

## Abdominal Tuberculosis in Surgical Practice : Analysis of 30 cases and Review of Literature

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### ABSTRACT

Thirty patients of abdominal tuberculosis in the age group of 20-40 years were analyzed. Majority of the cases had abdominal pain as the leading clinical presentation. A significant number of patients also had abdominal lump. Intestinal obstruction/ perforation was present in 10 patients requiring surgical intervention. Barium studies (done on 27 occasions) had a positive rate of 70%. All patients, where diagnosis of tuberculosis was confirmed, received three-drug anti-tubercular regimen. There was no post-operative mortality.

### Keywords:

Abdominal tuberculosis, Intestinal obstruction, Strictureplasty.

### Introduction

Abdominal tuberculosis continues to be a common presentation of extrapulmonary form of tuberculosis in developing countries. However, in developed countries its incidence has become rare due to increased standards of living (1). With the recent spurt in Acquired Immuno-deficiency Syndrome (AIDS), the incidence of tuberculosis in these countries may rise (2). Extrapulmonary form of tuberculosis is difficult to diagnose and remains of grave concern for human population (3). Abdominal tuberculosis has a bizarre, chronic and insidious type of presentation and difficult diagnosis. Furthermore, the investigations for this, may be non-pathognomonic (4). Of late, due to

advent of laparoscopy, the diagnosis has been possible without laparotomy (4). Since there is diversity in clinical presentation, difficulty in diagnosis and widespread complications, often marked by prolonged morbidity and mortality, we have analysed our patients to highlight the various aspects of abdominal tuberculosis seen in our set up.

### Material and Methods

Thirty patients of abdominal tuberculosis managed over a period of 15 months in a single surgical unit were analyzed. The diagnosis in our patients was made by clinical data and investigations. Two groups of patients were seen and analyzed accordingly.

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*Group-I:* Patients presenting with acute symptoms : pain, vomiting, constipation signifying intestinal obstruction/perforation requiring urgent surgical intervention. Here the diagnosis was possible by operative findings and histopathology of the biopsied tissue.

*Group-II:* Patients presenting with chronic symptoms (pain, fever, lump and/or distension abdomen, ascitis, altered bowel habits, etc). The investigations in these patients included complete haemogram, sputum for AFB, x-rays (chest, abdomen), ultrasonography (USG), fine needle aspiration cytology (FNAC), contrast gastro-intestinal studies, pleuro/peritoneocentesis etc; wherever indicated. Whenever, the diagnosis was doubtful, inspite of detailed investigations, the patient was advised surgical intervention. ELISA for tuberculosis and Montoux test were done selectively.

After confirmation of diagnosis, all patients received antitubercular treatment (ATT) for a period of 9 months to one and half year. This regimen was modified in some cases where streptomycin was given for initial two months along with Isonizid (INH) and Ethambutol/Pyrazinamide.

### Results

Majority of our patients were males in the age group of 2nd to 4th decade. Male to female ratio was 2 : 1. The various clinical symptoms and signs are depicted in Table I and II respectively.

**Table-I**  
**Symptoms at Presentation (n = 30)**

Symptoms	No. of Cases	Percentage
Fever	15	50.0
Weight loss	18	60.0
Anorexia	18	60.0
Abdominal pain	26	86.7
Vomiting	20	66.6
Abdominal distension	13	43.3
Constipation	13	43.3
Diarrhoea	03	10.0
Lump abdomen	16	53.3

**Table-II**  
**Various signs in patients presenting with abdominal tuberculosis (n = 30)**

Sign	No. of Patients	Percentage
Pallor	26	86.67
Lymphadenopathy	6	20.00
Fever	12	40.00
Chest signs	7	23.33
Distension abdomen	12	40.00
Abdominal tenderness	24	80.00
Lump abdomen	16	53.33
Ascites	3	10.00

Duration of symptoms in present study varied from 2 days to 3 years and majority of our patients had symptoms of more than 6 months duration at the time of presentation. Past history of pulmonary tuberculosis was positive in only 6 patients (20 per cent). Out of these, 4 patients were on treatment with ATT while one had already taken a complete course of anti-tubercular drugs, the other one was a defaulter. Significant extra-abdominal lymphadenopathy was recorded in 20 per cent of the patients and in majority of them only cervical lymph glands were involved, whereas one patient had in addition, involvement of axillary lymph nodes. Most of the patients were anaemic (93.3 per cent) with ESR more than 20 mm in 1st hr. (by Westergren's method). Radiography of the chest showed evidence of healed or active pulmonary tuberculosis in 23.3 per cent of patients. Plain radiography of the abdomen revealed multiple dilated loops of small gut with significant gas-fluid levels in erect films in 9 patients. Free air under the right dome of diaphragm was seen in one patient whereas in two patients, there was radiological evidence of ascites. Various radiological findings on barium contrast study of abdomen in patients with tuberculosis in our study are shown in Table III. Twelve patients needed surgery for various indications as depicted in Table IV.

**Table-III**  
**Contrast Studies in Abdominal Tuberculosis**

Findings	No. of Patients
<i>A. Barium meal/follow-through (n=13)</i>	
Ileocaecal irregularity with pulled up caecum	2
Strictures of terminal ileum	3
Dilated stomach with gastric outlet obstruction	1
Multiple narrowed and dilated segments of small gut	7
Normal study	5
<i>B. Barium enema (n=8)</i>	
Filling defect of caecum with pulled up caecum	3
Stricture transverse colon	1
Stricture sigmoid colon	1
Normal study	4

Discrepancy in number is due to multiple lesions in same patient.

