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# Disseminated tuberculosis leading to surgical emergency: A case report

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**Abstract**
Tuberculosis remains one of the most fatal diseases in the world, but treatable on early diagnosis. Disseminated tuberculosis can involve several organs and clinically present with a wide variety of signs and symptoms. Early diagnosis and timely initiation of proper treatment is of great importance in preventing the later complications of the disease. We report a case with disseminated tuberculosis who exhibited a wide spectrum of extra-pulmonary involvement. Simultaneous involvement of pulmonary, skeletal and gastrointestinal system leading to a surgical emergency is uncommon and managed successfully. This paper highlights the diverse clinical presentation of disseminated tuberculosis and the importance of early diagnosis and treatment.

**Keywords:** Disseminated tuberculosis (TB), extra-pulmonary tuberculosis, abdominal tuberculosis, segmental resection, laparostoma

## Introduction
Tuberculosis (TB) is an unusual infectious disease because the latent period between infection and the appearance of disease may be prolonged for many weeks, months, or years as in case of secondary tuberculosis [1]. Disseminated tuberculosis is defined as having two or more non-contiguous sites resulting from lympho-haematogenous dissemination of *Mycobacterium tuberculosis* [2]. Disseminated tuberculosis has gained new importance, because it represents a progressively greater proportion of new cases. Immuno-compromised individuals, such as patients with HIV, are at increased risk for disseminated tuberculosis [3]. The clinical manifestations are often nonspecific and insidious, it can mimic several other disorders, and diagnosis is often difficult [4]. Involvement of multiple extra-pulmonary sites are reported rarely, except for one anatomical site is reported frequently. This case is reported with analysis of potpourri of signs and symptoms, morphologic and laboratory characteristics, method of diagnosis and the outcome in patients with multi-organ disseminated tuberculosis in order to explore the factors which might contribute to the decision making. A high index of suspicion is needed to diagnose and treat disseminated tuberculosis in a timely and health-preserving manner preventing the later complications of disease.

## Case Presentation
A 40-year-old non diabetic male driver, a reformed smoker and non-alcoholic came with complaints of acute abdominal pain and vomiting. On examination, patient was found to be in shock with signs of peritonitis. Patient was conscious, febrile, had tachycardia with low volume pulse and blood pressure of 90/60 mmHg. Pallor was present with no icterus. Guarding and rigidity was felt all over the abdomen with absent bowel sounds. Patient was resuscitated and subjected to diagnostic tests. Erect radiograph of abdomen was inconclusive and Plain CT abdomen revealed hollow viscous perforation with Pott's Spine at L4-5 level.
On retrospection he had history of low back pain since 2 years which aggravated in preceding 3 months, associated with fever and chills since 1 month with evening rise of temperature, decreased appetite and loss of weight. Patient was first seen by orthopedic surgeon and was diagnosed as Pott's spine with concurrent active pulmonary tuberculosis a month earlier. He was started on Category 1 four-drug regimen anti-tubercular treatment.

**Fig 1:** Chest Radiograph showing evidence of pulmonary tuberculosis

Patient tested negative for HIV and was taken up for emergency exploratory laparotomy. Intra-operatively, patient was found to have twoileal strictures with perforation of ileum proximal to the stricture site which was situated 20 cm proximal to ileo-caecal junction. Contamination of abdomen was minimal as the ileal part was sealed off in the pelvis. There was no ascites or peritoneal seedling. Rest of the organs were normal. Resection and anastomosis of the involved part of the ileum was done. Due to difficult closure of abdomen, decision was taken to do a laparostoma. Patient was shifted to ICU with continued elective ventilation. After 48 hours, thelaparostoma was closed by conventional method with reinforced tension suturing. Histopathology of the resected part of ileum showed caseating granulomatous inflammation suggestive of tuberculosis involvement. Patient recovered uneventfully in post-operative period and was started on regular diet. Treatment of tuberculosis was started soon after recovery. Follow up of the patient with completion of tuberculosis treatment was done.

**Fig 2:** MRI Spine showing involvement of L4-L5 vertebra by tuberculosis

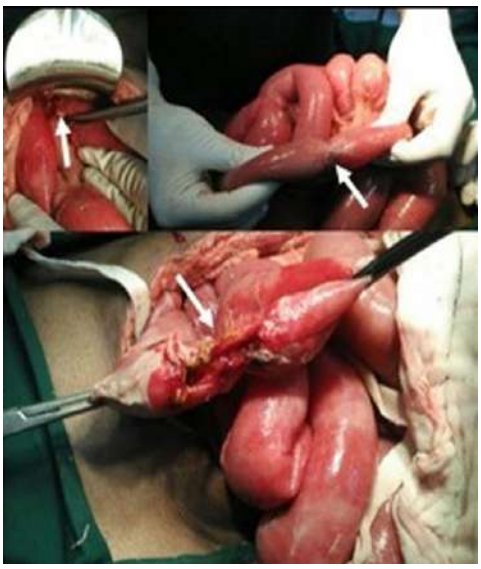

**Fig 3:** Intra-op pictures of perforation, stricture and blowout proximal to stricture

**Fig 4:** Laparostoma creation due to difficult closure of abdomen

## Discussion

Disseminated TB is a potentially lethal form of TB resulting from massive lymphohematogenous dissemination of *M. tuberculosis bacilli*. The emergence of the HIV/AIDS pandemic and widespread use of immunosuppressive drugs has change the epidemiology of disseminated TB [2]. Impaired cell-mediated immunity underlies the disease's development. Clinical manifestations are nonspecific, and typical chest radiographic findings may not be seen. Systematic data collection and reporting to study the epidemiology and prognosis of disseminated tuberculosis is lacking [2].

