


**Original Article**

## Clinicopathological Study of Intestinal Tuberculosis & its Management

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### Abstract

Intestinal tuberculosis is still a common abdominal problems in developing countries like us. Sixty cases of intestinal tuberculosis admitted in the surgical wards of Mymensingh Medical College Hospital over 2 years with different presentations have been studied here. All of them under went through surgical procedures for their management. The age range of the patients was 13 to 55 years and most commonly involved age group was 20-40 years. Male to female ratio was 1:1.4. 60% of the patients were in low socio-economic group and 20% of the patients had got the positive history of contact. 60% of the patients presented with chronic intestinal obstruction. The most commonly involved site was ileocaecal region in 51.6% of the patients. Right hemicolectomy with ileotransverse anastomosis was performed commonly 63.3% of the patients but limited resection and stricturoplasty are also safe and effective procedures.

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### Introduction

Tuberculosis is still a highly prevalent disease in Bangladesh like any other developing countries of the world where malnutrition, overcrowding and poor sanitary conditions exist. Intestinal tuberculosis also represents a relatively common health problem. Intestinal tuberculosis can affect any part of the alimentary tract from mouth to anus<sup>1</sup>. The site most commonly affected is terminal ileum. We face the problems of intestinal tuberculosis in the form of chronic or acute or chronic intestinal obstruction, symptoms of enteropathy, loss of weight, fever etc. Surgical treatment is required when it causes intestinal obstruction or perforation. A lump in the ileocaecal region, features of sub acute intestinal obstruction, ill health, slight rise of temperature,

diarrhoea or constipation with or without concomitant pulmonary tuberculosis is the first suspicion of intestinal tuberculosis. As the symptoms and sings of intestinal tuberculosis are non specific and there is no unequivocal diagnostic features either clinically and radiologically. So, some times laparotomy and histopathological examination is needed to establish the diagnosis. Here 60 cases of intestinal tuberculosis presented with various symptoms and signs have been reported. The main focus of this study was epidemiological observation, clinical manifestation, diagnosis and treatment of patients with intestinal tuberculosis.

### Materials and Methods

This study was based in the patients admitted in the surgical units of MMCH from January 1997 to

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December 1998. Of them, sixty patients were diagnosed to have intestinal tuberculosis.

Diagnostic criteria included a detailed history, meticulous clinical examination, complete blood count, ESR, Hb%, mantoux test, X-ray chest, plain X-ray of abdomen, Barium follow-through and Barium enema, laparotomy and histopathological examination of resected specimens. 38 Patients underwent right hemicolectomy with ileotransverse anastomosis, 10 patients underwent only ileotransverse anastomosis without resection of gut, 2 patients underwent stricturoplasty and the remaining 10 patients underwent limited resection and end of end anastomosis of gut.

## Results

Out of total number of cases twenty five (25) were male (41.6%) and thirty five (35) were female (58.3%) giving male to female ratio 1:1.4. The average age of male and female patients were 27.7 years and 31.1 years respectively.

**Table-1:** Age distribution of the patients

Age (years)	Number of patient	Percentage
10-20	9	15%
21-30	24	40%
31-40	21	35%
41-50	4	6.6%
51-60	2	3.3%
Total	60	100%

## Presentation

Out of 60, thirty six (60%) cases presented with chronic intestinal obstruction, six (10%) with acute on chronic intestinal obstruction, four (6.5%) with acute intestinal obstruction and two (3.3) presented with pneumoperitonium. Four (6.5%) initially diagnosed as recurrent appendicitis and the remaining eight (13.3%) presented with vague abdominal symptoms. The patients who were initially diagnosed as recurrent appendicitis underwent exploration for appendicectomy but suspicion of intestinal tuberculosis raised on finding enlarged mesenteric lymph nodes and macroscopic nodules on the intestinal wall and omentum, appendicectomy was postponed and biopsies were taken from lymph nodes and omentum for subsequent histopathological examination for diagnosis.

