Case Report

Gastric Mucormycosis Masquerading as Malignancy: A Rare and Fatal Disease

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Abstract

Gastric mucormycosis is a rare, life-threatening fungal infection that often presents with nonspecific gastrointestinal symptoms, making its diagnosis challenging. We report a case of a 59-year-old postmenopausal female with a history of Gudakhu use, who presented with persistent vomiting for six months. Imaging and endoscopy initially suggested a gastric malignancy. However, histopathological examination confirmed gastric mucormycosis. This case highlights the importance of considering fungal infections in the differential diagnosis of gastric masses, especially in endemic areas.

Keywords: Gastric mucormycosis; Gastric cancer; Fungal infection; Pyloric mass

Introduction

Mucormycosis is an opportunistic fungal infection caused by fungi of the order Mucorales. It typically affects immunocompromised individuals, but rare cases occur in immunocompetent patients [1]. Gastric mucormycosis occurs predominantly in immunocompromised patients, accounting for up to 75–90% of GI cases, particularly in those with diabetes, malignancy, or transplants [2]. In contrast, it is rare in immunocompetent individuals, comprising 10–20% of cases, though rising reports suggest it can still present with severe disease [3]. Although no clinical studies have specifically investigated gudakhu as a risk factor for gastric mucormycosis, however, it contains several irritants like tobacco and lime which may damage the gastric mucosa and decrease local immunity, thereby facilitating Mucorales invasion. Gastric mucormycosis, though uncommon, can mimic gastric malignancies due to its presentation with mass-like lesions and nonspecific gastrointestinal symptoms [4]. Most gastrointestinal mucormycosis infections involve the stomach, intestine, and ileum, often presenting with gastrointestinal bleeding, abdominal pain, and gastric ulcers [5]. Early diagnosis and antifungal therapy are crucial to improving patient outcomes.

Case Report

A 59-year-old immunocompetent postmenopausal female (P3L3), with no known comorbidities but a history of Gudakhu use, presented with complaints of recurrent vomiting for six months. There was no history of fever, weight loss, or gastrointestinal bleeding. Upper gastrointestinal endoscopy (UGIE) performed and revealed erosive pan gastritis with esophagitis. Abdominal ultrasonography (USG) showed asymmetric enlargement of the gastric pylorus region measuring 66x35 mm with retrograde dilatation of the stomach, suggestive of a pyloric mass. CT abdomen showed presence of heterogeneously enhancing assymetrical wall thickening involving pylorus, antrum and distal body of stomach with maximum thickness 18 mm and length of involved segment 8.5 cm. There was significant luminal narrowing noted with proximal dilatation of stomach and esophagus. (Figure 1)

Considering the possibility of gastric malignancy, a biopsy was performed. Histopathological examination revealed broad, aseptate fungal hyphae with right-angle branching, consistent with mucormycosis (Figure 2 and 3). Periodic acid-Schiff stain (PAS) was performed, which confirmed the diagnosis (Figure 4). However, before other possibilities could be ruled out or definitive treatment could be initiated, the patient suddenly became unresponsive and passed away two days before the diagnosis was confirmed. Cardiopulmonary resuscitation (CPR) was performed, but the patient did not regain consciousness and was declared deceased.

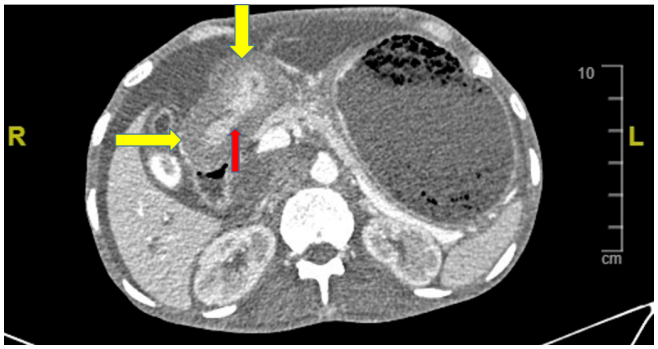

Figure 1: Cross-sectional image taken in the venous phase. The yellow arrow represents enhancing wall thickening, and the red arrow represents luminal narrowing.

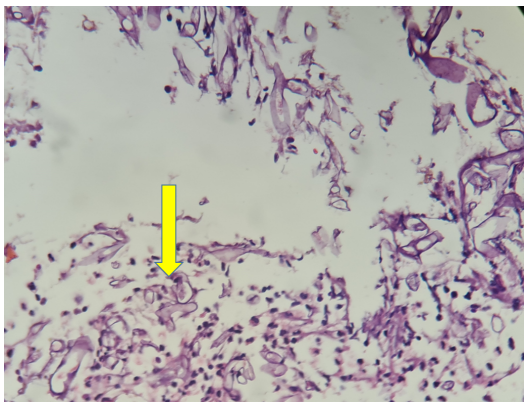

Figure 2: Gastric mucosa with inflammatory granulation tissue and a few pale, broad-based fungal hyphae (H&E, 400×).

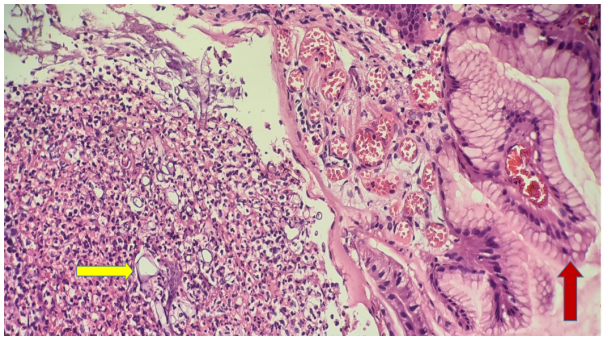

Figure 3: A few pale, broad-based, non-septate fungal hyphae (H&E, 400×).

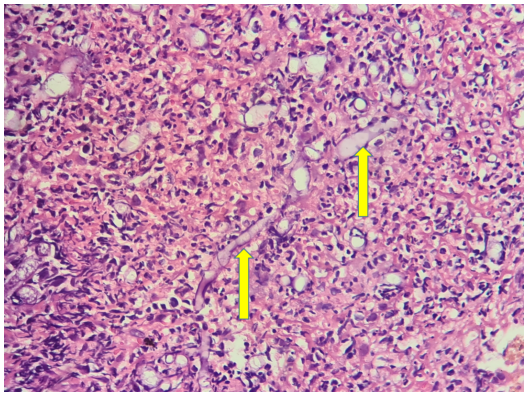

Figure 4: PAS stain confirming the diagnosis (PAS stain, 400×).

Discussion

Gastric mucormycosis is often misdiagnosed as gastric cancer due to overlapping clinical and radiological features. It usually occurs in immunocompromised patients; however, our patient had no apparent risk factors apart from Gudakhu use, which may have contributed to fungal exposure [6]. The gold standard for diagnosis is histopathology. Special stains like PAS, Grocott's methenamine silver (GMS), and fungal culture are essential for confirmation [7]. Imaging findings, including asymmetric thickening of the gastric wall, can mimic malignancy, as seen in our case [8]. Early diagnosis and treatment are crucial, as mucormycosis has a high mortality rate when left untreated [9].

Conclusion

Gastric mucormycosis should be considered in the differential diagnosis of gastric masses, even in immunocompetent patients. Delayed diagnosis can lead to fatal outcomes, as seen in our case. A high index of suspicion, early biopsy, and rapid initiation of antifungal therapy are essential for better outcomes.

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Conflicts of Interest: The authors declare no competing interests.

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