**Table-IV**  
**Indications for Surgery (n = 12)**

Diagnosis	No. of patients
Intestinal obstruction	5
Suspected lump abdomen	2
Peritonitis	2
Carcinoma colon	1
Stricture colon	1
Chronic cholecystitis with cholelithiasis	1
Total	12

At laparotomy, evidence of tuberculosis, in the form of multiple tubercles in the peritoneum, involvement of mesenteric lymph nodes and intestinal strictures, was observed in 9 patients and was subsequently confirmed on histopathological examination. The patient, who was operated upon with the clinical diagnosis of carcinoma colon, was histopathologically proved to be suffering from tuberculosis of colon. Another patient who had

gastric outlet obstruction, was found on operation to be having duodenal obstruction because of enlarged tubercular lymph-nodes proved on histopathological examination. Incidental evidence of tuberculosis was found in one patient being operated for gall-stones. Postoperative complications were seen in five patients requiring no surgical intervention and were managed conservatively. The site-wise distribution of disease, surgical procedure and their complications are shown Table V, VI & VII respectively.

**TABLE-V**  
**Lesion Distribution in Abdominal Tuberculosis.**

Peritoneum only	Small Intestine only	Small & Large Intestine	Large Intestine only	Abd. lymph nodes	Multiple lesions
3	7	3	1	9	7

**Table-VI**  
**Surgical Procedures Done**

Laparotomy and biopsy of mesentric/retroperitoneal lymph nodes/omentum/peritoneum	12
Stricturoplasty	2
Resection & anastomosis	5
Ileotransverse by-pass	1
Local resection of transverse colon with end to end anastomosis	1
Resection of Ileal stricture with Ileotransverse bypass with resection of stricture sigmoid colon with colostomy with closure of colostomy in 2nd stage	1
Gastrojejunostomy	1
Adhesiolysis	2

Discrepancy in number is due to multiple procedures in same patient.

**Table-VII**  
**Post Operative Complications**

S. No.	Complication	No. of Patients
1.	Adhesion obstruction	2
2.	Faecal fistula	1
3.	Minor wound infection	2
4.	Deaths.	Nil

The classical doughy feel of abdomen which is supposed to be indicative of diffuse or extensive intra-abdominal tuberculosis (20, 21) was not seen in any of our patients. The commonest finding in our patients was abdominal tenderness (80%) suggesting involvement of parietal peritoneum. Other workers (21,22) have made similar observations. Like other studies (8,23) right iliac fossa lump has been a finding in significant number of our patients. Clinical evidence of ascites was observed in 10% of patients in our series, which is in conformity with the reports of other workers (14).

Barium studies of gastrointestinal tract have been considered to be a great help as regards to diagnosis and extent of abdominal tuberculosis (12, 23-26). Various abnormalities which suggest the diagnosis of abdominal tuberculosis on barium contrast studies are: narrowing and dilatation of intestinal lumen, stricture, fixity of loops of small intestine, change in ileocaecal angle and ileocaecal irregularities, pulled up caecum, filling defect in caecum or involvement of large intestine. Patients may have isolated abnormality or a combination of above findings (27,28). The same findings have been present in our cases as shown in figures (Fig. 1 to 5).

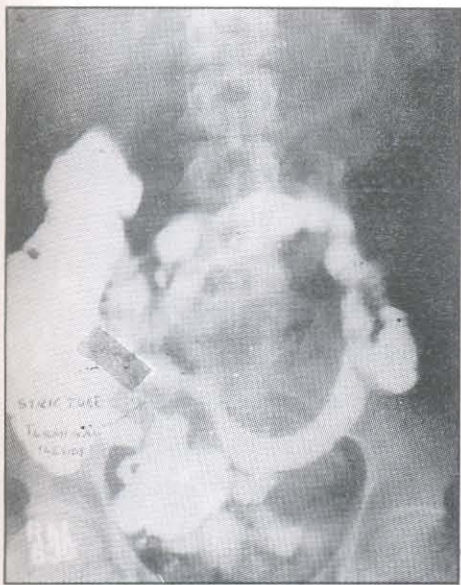


Fig. 1. Barium follow through study showing stricture terminal ileum with multiple dilated loops of small gut proximal to stricture.



Fig. 2. Barium follow through study showing stricture terminal ileum with multiple dilated loops of small gut and pulled up caecum.

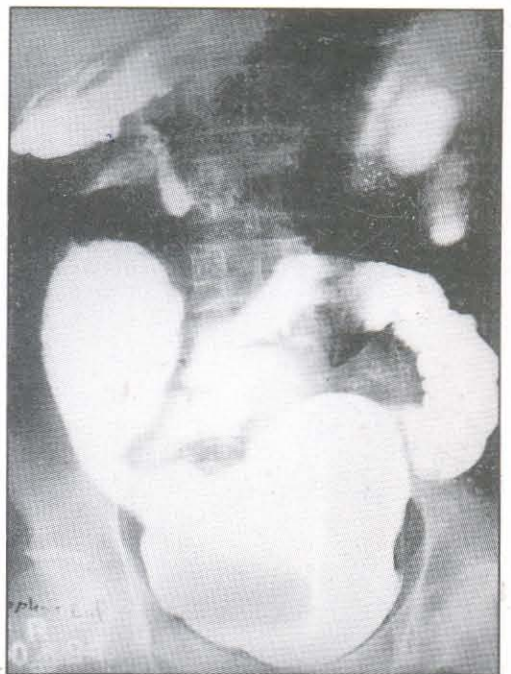


Fig. 3. Barium follow through study showing stricture terminal ileum with dilated loops of small gut proximal to stricture and pulled up caecum.