

# Intestinal Tuberculosis

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Received: 02 February 2016

Accepted: 16 February 2017

Online: 01 March 2017

## ABSTRACT

We here signify the return of an old offender that used to destroy the health of a great number of the population all over the world (Tuberculosis). This disease should be remembered when treating patients with vague abdominal pain because making a preoperative diagnosis may be difficult even with the use of the modern sophisticated means of investigations.

**Keywords:** TB, Abdomen, Intestine.

## INTRODUCTION

Tuberculosis is a disease of the poor deprived communities, although the incidence is increasing in the well developed countries with the increased incidence of AIDS disease. Intestinal tuberculosis is one of the extrapulmonary manifestations of the disease. Diagnosis is usually difficult unless the disease is always remembered as being a cause of vague abdominal pain.

## Case Report

A 50 years old female patient of middle socioeconomic class presented with vague abdominal pain for 5 days, accompanied by repeated vomiting and distension. She had similar attacks during the last 2 years with alternating constipation and diarrhea resolved by medical measures. She had cholecystectomy 15 years ago.

On examination the patient was looking ill, pale Bp 80/60-pulse rate 90/min regular temperature 38°C. Chest examination normal. The abdomen was soft with mild abdominal distension. Her investigations were as follows:

Plain abdominal X-ray show few fluid levels. (figure 1), Hb 11.2gm%, WBC 6400 N 60%, L 32%, M 7%, E 1%, ESR 63.

FBS 117mg%, BU 30mg%, S creatinine was 1.5mg%, TSB 0.6mg% and TSP 5 gm%.

U/S: cholecystectomy, distended loops of bowel in the pelvic cavity with small amount of free fluid, features suggesting gastroenteritis.

She was put on nothing by mouth intravenous fluids and antibiotics she refused nasogastric suction. On the next 2 days she had colicky abdominal pain with constipation after which she passed a normal motion with subsidence of the pain and was discharged home. She remained well for 3 days after that returned to hospital with the same symptoms but this time she had nausea, vomiting and watery diarrhea and abdominal distension. Her Bp was 130/70, the abdomen was soft but distended. The same conservative regimen was adopted and a colonoscopy was arranged for. Colonoscopy was normal. Gynecological consultation requested for her. They commented that the patient had a small ovarian cyst needs not to worry about but she has no gynecological problem.

A barium meal and follow through was done for her (figure 2) and the report was that there is an ill defined short segment of filling defect in the terminal part of the small bowel associated with distortion of adjacent mucosal pattern causing partial hold up of barium (obstructive sign)? Bowel mass suggesting (TB, Crohn's

disease, lymphoma). A computerized tomography was not available.

Conservative treatment continued but the patient's vomiting was almost daily with passage of loose stools her distension was increasing. So a decision was made to explore her abdomen. Laparotomy with a midline incision revealed a mass in the terminal ileum about 2 feet from the illeocecal valve, wrapped with omentum. On separation of the omentum the bowel showed an area of obstruction consisting of a stricture of about 10-cm in length with a proximal dilated segment and a distal collapsed segment (figure 3 &4). The mass felt

firm and yellow in color with no lymph nodes in the nearby mesentery. Resection and anastomosis of the bowel was done. On laying open the strictured segment it showed thickened bowel wall with destruction of the mucosal pattern (figure 5). The rest of the bowel was healthy apart from dilatation of the proximal bowel due to obstruction.

Histopathology reported multiple caseating granulomas with Langhan's giant cells involving the full thickness of bowel wall, a picture of tuberculous enteritis no malignancy.



Figure 1 Plain Xray of the abdomen showing multiple fluid levels

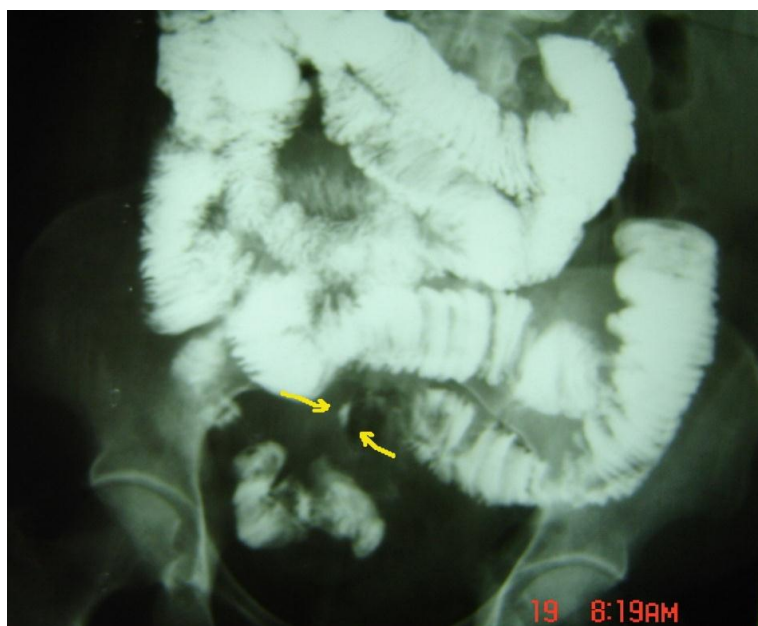


Figure 2 Barium follow through showing an area of stricture in the terminal ileum

