

**ORIGINAL RESEARCH****Assessment of various clinical presentations of abdominal tuberculosis**

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Received: 04 December, 2023

Accepted: 07 January, 2024

**ABSTRACT**

**Background:** Abdominal tuberculosis is defined as *Mycobacterium tuberculosis* infection of the peritoneum, hollow or solid abdominal organs. The present study was conducted to assess various clinical presentations of abdominal tuberculosis. **Materials & Methods:** 30 patients with abdominal tuberculosis of both genders were enrolled and were subjected to chest and abdominal X-rays. Ultrasonography (USG) was also done. **Results:** Out of 30 patients, males were 17 and females were 13. The age group <20 years had 5, 20-40 years had 19, 40-60 years had 6 patients. The difference was significant ( $P < 0.05$ ). Clinical features were abdominal pain in 26, abdominal distension in 14, vomiting in 14, fever in 12, diarrhea in 7, constipation in 13, loss of appetite in 16 and weight loss in 15 patients. The sites of abdominal tuberculosis was Ileocecal in 13 (43%), Ileal in 6 (20%), peritoneal in 12 (40%), Jejunal in 3 (10%), Nodal in 6 (20%), solid visceral organ in 1 (3.3%) and Rectosigmoidal/ Anorectal in 1 (3.3%) cases. **Conclusion:** The common clinical features were abdominal pain, abdominal distension, vomiting, fever, diarrhea, constipation, loss of appetite and weight loss. The common sites of abdominal tuberculosis was Ileocecal, Ileal, peritoneal, Jejunal, and Nodal.

**Keywords:** Abdominal tuberculosis, abdominal distension, peritoneal

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**INTRODUCTION**

In developing nations with high rates of poverty, squalor, and overcrowding, tuberculosis (TB) is a serious health concern. Abdominal tuberculosis is defined as *Mycobacterium tuberculosis* infection of the peritoneum, hollow or solid abdominal organs.<sup>1</sup> This infection frequently causes granuloma formation, caseation, mucosal ulceration, fibrosis, and scarring. The most common areas of involvement are the ileocecal region and the peritoneum.<sup>2</sup> Hematogenous spread, swallowing infected sputum, consuming contaminated milk or food, and contiguous spread from nearby organs are the main pathophysiological pathways that have been postulated. TB of the mesentery (cyst, adenitis, abscess, bowel adhesions, rolled-up omentum), peritoneal TB (acute and chronic tubercular peritonitis), gastrointestinal TB (ulcerative, hyperplastic, fibrosis, and diffuse colitis type), and TB of solid viscera (liver, biliary tract, gall bladder) are the different types of abdominal tuberculosis.<sup>3</sup>

Treatment for tuberculosis in the abdomen is still debatable.<sup>4</sup> Surgery, which was commonly utilized in the past to diagnose cases, is now only recommended for complications including tumor, perforation,

obstruction, or fistula. As the number of *Mycobacterium tuberculosis* bacilli in extrapulmonary sites is often low, diagnosis of intra-abdominal tuberculosis still remains challenging.<sup>5</sup> Cartridge-based nucleic acid amplification test (CBNAAT) is a new tool very useful in the diagnosis of extrapulmonary tuberculosis. Hence, early diagnosis and treatment is very crucial in saving many lives.<sup>6</sup> The present study was conducted to assess various clinical presentations of abdominal tuberculosis.

**MATERIALS & METHODS**

The present study consisted of 30 patients with abdominal tuberculosis of both genders. All gave their written consent to participate in the study. The study was conducted in the department of General Surgery in Baba Raghav Dass Medical College and Hospital, Data such as name, age, gender etc. was recorded. After performing, a thorough clinical examination, all patients were subjected to chest and abdominal X-rays. Ultrasonography (USG) was also done. Data thus obtained were subjected to statistical analysis. P value  $< 0.05$  was considered significant.

**RESULTS****Table I Distribution of patients**

Total- 30		
Gender	Male	Female
Number	17	13

Table I shows that out of 30 patients, males were 17 and females were 13.

**Table II Age wise distribution**

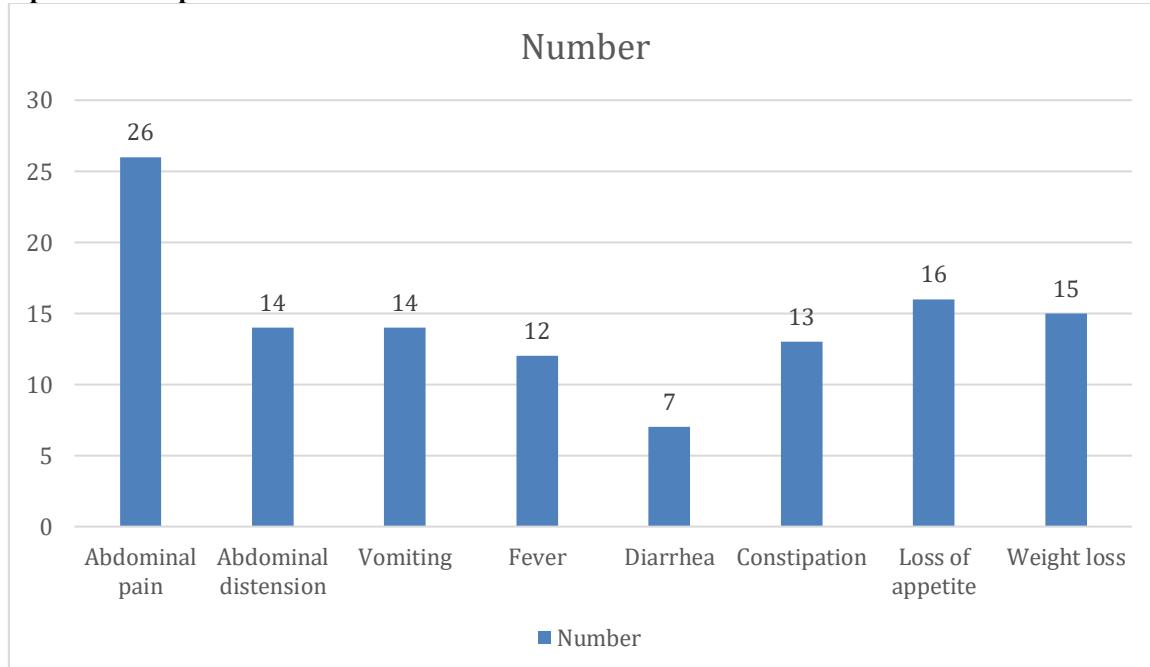
Age groups (years)	Number	P value
<20	5	0.05
20-40	19	
40-60	6	
>60	0	

