

# All that fistulises is not Crohn's disease: Multiple entero-enteric fistulae in intestinal tuberculosis

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## ABSTRACT:

Abdominal tuberculosis is a common problem for clinicians in the tropical world and may manifest with varying clinical scenarios. Intestinal tuberculosis could have intestinal ulcers, strictures, hypertrophic lesions like polyps and may be complicated by perforation, bleeding, and intestinal obstruction. Crohn's disease is an important differential of intestinal tuberculosis which closely mimics intestinal tuberculosis in clinical, endoscopic, radiological, and histological presentation. Crohn's disease is known to have a fistulising variant. We report the case of a 23 year old woman who had disseminated tuberculosis with intestinal involvement and seemed to improve on anti-tubercular therapy (ATT) with evidence of early mucosal response at two months but presented with intestinal obstruction in the third month of ATT. Surgical exploration revealed clumping of bowel loops with multiple ileoileal fistulae. The case is presented due to the presence of entero-enteric fistulae and also because it demonstrated that intestinal tuberculosis may need surgical intervention even after initial improvement as a result of complications like intestinal obstruction.

## KEYWORDS:

intestinal tuberculosis, crohn's disease, fistula, intestinal obstruction, surgery

## INTRODUCTION

Abdominal tuberculosis is an important concern for clinicians in the tropical countries. Although medical management is possible in most cases of intestinal tuberculosis, surgical intervention may be needed in complications like bowel perforation, gastrointestinal bleeding, or recurrent intestinal obstruction due to strictures, adhesions or cocoon.<sup>1,2</sup> Entero-enteric fistulas, although uncommon in tuberculosis, have been reported and complicate the management. Also, these create a diagnostic confusion with Crohn's disease, a form of inflammatory bowel disease which closely resembles intestinal tuberculosis. We report the case of a young woman operated for intestinal obstruction in the third month of antitubercular therapy (ATT) for disseminated tuberculosis.

## CASE REPORT

A 23-year-old woman reported with an 8-month history of episodes of severe abdominal pain and distention. This was associated with increased fatigability, breathlessness on exertion, and evening rise of temperature. She also reported significant loss of weight and appetite. She was evaluated and found to be anaemic (Hemoglobin: 8.7 g/dL, Total leucocyte count: 7800/ $\mu$ L, and platelet count of 363000/ $\mu$ L) with hypoalbuminemia (serum albumin of 1.91 gram/dL). Her liver and kidney functions were normal. She underwent computed tomography of the chest and abdomen for evaluation of her symptoms. Computed tomography showed left sided moderate pleural effusion, multiple space occupying lesions in the spleen, multiple mediastinal (pretracheal, paratracheal, subcarinal) and abdominal (mesenteric, periportal) lymph nodes with some showing conglomeration and thickened terminal ileum. Also, a part of the distal small bowel showed clumping of bowel loops with possible inter-bowel fistulae (Figure 1). She underwent colonoscopy where the ileocecal valve was ulcerated (Figure 2) and biopsy showed the ulcer base lined by histiocytes but no acid fast bacilli. Her Mantoux test was positive (20 X 20 mm) and HIV serology was negative. The pleural tap revealed a lymphocyte-pre-

dominant effusion, adenosine deaminase level was 24 U/L and GeneXpert test was positive for Mycobacterium tuberculosis but negative for rifampin resistance. She was started on standard four drug antitubercular therapy (ATT) and showed some reduction in pain, disappearance in fever and resolution of pleural effusion. At two months, the colonoscopy was repeated and showed healing of ulcers (Figure 3). Her serum CRP levels had reduced from 127 mg/dL to 32 mg/dL. However, at around three months of ATT she presented with severe abdominal pain and intestinal obstruction and was diagnosed to have distal small bowel obstruction on the basis of dilated jejunal and ileal loops with multiple air-fluid levels on the abdominal roentgenogram. The patient underwent exploratory laparotomy and distal small bowel loops were clumped together with multiple ileoileal fistulae were noted (Figure 4). Resection of the involved bowel and ileostomy was done and the patient was discharged on the fifth post-operative day. She remains well in follow-up at 4 weeks after the surgery and is planned for restoration of bowel continuity after completion of the ATT.

## DISCUSSION

While Crohn's disease, a form of inflammatory bowel disease is well-recognized to be associated with fistulising behavior, intestinal tuberculosis is also recognized to result in gastrointestinal fistulas. Tuberculosis has been associated with a myriad of fistulae including ileoileal, ileoduodenal, ileorectal, ileocolonic, colovesical and enterocutaneous fistulae.<sup>3-8</sup> When these entero-enteric fistula occur they may display features of intestinal obstruction or ileus, fever and pain (due to associated abscess) or malabsorption. The diagnosis is often not suspected and is made at the time of surgery. However, barium studies may demonstrate the fistulae and computed tomography can also suggest their presence. The advantage of computed tomography is its help in visualization of extraluminal involvement including peritoneal, omental and lymph-nodal involvement.<sup>1</sup> Most patients with entero-enteric fistulae reported in literature have needed surgery and it is not clear if antitubercular therapy alone can be helpful in healing these lesions.

