

Are you sure it's Crohn's?

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A 57-year-old Australian female, originally from the Philippines, underwent endoscopy for asymptomatic iron deficiency. Colonoscopy demonstrated ileitis with ulceration and stenosis (Figure 1). Histopathology showed chronic inflammation with granulomas (Figure 2). Magnetic resonance enterography demonstrated moderately severe irregular ileocaecal valve and distal terminal ileum wall thickening, deep ulcerative foci and lymphadenopathy (Figure 3).

What are your differentials?

What would you do?

Discussion

The patient was empirically treated for Crohn's disease (CD) with prednisolone while awaiting immunomodulator screening. Two weeks later, Quantiferon-Gold was positive. Prednisolone was ceased, repeat biopsies confirmed *Mycobacterium tuberculosis* infection with a positive polymerase-chain-reaction (PCR) (Xpert MTB/RIF Ultra, Cepheid). No resistance mutation

genes were detected to rifampicin, isoniazid or fluoroquinolones. Mycobacterial cultures were negative after 6 weeks of incubation. She had no respiratory symptoms, and chest-X-ray showed no abnormalities.

She was diagnosed with intestinal tuberculosis and had an uncomplicated 6-month course of standard weight-adjusted, drug-susceptible anti-tuberculosis treatment of rifampicin, isoniazid, pyrazinamide and ethambutol. Post-treatment endoscopy demonstrated healing, though with a mild ileocaecal valve fibrotic stricture.

Gastrointestinal tuberculosis (GITB) is an example of extrapulmonary tuberculosis. Sites of GITB can include the gastrointestinal tract, peritoneum and lymph nodes. The ileocaecal is the most commonly infected (44–84%) due to it being a constricted region allowing for slower transit time and high rates of fluid absorption, and having an abundance of lymphatic tissue.¹

Clinical features can be non-specific, such as fever, weight loss and anorexia, or more localised, including abdominal pain, distension,

Figure 1: Colonoscopy view of the terminal ileum.

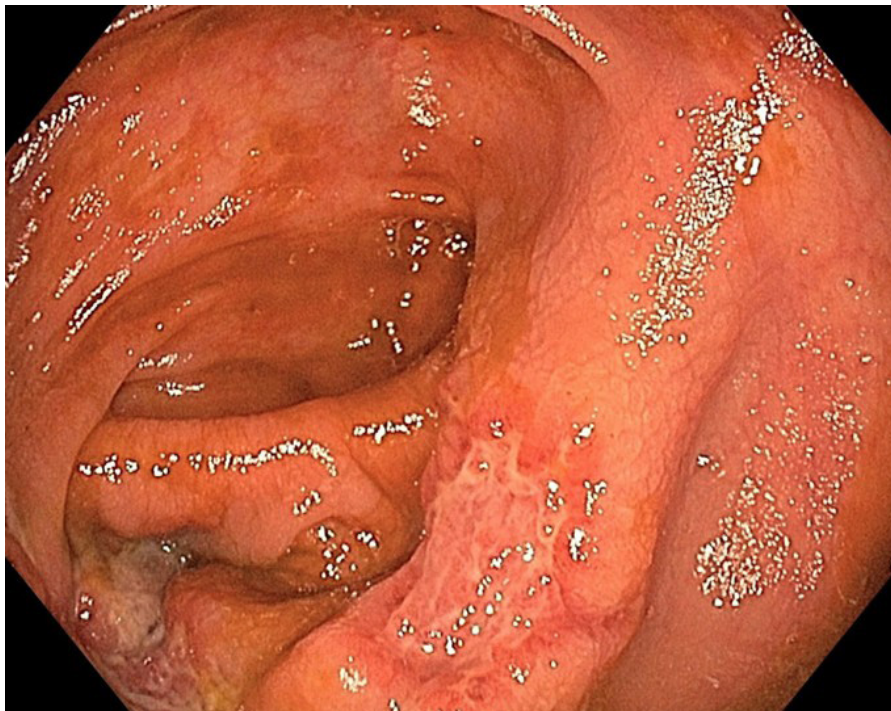


Figure 2: Histopathology of terminal ileum biopsies.

