A Second Masquerader: Whipple's Disease Presenting as Sarcoid-like Granulomas

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Introduction

- Whipple's Disease (WD) is a rare, systemic bacterial infection caused by *T. whipplei.*
- WD typically presents with a long prodromal phase of vague symptoms including diarrhea, weight loss, and vomiting.
- WD can be mistaken for sarcoidosis given its overlapping symptoms and presence of granulomas.

Case Presentation

History of Present Illness:

- 45-year-old-female presented with abdominal pain, vomiting, diarrhea and weight loss for 3 years.
- On initial presentation to an outside hospital, she had AKI, hypercalcemia, and renal biopsy with non-caseating granulomas leading to sarcoidosis diagnosis. Workup for mediastinal lymphadenopathy and pulmonary disease was negative. She improved with steroids and methotrexate.
- Months later, GI symptoms recurred. MRE, gastric emptying study, and EGD/colonoscopy with biopsies were unremarkable.
- Over the next 2 years, she received several courses of steroids for presumed sarcoidosis flares with initial improvement in symptoms.
- Symptoms returned despite immunosuppressive therapy, and she was admitted for further workup.

Pertinent Physical Examination On Admission:

- Vitals: Temp 36.5°C, BP 119/82, HR 86, RR 18, SpO2 96% (Room Air)
- Dry mucous membranes, skin tenting
- Benign gastrointestinal, cardiopulmonary, and neurological exams

Pertinent Labs (reference ranges):

- WBC 11.8 10E3/mcL (4.2-9.1)
- K 2.9 mmol/L (3.5-5), Corrected Ca 8.8 mg/dL (8.6-10.3)
- CRP 55.9 ug/mL (<10)

Hospital Course

- PET scan showed intense FDG avidity in the small and large bowel and no extraintestinal uptake (Figure 1).
- IV solumedrol was initiated for presumed sarcoidosis flare.
- Five days later, she was discharged with plans to initiate outpatient TNF inhibitor therapy.
- Two weeks later, she was readmitted for failure to thrive.
- Push enteroscopy revealed friable mucosa in the duodenum with biopsies showing numerous foamy histiocytes, distended villi with lipoid vacuoles, positive PAS and negative AFB/GMS stains, consistent with WD (Figure 2). No granulomas were identified.
- She was started on IV ceftriaxone with symptomatic improvement.

Discussion and Teaching Points

- Diagnosis of WD is challenging as it can mimic sarcoidosis with granulomas found in multiple organs and initial response to steroids.
- In extraintestinal WD, PAS is often negative due to low density of *T. whipplei*; vital to use PCR or electron microscopy to confirm WD in such cases.
- While it is possible that the patient had sarcoidosis and later developed WD in the setting of immunosuppression, the lack of typical hilar and mediastinal lymphadenopathy and only brief improvement in symptoms with steroids, argue against sarcoidosis.
- Patients on immunosuppressive therapy before antibiotics must be monitored for IRIS.
- Prompt diagnosis and treatment of WD is necessary to prevent endocarditis, CNS manifestations, and death.
- WD should be considered on the differential for sarcoidosis in patients with GI symptoms, particularly in steroid-unresponsive disease.

Images

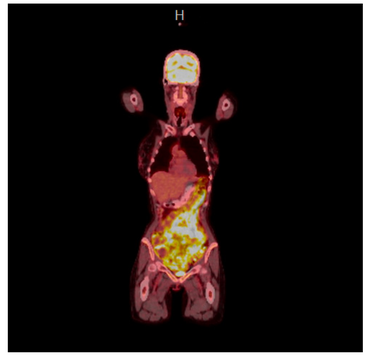

Figure 1: PET scan showing intense FDG avidity in small and large bowel.

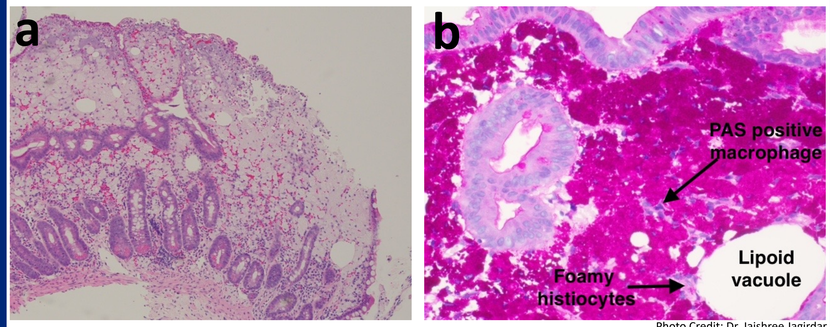

Photo Credit: Dr. Jaishree Jagirdar

Figure 2: Duodenal biopsy showing **(a)** blunting of villi and numerous foamy histiocytes and lipoid vacuoles on H&E stain; **(b)** numerous foamy histiocytes strongly positive on PAS stain, and negative on AFB and GMS stains.

References

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