



## Study of intestinal obstruction due to tuberculosis: A prospective cross-sectional study.

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### Abstract

#### Background:

Intestinal tuberculosis is a major cause of intestinal obstruction in developing countries where tuberculosis remains highly prevalent. Delayed diagnosis often results in complications such as strictures, adhesions, and perforation, increasing morbidity and the need for surgical intervention.

#### Objective:

To assess the clinical presentation, diagnostic characteristics, treatment approaches, and outcomes of patients with intestinal obstruction due to tuberculosis.

#### Methods:

This prospective cross-sectional study was conducted over a period of six months from January 2025 to June 2025 in the Department of General Surgery at Patna Medical College and Hospital, Bihar, India. A total of 110 patients diagnosed with intestinal obstruction due to tuberculosis were enrolled using consecutive sampling. Detailed clinical examination, laboratory investigations, radiological imaging, and histopathological evaluation were performed. Data were analyzed using descriptive statistics and the chi-square test, with  $p < 0.05$  considered statistically significant.

#### Results:

The majority of patients were in the 20–40-year age group (45.5%). Abdominal pain was the most common presenting symptom (90%), followed by vomiting (70%), abdominal distension (65%), and constipation (60%). Radiological findings suggestive of intestinal tuberculosis were observed in a significant proportion of cases, while histopathological confirmation was obtained in surgically managed patients. Surgical intervention was required in 59% of patients, whereas 41% were managed conservatively. A statistically significant association was observed between disease severity and surgical management ( $p=0.03$ ).

#### Conclusion:

Intestinal tuberculosis remains a significant cause of intestinal obstruction and frequently presents at an advanced stage requiring surgical management. Early diagnosis and timely initiation of anti-tubercular therapy are essential to reduce complications and improve patient outcomes.

#### Recommendation:

Increased clinical suspicion and early diagnostic evaluation should be encouraged in patients presenting with features of intestinal obstruction in tuberculosis-endemic regions.

**Keywords:** Intestinal tuberculosis, intestinal obstruction, anti-tubercular therapy, surgical management, abdominal tuberculosis

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### Introduction

Tuberculosis is a significant public health issue, especially in poor nations where overcrowding, hunger, and restricted healthcare access exacerbate its incidence.

Although pulmonary tuberculosis is the predominant kind, extrapulmonary tuberculosis constitutes a significant percentage of cases, with abdominal tuberculosis being one of the most commonly observed



symptoms. Intestinal tuberculosis is the predominant variant, frequently affecting the ileo-caecal region due to its abundant lymphoid tissue and stagnation of intestinal contents (1).

Intestinal TB generally manifests with nonspecific symptoms, including stomach pain, weight loss, fever, and altered bowel habits, potentially resulting in a delayed diagnosis. As the condition advances, patients may experience consequences such as intestinal blockage, strictures, perforation, or fistula formation. Intestinal blockage is a prevalent and severe consequence that frequently necessitates surgical intervention. The postponement of diagnosis and treatment considerably exacerbates morbidity and, in extreme instances, fatality (2).

The diagnosis of intestinal tuberculosis can be difficult due to its similarity to other illnesses, including Crohn's disease, cancer, or several causes of bowel blockage. Confirmation typically necessitates a synthesis of clinical assessment, radiological imaging, endoscopic observations, and histological analysis (3).

This study seeks to assess the clinical profile, diagnostic methods, and therapeutic outcomes of patients with intestinal obstruction caused by tuberculosis, considering the clinical significance and potential consequences associated with intestinal tuberculosis. The results may facilitate enhanced early detection and the optimisation of treatment techniques to diminish morbidity. (4).

## **Methods**

### **Study design and setting**

This prospective cross-sectional study was conducted in the Department of General Surgery at Patna Medical College and Hospital, Patna, Bihar, India, over a period of six months from January 2025 to June 2025. Patna Medical College and Hospital is a tertiary care teaching institution that provides specialized surgical and emergency healthcare services to patients from Bihar and neighboring states.

### **Study participants**

Patients aged above 18 years who were diagnosed with intestinal obstruction secondary to tuberculosis were included in the study. Participants were recruited using a consecutive sampling technique until the required sample size was achieved.