**Table-2:** Presenting symptoms in 60 cases of intestinal TB.

Symptoms	No. of case	Percentage
Abdominal pain	50	83.3%
Weight loss	45	75%
Fever, malaise and anorexia	36	60.0%
Lump in the abdomen	24	40%
Constipation	33	55%
Diarrhoea alternating with constipation	14	23.3%
Diarrhoea	10	16.6%
Vomiting	15	25%
Cough with expectoration	9	15%

**Table-3:** Major physical signs in intestinal tuberculosis of 60 cases

Signs	Total case	Percentage
Pallor	52	86.6%
Abdominal Tenderness	33	55%
Distended abdomen	38	63%
Palpable mass in abdomen	34	53.3%
Visible peristalsis	27	45%
Doughy feeling of abdomen	6	10%
Ascites	6	10%
Cervical lymphadenopathy	4	6.6%
Reduced liver dullness	2	3.0%

## Investigations

CBC, Hb% and ESR were done in all patients. Two third of the patients had Hb% less than 7.5 gm/dl and ESR in the first hour was found ranging between 40-130 mm. Thirty six (85.57%) out of 42 patients showed positive (> 10mm) mantoux test and six cases the result was below 10 mm. X-ray chest showed only 11 (18.3%) patients had evidence of old or active pulmonary tuberculosis. In Plain X-ray of abdomen, 36 patients showed signs of intestinal obstruction and two cases showed pneumoperitonium. Barium follow-through was done in 18 cases and Barium enema was done in 10 cases. Of which five cases of Barium follow-through and two cases of Barium enema were reported normal. Puffed up caecum, deformed caecum, irregular narrowing of terminal ileum were most common radiological findings. Sigmoidoscopy, Colonoscopy, Laparoscopy were not possible due to lack of facilities. But in all cases histopathological examination of resected

gut, mesenteric lymph nodes and omentum were done. Pre-operative diagnoses were changed in many cases on the basis of laparotomy and histopathological findings.

**Table-4:** laparotomy findings

Laparotomy findings	No. of case	Percentage
Multiple macroscopic nodules	42	70%
Enlarged mesenteric lymph node	32	53.3%
Ascites	6	10%
Ulcerative lesion	20	33.3%
Hyper plastic lesion	29	48.3%
Ulcer-hyperplastic	12	20%
Perforation at terminal ileum	2	3.3%
Inflamed appendix	2	3.3%
Gangrenous small gut	5	8.3%

The sites involved in this series were ileocaecal region 57.6%, ileum 20%, Caecum 11.6%, Colon 10% and jejunum 5.7%.

Various procedures were performed for treating intestinal tuberculosis in this series. Right hemicolectomy with ileotransverse anastomosis were done in 38 (63.3%) cases.

**Table-5:** Types of operation

Surgical procedure	Number	Percentage
Right hemicolectomy with ileotransverse anastomosis	38	63.3%
Resection of the part of ileum with ileo-ileal anastomosis	3	5.0%
Resection of the part of jejunum with jejunojejunal anastomosis	1	1.6%
Strictureplasty	2	3.3%
Resection of the part of colon with colocolic anastomosis	6	10.0%
Ileotransverse anastomosis	10	16.6%

It is notable only ileotransverse anastomosis without resection of gut was done in 10 (16.6%) cases. This was done because the patients had very poor general conditions and they presented with acute intestinal obstruction. Strictureplasty done in short segment stricture involving jejunum.

Antituberculous chemotherapy started in the hospital and advised to continue for 12 months in all cases. Most of the patients were relieved from pre-operative symptoms. Only one patient developed wound dehiscence and four developed minor wound infection. With in 6 months of follow up all of them found alright.

## Discussion

Intestinal tuberculosis is not an uncommon clinical problem in developing countries and also re-emerging in the developed countries due to its association with acquired immunodeficiency syndrome (AIDS). Hundred (100) years have passed since the identification of the organism by Robert Koch in March 24, 1882. Still the disease is a worldwide problem. Intestinal tuberculosis is an important cause of morbidity in the Indian population, because the diagnosis is delayed<sup>2</sup>. Shukla and Hughes rightly termed intestinal tuberculosis is a continuing problem<sup>3</sup>.

