Gastric Syphilis: An Unusual Etiology of Melena In a Patient with AIDS

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Background

- Despite an overall decreasing incidence of HIV/AIDS from 2015-2019 throughout the United States[1], South Florida had the highest rate of new HIV diagnoses in 2020[2].
- Additionally, the incidence of primary and secondary syphilis has steadily increased across the United States, increasing 6.8% during 2019-2020 itself [3].
- Gastrointestinal manifestations of syphilis are rarely described.
- We present a patient with AIDS and persistent anemia secondary to gastric erosions from *Treponema pallidum* infection.

Initial Presentation

- A 23 year old male with AIDS, nonadherent to antiretroviral treatment (ART), and recent genitourinary gonorrhea/chlamydia infections presented with three months of subjective weight loss and two days of diarrhea, varying between melenic stools and bright red blood per rectum.
- Social history notable for sexual intercourse with men.
- Two weeks prior, he presented with similar symptoms and severe anemia to 3.6 mg/dL. He underwent an esophagogastroduodenoscopy (EGD) demonstrating esophageal candidiasis with normal stomach and duodenum. Colonoscopy at the time demonstrated abnormal rectal mucosa with congestion, erythema, and deep ulcerations. Biopsies were negative for CMV, HSV1, HSV2, and T. pallidum. He was discharged on oral fluconazole at that time.
- On physical exam, the patient was afebrile and tachycardic to 115 beats per minute. Skin exam was notable for macular rash on palms and soles (Fig. 1) and soft, non-tender abdomen.

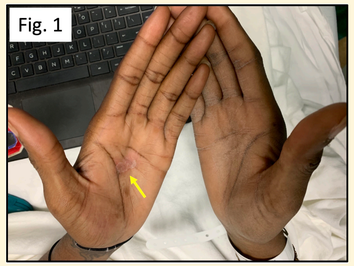

Figure 1. Mildly hyperpigmented discrete macular rash noted on palms.

Hospital Course

- Laboratory studies were notable for normocytic anemia with Hgb 6.2 mg/dL, CD4 count 236 cells/mm^3, positive syphilis IgM and IgG, non-reactive RPR, and positive T. pallidum particle agglutination assay, suggestive of exposure to syphilis[4].
- Blood cultures were negative. Stool cultures were negative for enteric pathogens frequently noted to cause diarrhea in patients with AIDS.
- EGD was performed using CO2 insufflation, demonstrating a “cracked” appearance of the mucosa and oozing linear erosions on the lesser curvature of the stomach (Fig. 2).
- Gastric biopsy demonstrated active erosive gastritis with T. pallidum spirochetes and superimposed Helicobacter pylori (Fig. 3).
- Colonoscopy showed circumferentially ulcerated mucosa in the distal rectum extending to the anal verge with biopsies again negative for infection.
- The patient received a penicillin injection and was discharged on a 21 day course of doxycycline for coverage of both syphilis and as part of H. pylori quadruple therapy, (bismuth, metronidazole, pantoprazole, doxycycline).

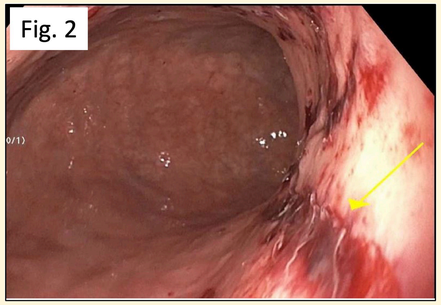

Figure 2. Lesser curvature of the stomach visualized on EGD. Yellow arrow highlighting linear erosions appearing after insufflation.

Discussion

- Syphilis, a bacterial infection caused by the spirochete Treponema pallidum, is transmitted via direct contact with an infectious lesion during intercourse.
- Of all male syphilis carriers, men who have sex with men (MSM) were disproportionately affected, accounting for 53% of cases in 2020[3].
- Gastrointestinal findings of syphilis are rare, including syphilitic hepatitis with elevated alkaline phosphatase and ulcerations of the gastrointestinal tract.
- Gastric syphilis is a rare presentation. Symptoms appear to vary from nausea, vomiting, epigastric pain non-responsive to antacid therapy, and diarrhea. Diagnosis is usually confirmed with EGD demonstrating diffuse erythema, multiple erosive lesions, or occasional ulcerative lesions in the gastric mucosa, with the antrum commonly affected [5,6].

Conclusion

- The case presented herein was unusual in that the clinical presentation was that of an overt GI bleed, and the endoscopic presentation was a cracked mucosal appearance.
- Gastroenterologists, especially those in endemic areas, should have an increased awareness of gastrointestinal involvement with syphilis, given its resurgence.
- It is critical to work in tandem with a gastrointestinal pathologist to delineate the cause in such a wide differential.

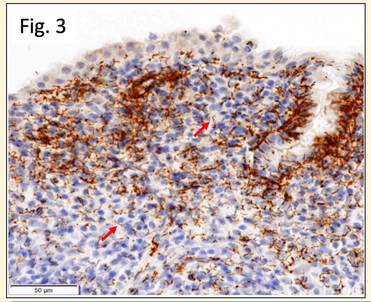

Figure 3. T. pallidum spirochete organisms (brown, red arrows) overlying antral and oxyntic mucosa (blue). Mucosa demonstrates severe active erosive chronic gastritis and intestinal metaplasia.

Background

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