Skeletal tuberculosis comprises 35% of cases presenting with extra-pulmonary tuberculous manifestations [3]. Skeletal tuberculosis includes entities such as spinal tuberculosis (Pott's disease), articular tuberculosis, Poncet's disease (rare, acute sterile polyarthritis associated with visceral involvement) and tuberculous osteomyelitis. Abdomen is involved in 11% of patients with extra-pulmonary tuberculosis [4, 5]. The most common site of involvement is the ileocaecal region, other locations of involvement, in order of descending frequency are the ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid colon, and rectum [5].

Surgery is usually reserved for patients who have developed complications, including free perforation, confined perforation with abscess or fistula, massive bleeding, complete obstruction, or obstruction not responding to medical management. Obstruction is the most common complication, patients with multiple and/or long strictures are less likely to respond to medical therapy [6]. Obstruction may be exacerbated during antituberculous therapy due to healing by cicatrisation. The surgical resection should be conservative. Multiple small bowel strictures may be treated by stricturoplasty to avoid major resection [7]. An alternative may be colonoscopic balloon dilation, which can be used to manage readily accessible, short and fibrous tuberculousileal strictures causing subacute obstructive symptoms. Although the experience is very limited, this technique appears safe and may obviate the need for surgery in this setting [8].

Therapy with standard anti-tuberculous drugs is usually highly effective for intestinal TB. Compliance with treatment is the main determinant of outcome and directly observed therapy is highly recommended. Traditionally the 9 month AKT was given to the patients with abdominal Koch's however it is now proven that the 6-month therapy is as effective as 9-month therapy in patients with intestinal TB and may have the additional benefits of reduced treatment cost and increased compliance [9].

Despite recent advances in surgery and the availability of specific anti-tuberculous chemotherapy, the morbidity of intestinal tuberculosis is high due to delay in diagnosis and under dosage or irregular anti-tuberculous treatment [10].

## Conclusion

Inspite of specific anti-tuberculous drugs and vast measures against the disease including chemoprophylaxis, disseminated tuberculosis remains a fairly common disease even today. For those patients presenting in emergency, prompt surgical treatment is necessary to avoid further life threatening complications. Resection and anastomosis in form of right hemi colectomy or limited resection for ileocaecal lesions has been largely adapted. Vigilant postoperative care and administration of AKT help to treat the patients successfully with their complete cure and rehabilitation.

## References


1. Sharma SK, Mohan A, Sharma A, Mitra DK. Miliary tuberculosis: new insights into an old disease. Lancet Infect Dis. 2005; 5:415-430.
2. Wang JY, Hsueh PR, Wang SK *et al*. Disseminated tuberculosis: a 10-year experience in a medical center. Medicine (Baltimore). 2007; 86(1):39-46.
3. Havlir DV, Barnes PF. Tuberculosis in patients with human immunodeficiency virus infection. N Engl J Med. 1999; 340:367-373.
4. Khan R, Abid S, Jafri W *et al* Diagnostic dilemma of abdominal tuberculosis in non-HIV patients: an ongoing challenge for physicians. World J Gastroenterol. 2006; 12:6371-5.
5. Mukhopadhyay A, Dey R, Bhattacharya U. Abdominal tuberculosis with an acute abdomen: our clinical experience. J Clin Diagn Res. 2014; 8(7):NC07-9. doi: 10.7860/JCDR/2014/8654. 4574. Epub 2014 Jul 20.
6. Sanai FM, Bzeizi KI. Systematic review: tuberculous peritonitis--presenting features, diagnostic strategies and treatment. Aliment Pharmacol Ther. 2005; 22:685-700
7. Lal V, Deolekar S, Mahapatra B, Narayan P, Shiekh T. Study of gastro intestinal tuberculosis and role of surgery in its management in Navimumbai: analysis of 50 cases. Indian Journal of Basic and Applied Medical Research. 2014; 4(1):363-74.
8. Akarsu M, Akpinar H. Endoscopic balloon dilatation applied for the treatment of ileocecal valve stricture caused by tuberculosis. Dig Liver Dis. 2007; 39:597-598.
9. Sang Hyoung Park, Suk-Kyun Yang, Dong-Hoon Yang *et al*. Prospective Randomized Trial of Six-Month versus Nine -Month Therapy for Intestinal Tuberculosis Prospective Randomized Trial of Six-Month versus Nine-Month Therapy for Intestinal Tuberculosis. Antimicrob Agents Chemother. 2009; 53:4167-71.
10. Chow KM, Chow VC, Hung LC *et al*. Tuberculous peritonitis-associated mortality is high among patients waiting for the results of mycobacterial cultures of ascitic fluid samples. Clin Infect Dis. 2002; 35:409.