination of the specimen revealed chronic granulomatous

inflammation secondary to fungal infection in which ribbon-like hyphae was found in the granuloma that compose of predominantly histiocytes surrounded with lymphocytes, neutrophils and multinucleated giant cells with dense eosinophilic infiltrate. Patient was then treated with antifungal regimes and made full recovery.



Figure 1: CT abdomen.

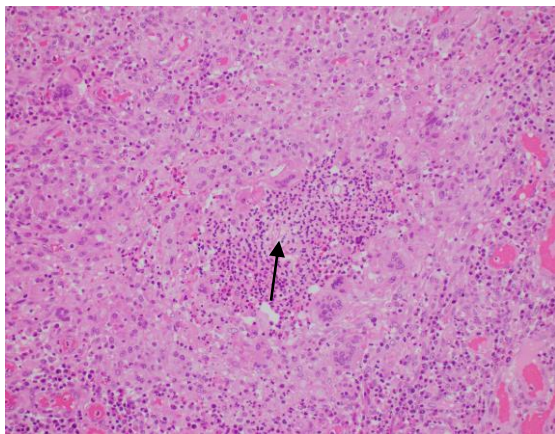


Figure 2: H and E at 40X magnification: broad pauciseptate, ribbon-like hyphae in necrotic material and within the granuloma are seen.

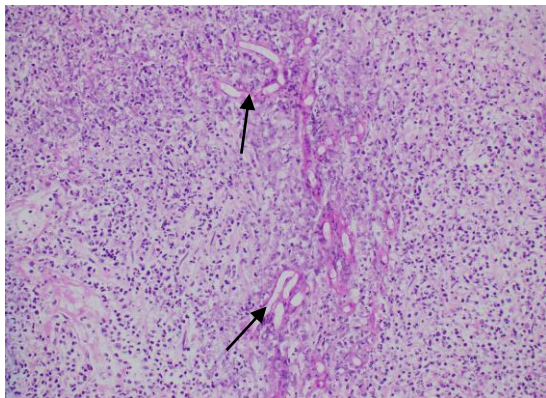


Figure 3: PAS stain at 40X magnification: Better highlighted the broad pauciseptate, ribbon-like hyphae.

DISCUSSION

Almost more than 90% of cases of obstructive colon lesion are of malignant in nature and they are usually adenocarcinoma. The non-malignant causes are rarely seen in the clinical practice.

Fungal infection from the class of zygomycetes causing bowel obstruction are relatively uncommon. There are two orders of zygomycete that can produce human disease which are mucorales and entomophthorales. The infection with mucorales usually occur in immune-compromised patient and it can be manifested as rhinocerebral disease, pulmonary, cutaneous, gastro-intestinal and angio-invasive diseases. While the entomophthorales infection especially *Basidiobolus ranarum* occur predominantly in tropical regions affecting immunocompetent subject where transmission occur usually via inhalation of spores, ingestion of contaminated food or inoculation after minor trauma. It can manifest as subcutaneous mycosis and gastro-intestinal disease or systemic lesion.¹ However, in the above mention case, no risk factor of transmission can be identified.

The presenting symptoms of fungal gastrointestinal disease includes abdominal pain, abdominal distension, constipation, fever, loss of weight and palpable abdominal mass. Around 82% of the abdominal mass occur in the colon and rectum, 36% in the small bowel, 30% in liver and gallbladder and 14% in the stomach.² Most of these cases were diagnosed retrospectively following tissue biopsy as they were subjected for endoscopy or surgical resection. Most of the patients were provisionally diagnosed with malignancy followed by inflammatory bowel disease and diverticulitis.^{2,9}

Blood investigation may reveal peripheral eosinophilia which is not present in our case. Fungal culture is the gold standard to confirm the diagnosis.³ Most of the reported cases were based on histopathological examination (HPE) which reveal splendor-hoepli phenomenon in which the fungal structures were surrounded by a homogenous eosinophilic material and histiocytes. In addition, there may be mixed suppurative and granulomatous inflammation, prominent tissue eosinophilia and the presence of thin-walled broad hyphae.⁴

Surgical intervention should be carried out in patient with gastrointestinal fungal infection who presented with acute intestinal obstruction. Once the HPE of resected specimen confirmed fungal infection, a full course of anti-fungal should be initiated. Anti-fungal administration is the main medical treatment and should be based on susceptibility testing. Empirical therapy with Itraconazole is frequently used as first line therapy with good clinical response in infection with Order of entomophthorales especially basidiobolus infection.⁵ In a cohort study, an antifungal susceptibility testing performed on 4 isolated of strains of basiodobolus revealed that there is susceptibility of 4 strains to itraconazole, voriconazole and posaconazole and

shows resistant of 4 of them to amphotericin B, caspofungin and flucytosine and resistant of 2 of the strains towards fluconazole.² However in fungal infection caused by order of mucorales, amphotericin B is the first line drug of choice.¹

Gastrointestinal fungal infection have favorable prognosis with combined surgical and antifungal therapy.⁶ In a case series of 14 patients reported with gastrointestinal fungal infection, 10 of them were alive and symptoms-free on regular follow up within 6 months to 7 years but 2 of them succumb to death due to disseminated infection.⁷ In different case series, 4 out of 6 patient responded well to the treatment, 2 of them died due to late presentation and an inoperable disseminated fungal infection.⁸

CONCLUSION

Gastrointestinal fungal infection can present with intestinal obstruction and masquerading the presentation of obstructed colon cancer. This necessitates the need for surgical intervention. Together with early administration of anti-fungal therapy following confirmatory HPE, the outcome is usually favorable.

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