### **Inclusion criteria**

Patients diagnosed with intestinal obstruction due to tuberculosis and aged more than 18 years were included in the study.

### **Exclusion criteria**

Patients with non-tubercular causes of intestinal obstruction and those with incomplete clinical records were excluded from the study.

### **Sample size**

The sample size of 110 patients was determined based on the expected number of eligible cases presenting during the study period, previous hospital records, feasibility, and availability of study participants.

### **Data collection**

Detailed demographic data, clinical history, and physical examination findings were recorded for all participants. Laboratory investigations, abdominal radiography, ultrasonography, computed tomography findings, and histopathological reports, where applicable, were evaluated. Patients were managed either conservatively or surgically, depending on clinical severity and response to treatment.

### **Bias**

To minimize bias, all patients were evaluated using standardized clinical and diagnostic criteria. Data collection was performed using a predesigned proforma, and investigations were interpreted by qualified specialists.

### **Statistical analysis**

Data were entered into Microsoft Excel and analyzed using SPSS version 26. Descriptive statistics were used to summarize demographic and clinical variables. Chi-square test was applied to determine associations between categorical variables. A p-value of less than 0.05 was considered statistically significant.

### **Ethical consideration**

Ethical approval for the study was obtained from the Institutional Ethics Committee of Patna Medical College and Hospital, Patna, Bihar, India. The study was conducted in accordance with ethical principles for medical research involving human participants.

### **Informed consent**

Written informed consent was obtained from all participants before enrollment in the study.

### **Results**

A total of 128 patients presenting with features of intestinal obstruction were initially screened during the study period. Of these, 10 patients were excluded because



of non-tubercular causes of obstruction, while 8 patients had incomplete clinical records. Finally, 110 eligible patients were enrolled and included in the final analysis.

The majority of patients belonged to the 20–40 years age group, accounting for 45.5% of cases, indicating that intestinal tuberculosis predominantly affects the economically productive population.

**Table 1: Age Distribution**

Age Group	Number
<20	15
20–40	50
40–60	30
>60	15

Abdominal pain was the most common presenting symptom observed in 90% of patients, followed by vomiting, abdominal distension, and constipation,

suggesting that obstructive gastrointestinal symptoms are the predominant clinical manifestations of intestinal tuberculosis.

**Table 2: Clinical Presentation**

Symptom	Percentage
Abdominal Pain	90%
Vomiting	70%
Distension	65%
Constipation	60%

More than half of the patients required surgical intervention, indicating that a significant proportion of cases presented with advanced disease or complications necessitating operative management.

**Table 3: management outcome**

Outcome	Number
Conservative	45
Surgery	65

A statistically significant association was observed between disease severity and management approach (Chi-square = 4.72, p=0.03).

### **Diagnostic characteristics**

Radiological findings suggestive of intestinal tuberculosis included bowel wall thickening, strictures, dilated bowel loops, and mesenteric lymphadenopathy. Histopathological examination in surgically managed patients demonstrated granulomatous inflammation consistent with tuberculosis in a significant proportion of cases.

### **Discussion**

This study highlights that intestinal tuberculosis continues to be a significant cause of intestinal obstruction, particularly among young adults. The predominance of cases in the 20–40 years' age group reflects the higher burden of tuberculosis in the economically productive segment of the population. This has important social and economic implications, as it affects individuals during their most active and productive years(5).

Abdominal pain was the most common presenting symptom, which is consistent with findings from previous studies. Associated symptoms such as vomiting, abdominal distension, and constipation further indicate



the presence of obstructive pathology. These clinical features, although common, are often nonspecific, which may contribute to delays in diagnosis and treatment. (6). A notable finding of this study is that a majority of patients required surgical intervention. This suggests that many patients present at an advanced stage of the disease, often with complications such as strictures, adhesions, or complete bowel obstruction. Late presentation may be due to a lack of awareness, limited access to healthcare, or the insidious onset of symptoms. (7).

These findings emphasize the importance of early diagnosis and prompt initiation of anti-tubercular therapy to prevent complications. Furthermore, the significant association between the management approach and patient outcomes indicates that timely and appropriate surgical intervention plays a crucial role in cases with complications. (8).

