Intestinal Tuberculosis presenting as Small Bowel Obstruction

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Background

- In the United States, small bowel obstructions are typically due to adhesions from previous surgery, hernia, neoplasm, inflammatory bowel disease or volvulus. [1]
- Small bowel obstruction due to miliary tuberculosis is a rare occurrence in the U.S. In 2020, tuberculosis had an incidence of 2.2 cases per 100,000 patients in the United States and 24 cases per 100,000 patients in Mexico. [2]
- Intestinal tuberculosis is caused from hematogenous spread from lung or miliary tuberculosis that is spread via lymphatics. [3]
- Intestinal TB is a mimicker of GI disorders such as inflammatory bowel disease, malignancy or other GI infections [3]

Case Presentation

- 36-year-old Spanish-speaking male who was a nurse in Mexico presented to the emergency department with abdominal pain, nausea, vomiting and a 12-pound weight loss over 2 weeks.
- CT of the abdomen and pelvis was done showing 10 cm mass proximal to the terminal ileum with associated distended loops of small bowel. Patient was taken to the operating room on day of admission for exploratory laparotomy with plan to resect mass.
- On entering the peritoneal cavity, a copious amount of ascites was drained and sent for culture and cytology. The small bowel noted to have perforated with hematoma plugging proximal to the mass-like lesion near the terminal ileum with associated lymphadenopathy with nodes greater than 3 cm along ileocolic artery.
- The distal ileum and partial right colon were resected and sent for pathology. Pathology showed extensive ulcerations and numerous transmural necrotizing granulomas involving the terminal ileum, appendix and pericolonic tissue (Figures 1 through 4). Special stain for acid fast bacilli was also positive (figure 5).
- Postoperative HIV testing was performed, which was positive with a viral load of 401,000. Quantiferon TB gold was positive. However, chest X-ray was negative for any cavitary lesions, opacities or hilar adenopathy that are typically seen in primary pulmonary TB.
- The patient was started on RIPE therapy and tolerated well. HAART therapy for HIV was deferred for several weeks to prevent immune reconstitution inflammatory syndrome (IRIS)

Figures

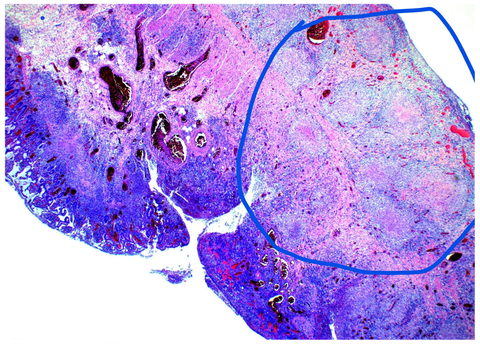

Figure 1. Transmural granulomas

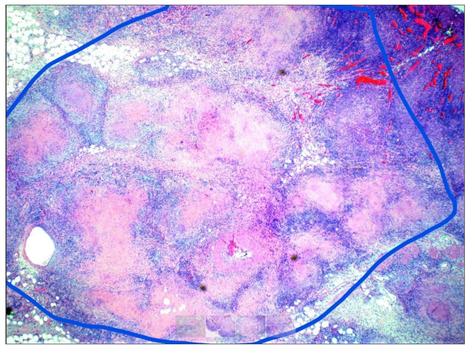

Figure 2. Numerous granulomas in pericolonic tissue

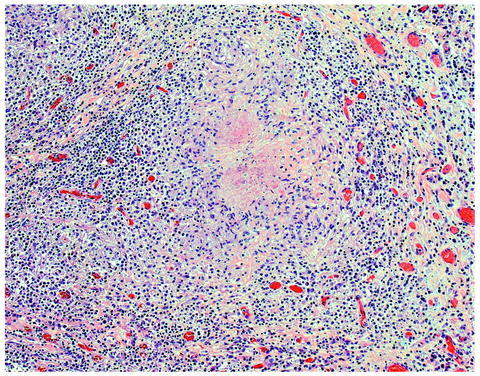

Figure 3. One centrally necrotizing granuloma under high power

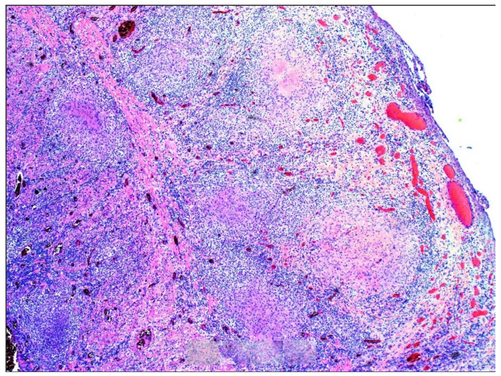

Figure 4. Granulomas in serosa under medium power

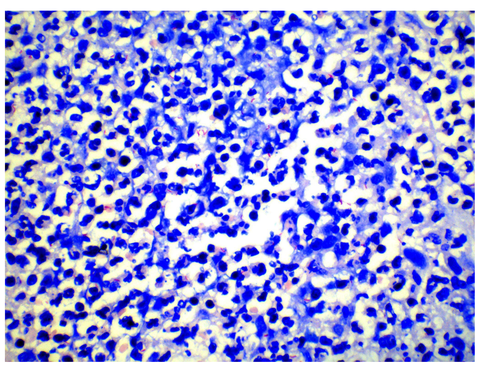

Figure 5. Acid fast bacilli seen on special stain

Discussion

- Tuberculosis is still very common, but incidence in the US has been significantly decreasing making it a more challenging diagnosis. Especially due to intestinal TB's ability to mimic other common diseases such as IBD or neoplasm.
- The most common site of involvement of intestinal tuberculosis is ileocecal area, which is affected in 75% of cases.
- Tuberculosis should be included on the differential diagnosis for ileocecal mass when they have traveled to endemic regions. Management is surgical removal of mass followed by RIPE therapy.
- TB is an opportunistic infection and led the diagnosis of HIV in this patient. In patients that present with intestinal TB, it is crucial to assess for underlying immunosuppression.
- Unlike pulmonary TB, extrapulmonary TB such as isolated intestinal TB does not transmit via respiratory droplets, and as such does not require airborne precautions.

Conclusion

In patients with ileal mass causing small bowel obstruction, it is important to consider an infectious etiology such as tuberculosis as a differential diagnosis. After diagnosis of TB, it is crucial to assess for underlying immunosuppression.

References

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3. Chalya PL, Mchembe MD, Mshana SE, Rambau P, Jaka H, Mabula JB. Tuberculous bowel obstruction at a university teaching hospital in Northwestern Tanzania: a surgical experience with 118 cases. World J Emerg Surg. 2013 Mar 16;8(1):12. doi: 10.1186/1749-7922-8-12. PMID: 23497503; PMCID: PMC3608959.

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