In our country no statistical is available regarding intestinal tuberculosis. But the incidence should be fairly significant because of a great number of people have been suffering from pulmonary T.B of which a good numbers received no or inadequate treatment, In India, about 3% to 20% of all intestinal obstructions are due to tuberculosis of the abdomen in various forms<sup>4</sup>. Sex incidence in this series F:M=1.4:1. Prakash et al showed that F:M=2:1, Hughes and shukla reported F:M] 1.6:1.17 and Gupta et al also reported the ratio was 2.5 : 1.22. The reason for female predominance is likely that they are not exposed to medicare as the males. Average of the patents are 28.9 years. Prakash et al showed the average age incidence was 29.5 years<sup>5</sup>. In Raul's (1984) series average age of the patients was 31.6 years and in Mahboob's (1995) series it was 26.5 years<sup>6</sup>. Bently et al showed that the average age among their patients was 63 years<sup>7</sup>. These patients were Britons. Several studies in our country also showed tubercular enteritis is a disease of young adolescents and adults. Intestinal tuberculosis is common among the people of low socio-economic group. Banerjee B.N. had shown that the incidence was more among the refugees living in slums of Calcutta<sup>8</sup>. 20% of the patient of this series had positive history of contact. Reports from India showed that history of positive contact varies from 5% to 25%. (Prakash et al 1978, vaidya and Sodhi et al 1978 and Banerjee et al 1956). In Roul's (1982) series 18.5% of the patient had positive history of contact<sup>9</sup>. 18% of the patients in this series had co-existing pulmonary tuberculosis. According to S sircar and V A Janjela et al only 16% of the patients of Intestinal tuberculosis were

found to have co-existing pulmonary tuberculosis<sup>7</sup>. Abdominal pain was the commonest (83.3%) symptom. Followed by tubercular toxæmia (60%) and lump in right iliac fossa (53.3%). Contrary to the popular believe the characteristic "doughy feel" of the abdomen was found only in 10% of the cases in this series. In a series from South Africa they found "Doughy feel" of the abdomen only in 8% cases<sup>9</sup>. A moderate degree of anaemia and raised ESR were commonest haematological findings. Mantoux test was positive in 80% of the patient. Rauf reported 91.5% and prokash at al reported 92% positive result<sup>8,5</sup>. A negative mantoux test does not exclude tuberculosis.

There are variations in ideas regarding surgical treatment of intestinal tuberculosis. Bypass surgery was frequently advocated in the past<sup>10</sup> but long term results were not very good and blind loop syndrome was one of its main disadvantage. Bhansali even suggested that bypass patient should be subjected to a secondary excisional procedure when conditions are favourable<sup>11</sup>. Definitive surgery where possible to be done even in the emergency cases<sup>12</sup>. Right hemicolectomy with ileotransverse anaestomosis is commonly performed for ileocaecal tuberculosis and it is safe and effective procedure. Stricturoplasty introduced by katayara in 1977 is a good procedure where possible<sup>13</sup>. Post operatively all patients were administered anti tuberculous chemotherapy.

### Conclusion

From our study, we can conclude that the signs and symptoms of intestinal tuberculosis are protean and nonspecific, and there is no unequivocal diagnostic features either clinically or radiologically. As a result, laparotomy and histopathological examination are frequently necessary to establish confirmatory diagnosis.

Right hemicolectomy with ileotransverse anastomosis is most commonly performed procedure. But limited resection and stricturoplasty are also safe and effective procedure.

Moreover for prevention of intestinal tuberculosis measures such as immunization against tuberculosis, effective and adequate treatment of pulmonary tuberculosis and cervical tubercular lymphadenitis, pasteurization of milk, improved standard of living and prevention of over crowding can be adapted.

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