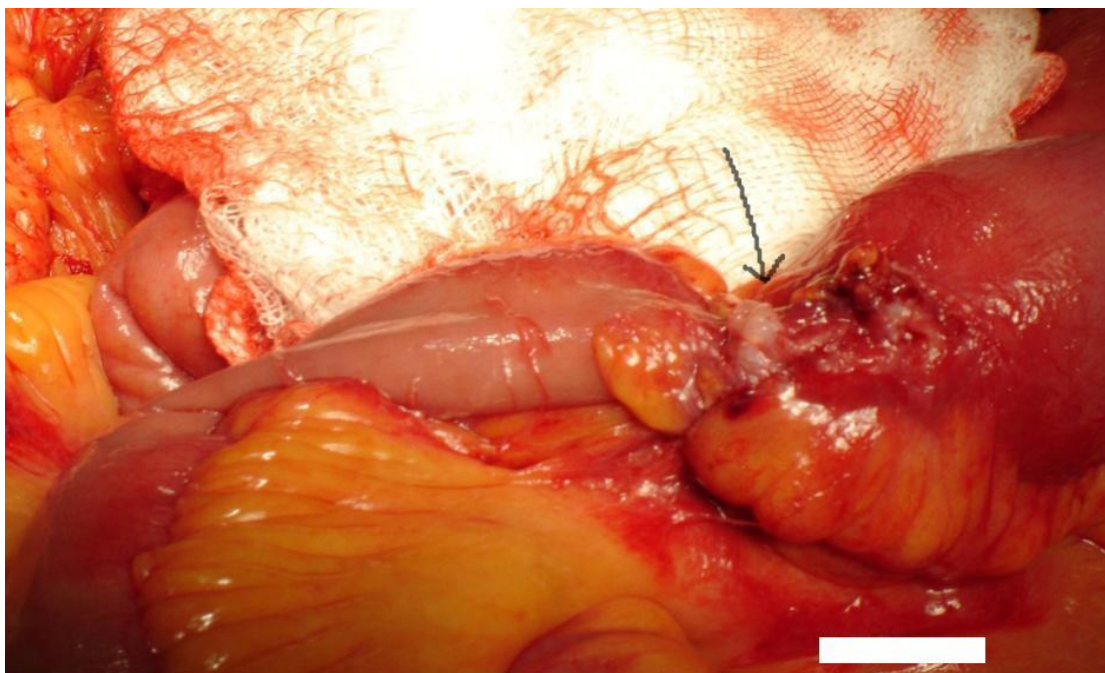


Figure 3 showing the stricture (arrow) with a proximal dilated segment and a distal collapsed segment



