

Case illustrated

Gastric syphilis: The great imitator in the stomach

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ABSTRACT

Syphilis is resurging worldwide. Here, we present the case of a 33-year-old heterosexual man who presented with a 3-week history of epigastric pain, nausea, emesis, and 8 kg weight loss. He was subsequently diagnosed with gastric syphilis, based on reactive syphilis serological testing and *Treponema pallidum* found in gastric biopsy specimens. Gastric syphilis is a rare presentation observed in 1% of cases and usually develops in secondary syphilis. Given the nonspecific manifestation and findings, a high index of suspicion is required for diagnosis of gastric syphilis.

A 33-year-old heterosexual man without past medical history presented with a 3 week history of epigastric pain, nausea, emesis, and 8 kg weight loss. He also noted generalized rashes around the same time. Three months prior, he developed a lesion near the urethral meatus, which subsided spontaneously.

Physical examination revealed faint macular rashes over the abdomen and back. Enlarged, elastic soft, non-tender lymph nodes were present in the posterior cervical and inguinal areas bilaterally. The abdomen was soft and with normal bowel sounds. There was mild tenderness in the epigastric area without guarding. There were no genital lesions. The rapid plasma reagin test (RPR) and the *Treponema pallidum* latex agglutination test were both highly reactive at 99.2 RPR units (roughly equivalent of 1:64–128) and 2723 titer units (normal range: < 10 titer units), respectively. Other laboratory tests were within normal ranges and human immunodeficiency virus antibody was non-reactive. Upper gastrointestinal endoscopy revealed diffuse erythema, edematous and friable changes, and irregular erosions involving the entire stomach, except for the greater curvature of the corpus (Fig. 1). The gastric biopsy specimens exhibited diffuse infiltrations of inflammatory cells (predominantly plasma cells) in the lamina propria and a loss of ductal structures (Fig. 2). Numerous spirochetes were observed by immunohistochemical staining using a monoclonal antibody against *T. pallidum* (Fig. 3). He received a 14-day course of high dose amoxicillin and probenecid, which gradually resolved all symptoms.

Syphilis is resurging worldwide. Gastric syphilis is a rare presentation observed in 1% of cases and usually develops in secondary syphilis [1]. The most common symptoms are epigastric pain, fullness, nausea,

vomiting, and weight loss [2]. Importantly, two-thirds of patients have no concurrent clinical findings of syphilis such as genital ulcer, inguinal lymphadenopathy, or rash [2]. The endoscopic findings include mucosal edema, erosions, superficial ulcers, nodularity, and hypertrophy of gastric folds [3]. These findings can mimic other etiologies, including infiltrating tumor, lymphoma, and Crohn's disease. In addition to serologic tests, *T. pallidum* detection in the biopsied specimen by silver staining, immunofluorescence microscopy, or polymerase chain reaction is necessary for diagnosis [4]. The outcome is generally favorable with standard treatment for syphilis, although gastric perforation and obstruction have been reported in rare instances. Given its nonspecific manifestation and findings, a high index of suspicion is required for diagnosis of gastric syphilis.

Contributors

S. Hatakeyama, MU, and S. Hayashi cared for the patient and critically reviewed the report for intellectual content. KO and S. Hatakeyama reviewed the scientific literature, prepared the figures, and wrote the manuscript.

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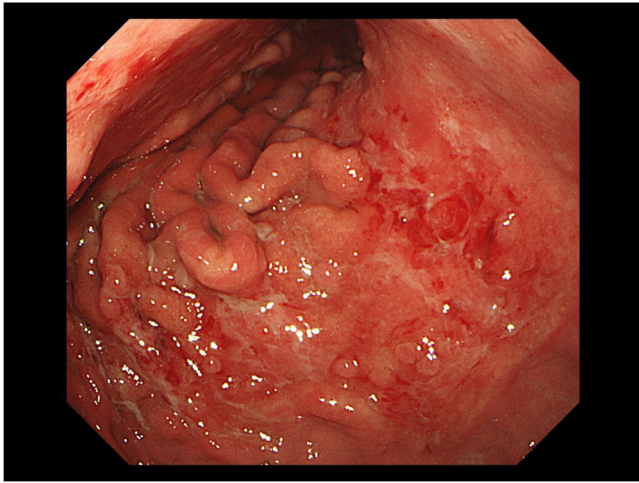


Fig. 1. Endoscopic findings of gastric syphilis showing diffuse erythema, edematous and friable changes, and irregular erosions.

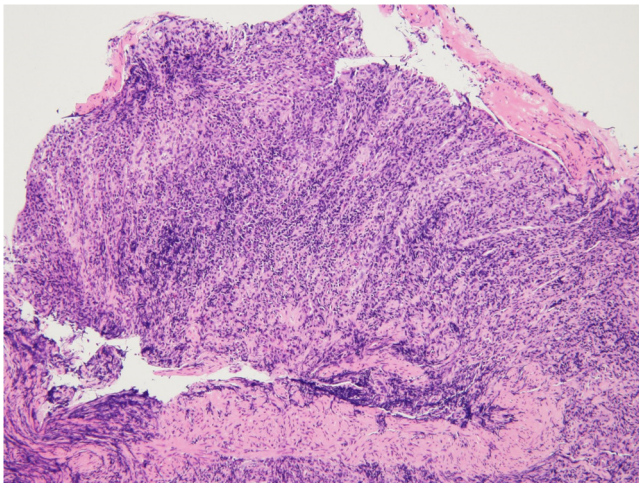


Fig. 2. Histopathology of the gastric lesions revealing diffuse infiltrations of inflammatory cells (predominantly plasma cells) in the lamina propria and a loss of ductal structures (hematoxylin and eosin staining, $\times 100$).

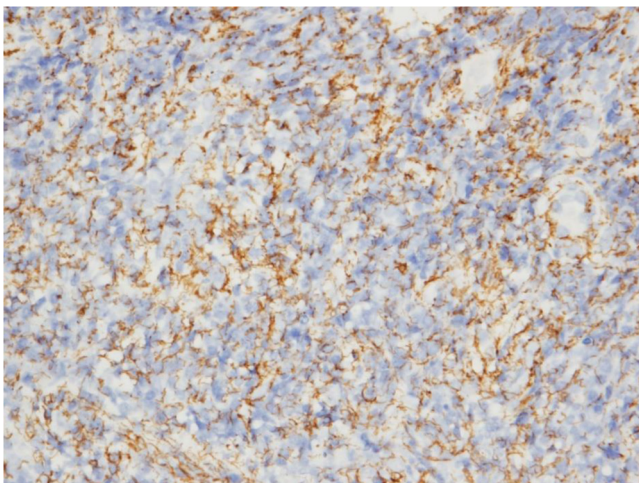


Fig. 3. Immunohistochemical staining for *T. pallidum* of the biopsied gastric lesions showing numerous spirochetes ($\times 400$).

Conflicts of interest

All authors report no conflicts of interest.

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