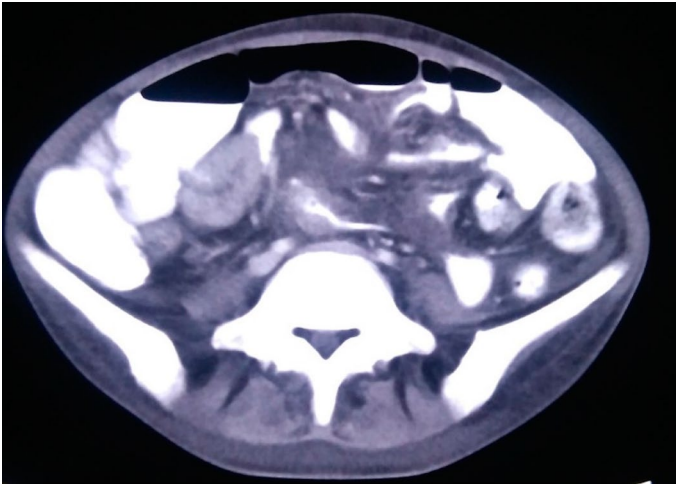


Fig. 1. Clumping of ileal loops with suggestion of entero-enteric fistulae.

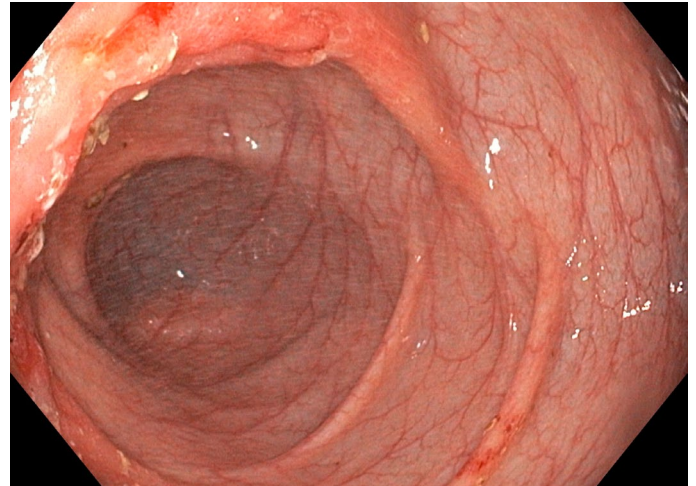


Fig. 2. Initial colonoscopy showing ulcerated ileocecal valve.

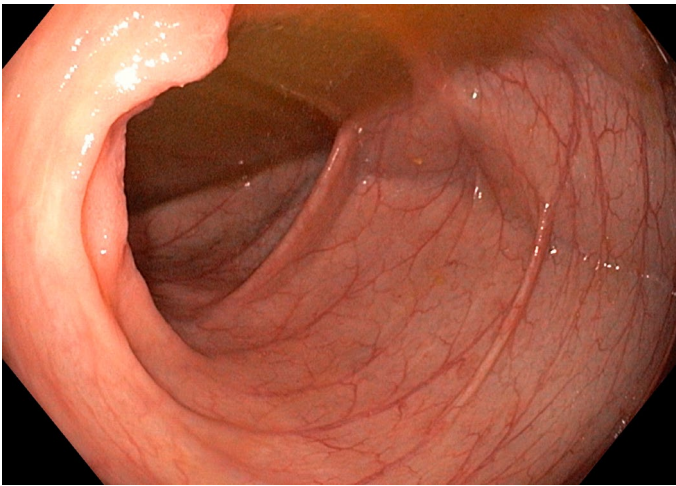


Fig. 3. Repeat colonoscopy showing healed ulcer at 2 months (early mucosal response).

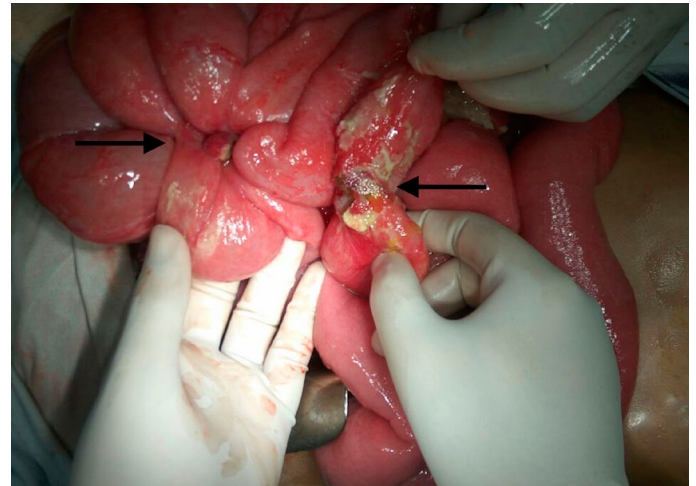


Fig. 4. Surgical specimen showing multiple entero-enteric fistulae (arrow).

Apart from the presence of the entero-enteric fistula, other interesting aspect of the present case included worsening after a period of initial improvement. The patient had shown improvement with resolution of the ileocecal ulcer demonstrated at 2 months, i.e., early mucosal response.<sup>9</sup> Also, the decline in CRP levels suggested that the patient was responding to ATT.<sup>10</sup> The surgery demonstrated the presence of clumping of bowel loops with multiple ileoileal fistulae. It is well known that not all strictures respond to ATT and patients with inte-

stinal tuberculosis may remain symptomatic in spite of a mucosal and microbiological response to ATT. It appears that in our patient, the clumped loops and entero-enteric fistulae failed to improve with ATT. In conclusion, we report an uncommon manifestation in the form of entero-enteric fistula in intestinal tuberculosis and our case suggests that patients with intestinal tuberculosis should be closely followed up as they could continue to be symptomatic because of various complications like strictures, bowel clumping or gastrointestinal fistulae.

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