Intestinal tuberculosis with multiple strictures treated with Finney strictureplasty: A case report

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Background: Intestinal tuberculosis is an uncommon form of extrapulmonary tuberculosis that may mimic other gastrointestinal diseases and lead to severe complications such as intestinal obstruction. Surgical management can be challenging when multiple strictures are present, particularly when preservation of bowel length is essential.

Case presentation: A 51-year-old man presented with a three-month history of abdominal symptoms, diarrhea, cough, anorexia, and a 15-kg weight loss. Imaging demonstrated diffuse bilateral micronodular pulmonary disease and pancolitis, and HIV serology was positive. Transbronchial and terminal ileum biopsies demonstrated acid-fast bacilli with positive Ziehl-Neelsen staining, confirming miliary and intestinal tuberculosis. Antituberculous therapy with rifampicin, isoniazid, pyrazinamide, and ethambutol was initiated. During hospitalization, the patient developed intestinal obstruction that failed to resolve with conservative management. Exploratory laparotomy identified twelve small-bowel strictures involving approximately 280 cm of intestine. To preserve bowel length, ten Finney strictureplasties, nine entero-enteric anastomoses, and one entero-colonic anastomosis were performed. Postoperative recovery was favorable, with early return of bowel function, progressive oral intake, and no postoperative complications.

Conclusion: Multiple Finney strictureplasties may represent a bowel-preserving surgical alternative in selected patients with extensive intestinal tuberculosis complicated by multifocal strictures and obstruction, alongside continued antituberculous therapy.

Keywords: Intestinal tuberculosis.

Case Report

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Tuberculosis remains a global public health problem, with a mortality rate of 1.25 million in 2023, making it the leading cause of infectious death worldwide, especially in developing countries. It is caused by Mycobacterium tuberculosis, an acid-alcohol resistant bacillus that primarily affects the lungs. However, up to 15% of cases can present with extrapulmonary forms. Among these, intestinal tuberculosis accounts for 10% of cases and is considered a challenging condition to diagnose and treat due to its nonspecific presentation, often resembling inflammatory bowel disease or sarcoidosis. Intestinal tuberculosis typically originates from ingestion of the bacillus from an active pulmonary focus, hematogenous dissemination, or direct spread from infected mesenteric lymph nodes. The most affected sites include the ileocecal region (90% of cases), colon (9%), duodenum (1–2%), and jejunum (<1%), due to the abundance of lymphoid tissue in these areas. Clinically, patients may present with abdominal pain, weight loss, fever, and altered bowel habits, which complicates timely diagnosis.

Despite advances in diagnosis and treatment, intestinal tuberculosis remains underdiagnosed, potentially leading to severe complications such as perforation, abscesses, fistulas, and intestinal obstruction. Surgical options for managing intestinal obstructions include adhesiolysis, resection with anastomosis, resection with ileostomy, exploratory biopsy, and strictureplasties.

In this case report, we present a patient with multiple sites of intestinal obstruction secondary to tuberculosis, highlighting the diagnostic and therapeutic challenges associated with this condition.

Case report

We present the case of a 51-year-old male with no known pathological personal history. As a non-pathological history, the patient reported multiple high-risk sexual contacts over the past two years, with no relevant family history. His illness began three months prior to admission with epigastric pain, heartburn, regurgitation, cough, diarrhea, 15 kg weight loss over two months, and anorexia. An upper endoscopy revealed moderate active chronic gastritis and Helicobacter pylori infection. Medical treatment was initiated for gastritis and H. pylori, but due to lack of improvement and progression to oral intolerance, he was referred to the emergency department for evaluation.

Initial laboratory and imaging studies showed a chronic pneumopathy with a bilateral diffuse micronodular pattern and pancolitis. HIV serology was positive. Due to suspicion of pulmonary tuberculosis vs. coccidioidomycosis vs. carcinomatosis, bronchoscopy with biopsy and colonoscopy were performed. The latter showed an edematous and ulcerated terminal ileum mucosa with a cobblestone appearance; biopsies were taken.

Bronchial wash cultures were negative. However, transbronchial and distal ileum biopsies showed acid-alcohol resistant bacilli with positive Ziehl-Neelsen staining, confirming a diagnosis of miliary and intestinal tuberculosis. Antituberculous

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Figure 1. Intraoperative view showing marked diffuse small-bowel dilatation associated with multiple tuberculous intestinal strictures.

therapy was initiated with rifampicin/isoniazid/pyrazinamide/ethambutol.

During hospitalization, the patient developed abdominal distension, nausea, vomiting, and absence of bowel movements. Imaging revealed small bowel distension and absence of gas in the colon. Contrast-enhanced abdominal CT showed signs of intestinal obstruction with probable transition site in the terminal ileum.