figure 4 the resected segment of the terminal illeum

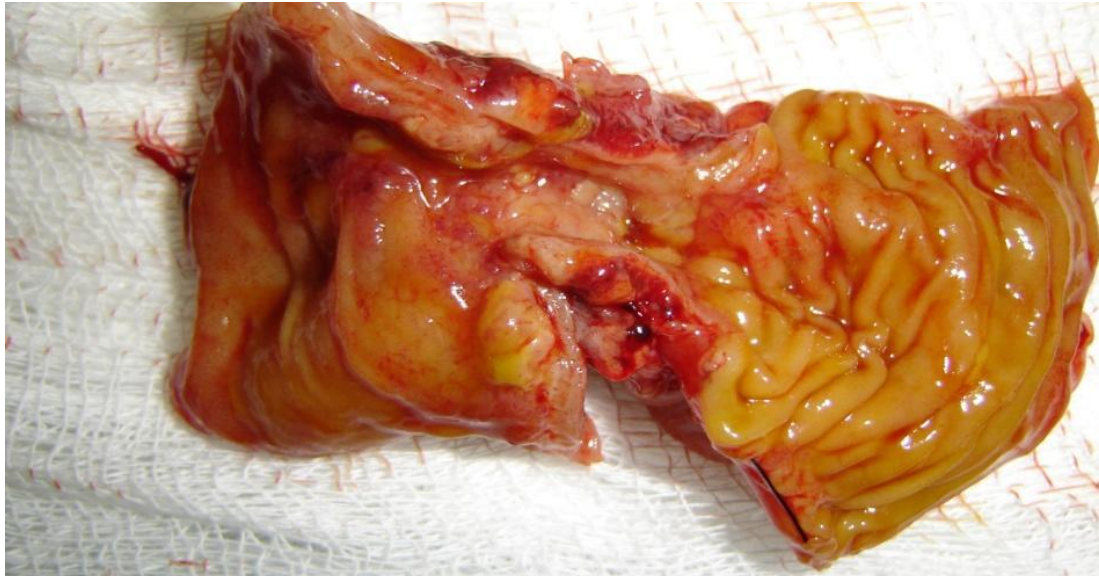


Figure 5 the lumen of the resected segment

### Discussion:

TB is associated with poverty, deprivation, and human immune deficiency virus infection [1]. It continues to be a problem in the under developed countries and began now to be a problem in the developed world with the increased prevalence of HIV disease. There are case reports that stress the fact that ileal tuberculosis still exist today and that it doesn't exclusively affect "high risk" patients [2]. A retrospective review of patients diagnosed with Tuberculosis from 1993-1995 in 2 hospitals 7 patients were diagnosed as abdominal TB, 2 of them were HIV positive [3]. A study at Melbourne teaching hospital noted an increased incidence of abdominal TB in immigrants and AIDS patients [4].

Tuberculous infection of the intestine is either primary caused by ingestion of bovine strain of *M tuberculosis* [5] or secondary to swallowing of the human strain. Primary tuberculous infection of the intestine is rare in USA and about 1% of patients with pulmonary TB have intestinal involvement [6]. Regrettably we don't have exact figures in our country of the same condition.

Pathologic reaction of Intestinal TB has three forms ulcerative, hypertrophic or ulcerohypertrophic and fibrous structuring [7]. The distal ileum is the most common site of disease [5], accounting for about 85% of cases of tuberculous enteritis. [8]. Infection establishes itself in the lymphoid follicle and resulting chronic inflammation causes thickening of the intestinal wall and narrowing of the lumen [9].

It may cause diffuse ulceration, severe hemorrhage and even perforation in patients with advanced TB [10]. Narrowing of the lumen may lead to stricture formation which may be single or multiple. Concentric strictures are most commonly situated in the terminal ileum but may affect the more proximal bowel [10]. In a study 60% of the strictures were solitary and 40% multiple [11], and the bowel between strictures is normal in appearance in contrast to Crohn's disease in addition to

that the characteristic mesenteric lesion of Crohn's disease are not seen [10].

The disease is considered when abdominal pain, anemia and fever weight loss and abdominal lymph node enlargement are present [12]; attacks of abdominal pain with intermittent diarrhea are the usual symptoms [9]. In the case of the fibrous stricturing disease sooner or later subacute intestinal obstruction will supervene often with impaction of enterolith in the narrowed lumen [9].

Diagnosis is difficult and delayed diagnosis is common resulting in high mortality [1]. The protean clinical manifestations and the varied complications of abdominal tuberculosis continue to challenge the diagnostic acumen and therapeutic skills of all physicians [13]. In a recent study less than half patients had an abnormality on CXR and none had positive sputum [6].

Bacteriology of body fluids, abdominal ultrasound and CT combined with guided needle aspiration biopsy, barium examination colonoscopy and laparoscopy can not only elucidate the diagnosis but also be helpful in assessing an appropriate management [12]. With the introduction of laparoscopy it should replace laparotomy as the definitive diagnostic tool [4]. Barium follow through is useful and it shows thickened folds spasticity and shallow ulcers, single or multiple short strictures while CT scan show preferential thickening of illeocecal valve and medial wall of the cecum and few small regional nodes [6]. Unfortunately, MRI was not done which may be useful in the evaluation of small-bowel TB [14].

Assay of ascitic fluid adenosindeaminase activity is a valuable simple method of diagnosis that may reduce the need for laparoscopic biopsy [1]. A peritoneal fluid adenosindeaminase value of over 30 IU/l has been reported to have a sensitivity of 93%, a specificity of 96% and positive predictive values have been noted in

malignant ascites and collagen diseases. It was found significantly high in 3 out of 4 patients in a pediatric study [15]. We couldn't measure adenosindeaminase in our patient.

The most important differential diagnostic problem in intestinal tuberculosis is from Crohn's disease but in Crohn's disease there is lesser thickening of bowel wall on barium follow through, mural stratification and vascular jejunitis or the comb's sign and mesenteric fatty proliferation [7], in addition the bowel between strictures is not healthy [10].

Treatment is medical in the form of antituberculous drugs; surgery is reserved to diagnosis in peritoneal TB and to treat complications [13] like stricture or perforation of the intestine [16]. But due to the fact that diagnosis is delayed due to non specific presentation [3] these patients usually need surgical intervention, and in fact some surgeons recommend early operation because medical treatment "in their opinion" result in healing by fibrosis [6].

Resection is the preferred surgical procedure, bypass is done only if abscess or fistula are present [6,9], or extensive disease [8].

A recent report suggest that a stricturoplasty of Heinkimikulicz's type is safe simple and easy procedure particularly suitable at poorly equipped and under staffed district hospitals [11]. Research work found that there is no significant difference between the 2 procedures (resection and stricturoplasty) while stricturoplasty is superior in multiple strictures [17,18]. Steroids don't decrease the incidence or the degree of fibrosis in intestinal TB [13].

**Conflict of interest: none**

**Funding: none**

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