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Gastrointestinal bleeding due to duodenal mucormycosis in an immunocompetent host mimicking malignancy

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AUTHOR CONTRIBUTIONS

Chen Li is the first author. The study was designed by Deliang Liu and Chen Li. The acquisition of data and manuscript drafting were performed by Chen Li and Hongyi Zhu. The critical revision of the manuscript was performed by Deliang Liu and Yuyong Tan.

CASE REPORT

A 67-year-old female presented with massive hematemesis. The blood sugar and HIV tests were normal. Upper endoscopy identified a 4 cm bleeding duodenal ulcer and the biopsy revealed nonspecific inflammation. The bleeding was resolved after medication. Double-dose proton pump inhibitor treatment was prescribed for two months. However, follow-up endoscopy showed the ulcer slightly enlarged (5.5 cm), covered with whitish-yellow exudate and narrow-band imaging revealed regular, dilated microvessels (Fig. 1). Endoscopic ultrasonography (EUS) (not shown) and computed tomography (CT) showed a duodenal mass that involved the pancreas head with regional lymph nodes, suggestive of malignancy (Fig. 2). Mucosal biopsies and EUS-guided biopsies showed duodenal mucormycosis (Fig. 3). Fungal cultures, immunoglobulin and T-cell receptor gene rearrangement of the biopsy samples were all negative. Amphotericin B was prescribed for one week and was changed to

posaconazole, which was completed in three weeks. Repeat endoscopy showed ulcer scarring and the CT revealed a substantial improvement.

DISCUSSION

Refractory peptic ulcer disease is a disease that fails to heal after eight to twelve weeks of medication. Potential etiologies include risk factors, persistent HP or non-HP-related infection and Zollinger-Ellison syndrome (1).

Mucormycosis is a rare and fatal infection, largely confined to immunocompromised hosts. Gastrointestinal involvement, especially duodenal manifestation, is extremely rare. Clinical manifestations vary from non-specific abdominal pain to gastrointestinal bleeding or perforation (2). Diagnosis relies on histology and/or culture techniques and treatment requires surgery and antifungal therapy (2,3).

In our case, an immunocompetent patient presented with hemorrhage from a refractory duodenal ulcer and was eventually diagnosed with mucormycosis and treated successfully with antifungal agents.

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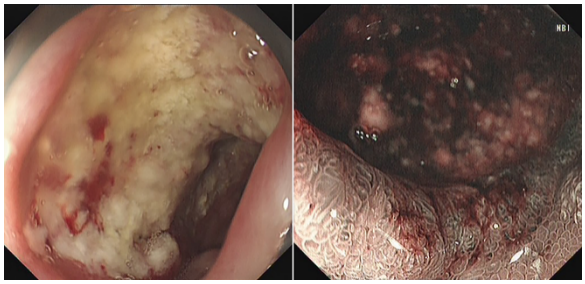

Fig. 1. Endoscopic images. White light endoscopy (left) showed a 5.5 cm, well-defined ulcer in the duodenal bulb covered with whitish-yellow exudate. Narrow-band imaging (right) revealed regular, dilated microvessels.

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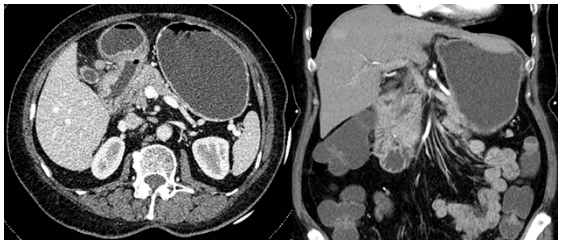

Fig. 2. CT enterography. The thickened wall of the duodenal bulb presented as a soft-tissue mass and infiltrated into the head of the pancreas, with regional lymph nodes.

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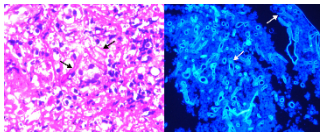

Fig. 3. Biopsies from the duodenal bulb. Histopathology revealed marked inflammation and broad, aseptate, branching fungal hyphae (arrows) with hematoxylin-eosin staining (left) and immunofluorescence (right).