A nasogastric and Foley catheter were placed. As the patient was hemodynamically stable, conservative management was attempted for 48 hours. After four weeks of antituberculous therapy, he was electively scheduled for exploratory laparotomy.

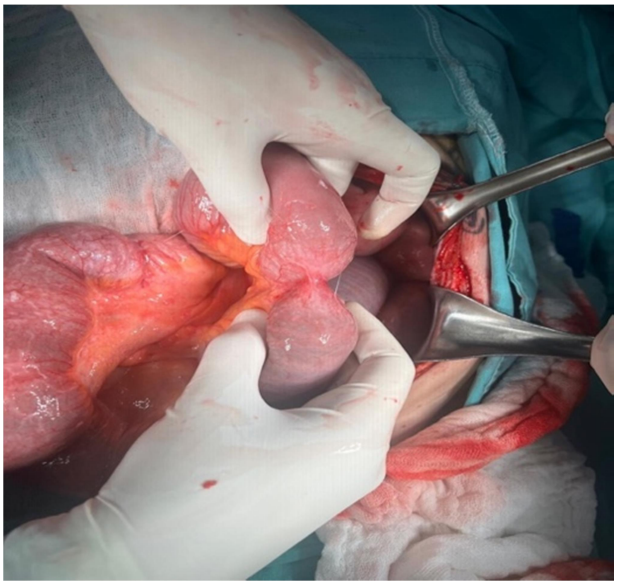


Figure 2. Intraoperative finding of a short-segment concentric annular small-bowel stricture secondary to intestinal tuberculosis.



Figure 3. Final intraoperative appearance after completion of multiple Finney strictureplasties and intestinal anastomoses.

A supra- and infraumbilical laparotomy was performed, revealing generalized small bowel distension and colonic collapse. Twelve stricture sites were identified at distances of 15 cm, 60 cm, 90 cm, 120 cm, 150 cm, 180 cm, 210 cm, 220 cm, 230 cm, 240 cm, 250 cm, and 270 cm from the ligament of Treitz, involving a total of 280 cm of small intestine. Multiple mesenteric lymphadenopathies were observed without lesions or implants in solid organs, omentum, peritoneum, or stomach, and no intestinal perforation was present.

Ten Finney strictureplasties were performed, along with nine entero-enteric anastomoses and one entero-colonic anastomosis using 3-0 vicryl and additional Lembert sutures with 3-0 silk. An excisional biopsy of a mesenteric lymph node was taken. The procedure was completed.

Postoperatively, the patient continued antituberculous treatment, remained fasting with a nasogastric tube, began ambulation within 24 hours, and showed favorable progression with return of peristalsis and gas passage. The nasogastric tube was removed at 24 hours, a liquid diet was initiated at 48 hours, and a normal diet resumed by postoperative day 3. With no postoperative complications, he was discharged by the general surgery service and continues under folllow-up by the infectology service for monitoring of underlying diseases.

Discussion

Among extrapulmonary presentations of tuberculosis, the intestinal form accounts for approximately 10% of all cases. Although diagnosis is challenging due to its clinical nonspecificity, in this case, comorbidities identified during initial evaluation suggested an infectious and immunodeficient etiology.

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The differential diagnosis included intestinal neoplasms, Crohn's disease, infectious colitis, and carcinomatosis. The combination of clinical findings, imaging (abdominal CT with pancolitis and mesenteric adenopathy), and microbiological evidence (histopathology with acid-alcohol resistant bacilli and positive Ziehl-Neelsen culture) confirmed the diagnosis. However, in many cases, definitive diagnosis is only established after surgical resection and histopathological analysis, typically revealing caseating granulomas.

Intestinal tuberculosis is primarily treated medically with standard antituberculous therapy (isoniazid, rifampicin, pyrazinamide, and ethambutol for at least six months). Surgery is indicated in complicated cases involving obstruction, perforation, or fistulas. In this patient, surgery was necessary due to intestinal obstruction unresponsive to conservative treatment. Several options exist for managing obstruction, including strictureplasty, endoscopic dilation, and resection with anastomosis. However, due to the presence of multiple strictures and the goal of preserving as much intestinal tissue as possible, endoscopic dilation and resection were not feasible. Thus, multiple Finney strictureplasties were performed.

Conclusion

Intestinal tuberculosis should always be considered in the differential diagnosis of immunocompromised patients who later develop potentially surgical complications such as intestinal perforation, obstruction, or fistulas.

This case highlights the need for individualized treatment strategies combining surgical and medical management to achieve favorable outcomes.

Conflicts of interests

None declared by the authors

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