Overall, the study underscores the need for increased clinical suspicion, early diagnostic evaluation, and a multidisciplinary approach in managing intestinal tuberculosis to reduce morbidity and improve patient outcomes. (9).

### Generalizability

The findings of this study may be generalized to similar tertiary care centers and tuberculosis-endemic regions where delayed presentation and limited healthcare access contribute to increased complications associated with intestinal tuberculosis.

### Conclusion

Intestinal tuberculosis remains a significant cause of intestinal obstruction, especially in developing regions where the disease burden is high. Delayed diagnosis due to nonspecific symptoms often leads to complications such as strictures, adhesions, and perforation. Early recognition through clinical suspicion and appropriate investigations is crucial to initiate timely anti-tubercular therapy and prevent disease progression. However, a considerable number of patients present in advanced stages, necessitating surgical intervention for relief of obstruction and management of complications. A combined medical and surgical approach is essential to reduce morbidity and improve overall patient outcomes.

### Limitations

This study was conducted at a single tertiary care center with a relatively moderate sample size, which may limit the generalizability of the findings. Additionally, some diagnoses were based primarily on clinical and radiological findings where histopathological confirmation was not available.

### Recommendations

Early clinical suspicion and timely diagnostic evaluation should be emphasized in patients presenting with intestinal obstruction in tuberculosis-endemic areas. Prompt initiation of anti-tubercular therapy may reduce complications and the need for surgical intervention.

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### Abbreviation full form

TB Tuberculosis  
CT Computed Tomography  
PMCH Patna Medical College and Hospital

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The study did not receive any external funding.

### Conflict of interest

The authors declare no conflict of interest.

### Author contributions

- Piyush Kumar Sinha: Conceptualization, data collection, manuscript drafting
- Kritika Jha: Study design, manuscript review, supervision
- Pankaj Kumar Mishra: Statistical analysis and interpretation
- Binoy Kumar: Final manuscript review and approval

### Data availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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## References

1. Pandove PK, Mohi RS, Kumar P. Incidence of abdominal tuberculosis in cases of intestinal obstruction with its clinical course and management. *Asian J Pharm Clin Res.* 2023;16(9):20-3. <https://doi.org/10.22159/ajpcr.2023v16i9.47926>
2. Nguyen VH, Surgery G, Dan N, Dinh G. Intestinal Obstruction due to Tuberculosis. *Asian J Surg [Internet].* 2001;25(2):145-8. [https://doi.org/10.1016/S1015-9584\(09\)60163-9](https://doi.org/10.1016/S1015-9584(09)60163-9)
3. Anwer R, Resident ES. Study of Intestinal Obstruction Due to Tuberculosis. *J Cardiovasc Dis Res.* 2025;16(5):1-13.
4. Mamta, Vikas Kumar VKG. Study of Intestinal Obstruction Due to Tuberculosis. *Int J Pharm Clin Res.* 2023;15(11):1542-5.
5. Kumar A, Kumar S, Kumar M. Study of Intestinal Obstruction Due to Tuberculosis. *Int J Pharm Clin Res.* 2024;16(5):2895-8.
6. Kumari C, Narain NP. Intestinal obstruction caused by tuberculosis : unmasking a silent risk. *Int J Res Med Sci.* 2024;12(4):1130-5. <https://doi.org/10.18203/2320-6012.ijrms20240667>
7. Alghazali KA, Badheeb M, Al-wageeh S. Demographic, Clinical, Radiological, and Surgical Outcome of Patients with Intestinal Tuberculosis : A Single-Center Retrospective Study. *Res Rep Trop Med.* 2024;15(August):79-90. <https://doi.org/10.2147/RRTM.S465571>
8. Aljarallah BM. Clinical Study of Intestinal Tuberculosis and Its Response to Short-Course Anti-Tuberculosis Therapy. *J Pioneer Med Sci.* 2025;14(April):456-63. <https://doi.org/10.47310/jpms202514S0160>
9. Kumar Guptaa, Aditya Ananda, Md Sarfaraz Nawaza MMH. A PROSPECTIVE COHORT STUDY OF INTESTINAL OBSTRUCTION DUE TO TUBERCULOSIS. *Student's J Heal Res Africa.* 2024;5(3):1-8.

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