



COLONIC MUCORMYCOSIS: AN UNDERAPPRECIATED CAUSE OF CHRONIC DIARRHEA IN A POST RENAL TRANSPLANT PATIENT

Gastroenterology

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ABSTRACT

Mucormycosis is a highly lethal fungal infection especially in immunocompromised individuals and a rare cause of chronic diarrhea in solid organ transplant patients with a Indian prevalence of 2.6-11%. Colonic mucormycosis is rare with a prevalence of less than 1.5%. we present a case of 27 yrs post renal transplant done in 2019 present with chronic non bloody watery diarrhea since 1 year with increasing episodes since 1 month with on and off remission. In colonoscopy we find a blackish discoloration of mucosa with small ulcerations extending from caecum to rectum. Histopathology came as nonspecific colitis, KOH mount shows aseptate hyphae suggestive of Zygomycetaceae group. Patient responds well with three weeks of liposomal amphotericin B.

KEYWORDS

BACKGROUND

Mucormycosis is a rare fungal infection caused by fungi of the order Mucorales, with most cases caused by Rhizopus or Mucor species. The ubiquitous organisms responsible for infection can be found in decaying vegetation and soil.¹ These rapidly growing fungi produce spores that can easily become airborne. Thus, most individuals have ample exposure to the fungi, with most cases of infection occurring in immunocompromised hosts. Risk factors for infection include diabetes mellitus, diabetic ketoacidosis, neutropenia, corticosteroid use, hematologic malignancies, bone marrow or solid organ transplantation, treatment with deferoxamine, iron overload, AIDS, intravenous drug use, and malnutrition.² Infection can be rhinocerebral, pulmonary, cutaneous, gastrointestinal, renal, or disseminated; gastrointestinal infection comprises only 7% of reported cases.³ This report presents a rare case of colonic mucormycosis following post renal transplant.

Case Report

27yr female post renal transplantation done in August 2019 in our centre (osmania general hospital) presented with loose stools since 1 year with a frequency of 6-7 episodes initially now progressed to 10-12 episodes per day with nocturnal symptoms 2-3 episodes which are Bristol chart type 6-7, associated with abdominal pain, periumbilical colicky nature, relieved with stools, associated with tenesmus, urgency and stool mixed with mucus. No history of bleeding PR, fever, weight loss. History of similar complaints in past which relieved partially with antibiotics and OTC drugs. She is on Tacrolimus and Mycophenolate on maintenance for renal transplantation.

Hemoglobin	11.6 g/dl
WBC	8690 cells/cu mm
Platelets	196000 cells/cu mm
MCV	896 fl
Blood urea	36 mg/dl
Creatinine	1.2 mg/dl
Sodium	134 meq/l
Potassium	3.1 meq/l
TSB	0.3 mg/dl
DB	0.02 mg/dl
ALT	19 U/L
AST	17 U/L
Alk Po4	90 U/L

Total proteins	6.13 g/dl
Albumin	4.27 g/dl
Stool Microscopy	normal
Stool C/S	Normal
Fecal Calprotectin	28 µg/ mg
Stool Toxin assay for Toxin A, B, GDH	Negative
Stool CMV PCR	Negative
Serum Tacrolimus levels	13.8 ng/ml
Serum MMF levels	38 µg/ml

Colonoscopy – Blackish discoloration of mucosa (non circumferentially) with patch areas of erosions, ulcerations with edematous mucosal folds involving from caecum to rectum, sparing IC value and Terminal ileum. Multiple biopsies taken for HPE

HPE – non-specific colitis

KOH mount – aseptate hyphae filaments noted suggestive of mucormycosis.



Figure 1: Colonoscopy – Caecum Showing Blacking Discoloration Of Mucosa, With Edematous And Friability Noted.

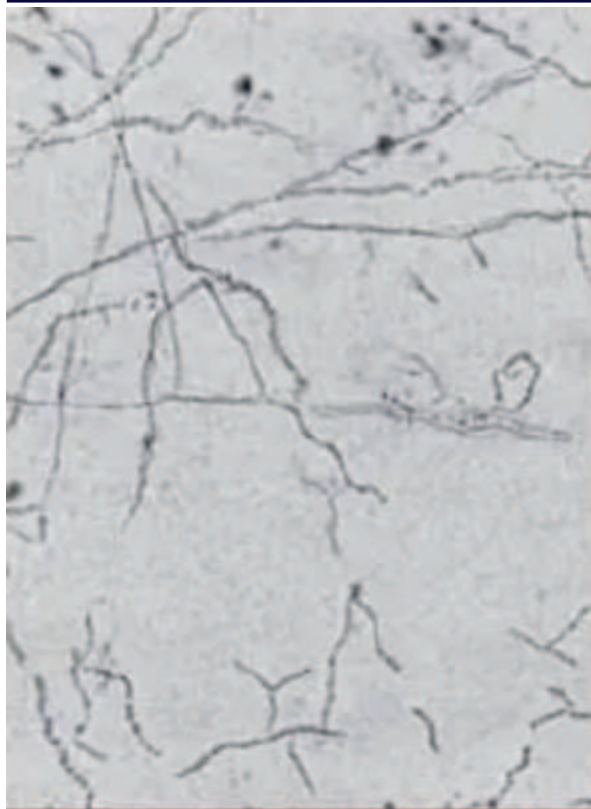


Figure 2 : KOH Mount Showing Aseptate Hyphae.

UGIE – non erosive gastritis

Now she completed 2 weeks of liposomal Amphotericin B 5 mg/kg BW and her symptoms have been drastically improved within 1 week of starting the drug and later she was kept on step down therapy with oral posaconazole 300mg OD for 12 weeks and her repeat colon 2 weeks after stopping posaconazole is normal, stool for KOH mount is also normal.

DISCUSSION

There have been several studies about mucormycosis in patients with diabetes mellitus,^{3,4} and hematologic malignancies^{5,6}. Although there are some studies focus on the epidemiology and risk factors of mucormycosis in solid organ transplant recipients⁷. The incidence of mucormycosis in RT patients was growing within the past several decades. The growing trend of mucormycosis may be associated with enhanced use of immunosuppressive therapy, prolonged prophylaxis with antifungals lacking activity against zygomycetes, the rising prevalence of diabetes mellitus, advances in diagnostic techniques, increased awareness of clinicians and publication bias.

Diarrhea in posttransplant cases are mostly infectious, drug induced or graft rejection. Wide range of infectious organism causes diarrhea with nosocomial infections predominant in early days of post transplant followed by viral. In chronic cases CMV and Clostridium difficile being the most common, fungal infections are rare with colonic mucormycosis only contribute less than 1.5%.

Mucormycosis best responds to liposomal amphotericin B, with potential serious adverse side effects like renal toxicity, hypokalemia. Other newer drugs like Posaconazole, new azole antifungal with activity against zygomycetes. The overall survival is 92% in patients receiving posaconazole therapy, is higher than those receiving amphotericin B. Recent studies also have shown overall success rates of 60–70% with posaconazole as salvage therapy for zygomycetes infection. So one should have a clinical suspicion of mucormycosis in a chronic diarrhea of post Solid organ transplant.

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