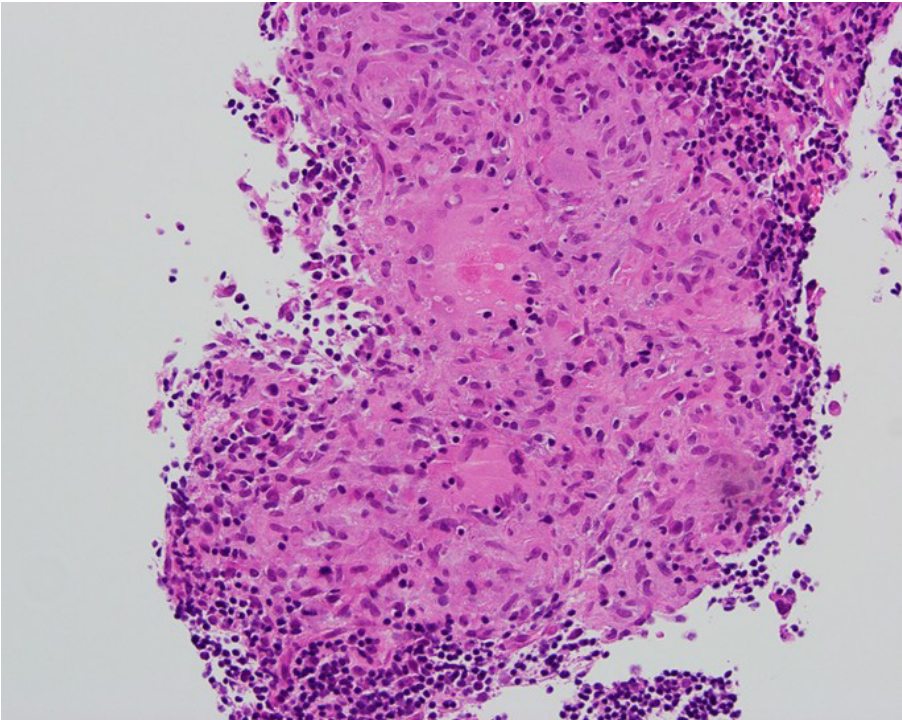
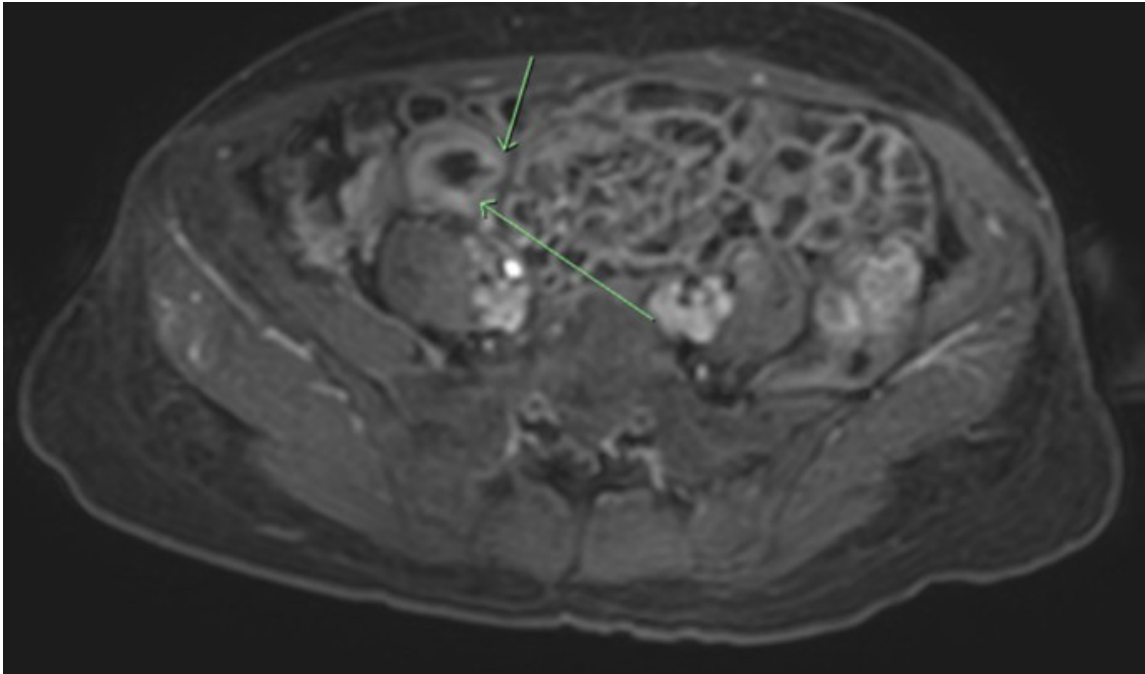


Figure 3: Magnetic resonance enterography.



nausea/vomiting, diarrhoea and blood in stools, with symptoms varying dependent on the location of the tract affected.¹ Serious complications can include intestinal obstruction, perforation, fistulas, collection and bleeding.¹ Symptoms of pulmonary tuberculosis may or may not occur concurrently.

Endoscopy findings of GITB generally reflect inflammatory features, including erythema, erosions, ulcers, nodules, pseudopolyps and strictures. Ulcerations and deformed ileocaecal findings are common in colonoscopy, while strictures are the most predominant finding on gastroscopy.¹ Histopathology from biopsies generally reveal non-specific chronic inflammation with features of chronicity, crypt distortion and cryptitis. Granulomas can often be seen, sometimes with central necrosis.²

PCR and mycobacterium cultures on biopsies should be performed. Acid-fast bacilli (AFB) smears on intestinal biopsy and culture positivity have high specificity and high positive predictive value, but low sensitivity and low negative predictive value.¹ Hence, while a positive test is helpful, a negative test does not necessarily rule out GITB.

Differentiating between GITB and CD can be difficult. Both have chronic granulomatous features, a predilection for affecting the ileocaecal region and non-pathognomonic clinical presentations, endoscopic and imaging findings. There is significant importance in differentiating between these conditions given their differing management:

GITB is an infection and requires anti-tubercular therapy, while CD requires immunosuppression. Delayed or misdiagnosis can lead to poor outcomes.²

There is significant overlap between the clinical presentations of CD and GITB, with no specific feature to help discriminate. CD typically has a more prolonged and indolent presentation, while GITB is typically shorter (<6 months). Constitutional symptoms, especially fevers, are infrequent in uncomplicated CD and are more suggestive of GITB. Pulmonary symptoms, especially productive cough with haemoptysis may suggest concurrent pulmonary tuberculosis. As demonstrated by this case, a careful epidemiological history regarding exposure to high-risk endemic areas for TB is important to help stratify risk. The most reliable parameters for favouring GITB over CD are AFB on smear, positive mycobacterium culture, granulomas with caseating necrosis on histopathology, and lymph node necrosis on radiology.²

It is also important to consider other differentials of chronic inflammatory changes and granulomas including histoplasmosis, cryptococcosis, sarcoidosis, chronic granulomatous disease.

The mainstay treatment approach for GITB remains primarily medical, with international guidelines recommending standard drug-susceptible anti-tubercular therapy for 6 months.³ Therapeutic response can be monitored through symptomatic, biochemical and endoscopic resolution.¹

COMPETING INTERESTS

None declared by the authors.

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