Title:
Gastric mucormycosis presenting as diffuse thickening of the gastric wall with enhancement

Authors:
Wenpeng Huang, Liming Li, Jianbo Gao, Lei Kang

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Dear Editor,

We report the case of a 63-year-old female who presented with abdominal distension and pain two months previously, which worsened after eating. An abdominal computed tomography (CT) examination revealed uneven thickening of the gastric wall on the greater curvature side of the gastric body, with progressive obvious enhancement (Fig. 1A and B). She was then examined by an upper endoscopy, which showed mucosal swelling on the greater curvature side of the lower gastric body with exudation of necrotic material (Fig. 1C). Biopsies of the lesion were taken and histological results revealed a large number of broad-based and non-septate hyphae, with positive expression of Periodic Acid-Schiff (PAS) and hexamine silver stains (Fig. 1D-F). The patient was treated with amphotericin B liposomal antifungal therapy and remained under surveillance for six months without evidence of disease progression by follow-up upper endoscopy.

Conflict of interest: the authors declare no conflict of interest.

Keywords: Mucormycosis. Stomach. X-ray computed tomography. Endoscopy.
Discussion

Mucormycosis, a fungal infection caused by fungi of the order mucorales, is predominantly observed in patients with compromised immune systems, including diabetes, malignancies, hematopoietic stem cell and solid organ transplants, intravenous antibiotic or hormonal drug abuse and HIV infection (1,2). Gastrointestinal mucormycosis is relatively rare, primarily affecting the stomach and subsequently involving the colon and ileum. It can be contracted through the consumption of contaminated food or via the use of contaminated medical devices (3). Wang et al. (4) reported a case of a patient with fulminant myocarditis treated with veno-arterial extracorporeal membrane oxygenation (ECMO); the patient developed a secondary gastrointestinal mucormycosis associated with contaminated ECMO equipment, with CT imaging showing gastric pneumatosis and intramural gas in the gastric wall. Pneumatosis may arise as a secondary effect of ischemic damage to the gastric wall, or due to invasion and occlusion of gastric vessels following fungal mycelial injury and penetration of endothelial cells. Focal discontinuity or perforation may be accompanied by pneumatosis or hematoma. In this case report, we describe the imaging features of gastric wall thickening and hemorrhage, accompanied by significant enhancement that may be related to vascular inflammation.

A diagnosis of mucormycosis is established through histologic examination or by identifying positive cultures from affected areas. Treatment guidelines for this condition suggest a combination approach that includes antifungal medications and surgical excision of devitalized tissue (5).

In summary, the diagnosis and treatment of mucormycosis pose a clinical challenge, and clinicians should be aware of the possibility of mucormycosis in immunosuppressed patients or those with underlying risk factors who present with unexplained gastric wall thickening, hematoma, pneumatosis or refractory gastric ulcers.

References


Fig. 1. A and B. Enhanced computed tomography (CT) showed the lesion in the gastric body with obvious enhancement. The thickest diameter of the lesion was approximately 2.6 cm in coronal view. C. Upper endoscopy showed mucosal swelling on the greater curvature side of the lower gastric body with old bleeding and exudation of necrotic material on the surface. D-F. The pathological examination showed a large number of fungal hyphae in the tissue (D), with positive expression of PAS (E) and hexamine silver (F).