Table II shows that the age group <20 years had 5, 20-40 years had 19, 40-60 years had 6 patients. The difference was significant ( $P< 0.05$ ).

**Table III Clinical presentation**

Clinical presentation	Number	Percentage
Abdominal pain	26	86.6%
Abdominal distension	14	46.6%
Vomiting	14	46.6%
Fever	12	40%
Diarrhea	7	23.3%
Constipation	13	43.3%
Loss of appetite	16	53.3%
Weight loss	15	50%

Table III, graph I show that clinical features were abdominal pain in 26, abdominal distension in 14, vomiting in 14, fever in 12, diarrhea in 7, constipation in 13, loss of appetite in 16 and weight loss in 15 patients.

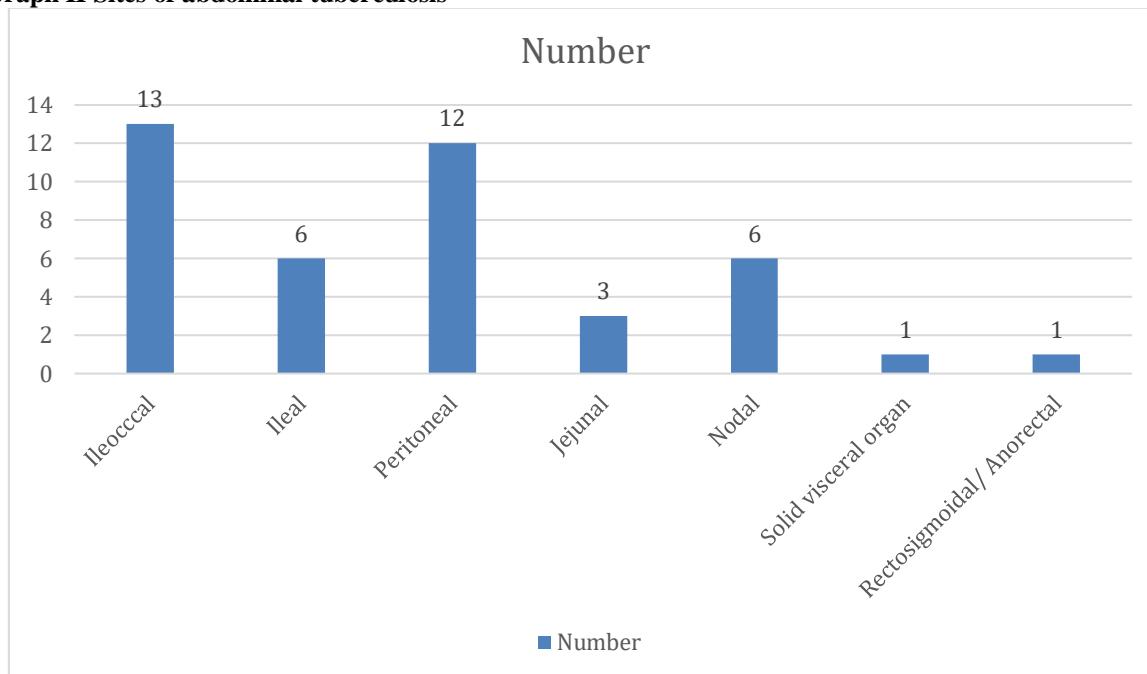
**Graph I Clinical presentation****Table IV Sites of abdominal tuberculosis**

Site	Number	Percentage
Ileocccal	13	43%
Ileal	6	20%
Peritoneal	12	40%
Jejunal	3	10%

Nodal	6	20%
Solid visceral organ	1	3.3%
Rectosigmoidal/ Anorectal	1	3.3%

Table IV shows that the sites of abdominal tuberculosis was Ileocccal in 13 (43%), Ileal in 6 (20%), peritoneal in 12 (40%), Jejunal in 3 (10%), Nodal in 6 (20%), solid visceral organ in 1 (3.3%) and Rectosigmoidal/ Anorectal in 1 (3.3%) cases.

### Graph II Sites of abdominal tuberculosis



### DISCUSSION

Tuberculosis (TB) is a common and major health problem, especially in developing countries where, ignorance, poverty, overcrowding, poor sanitation and malnutrition are prevalent.<sup>7</sup> It has been declared a global emergency by the World Health Organization (WHO) and is the most important communicable disease worldwide. Approximately one third of the world population is infected with tuberculosis and about three million die each year from this disease. Global burden of TB is nearly 12 million.<sup>8,9</sup> According to World Health Organization report 2013, there were an estimated 8.6 million annual incidence of TB globally and 1.3 million people died from disease in 2012.<sup>10,11</sup> The present study was conducted to assess various clinical presentations of abdominal tuberculosis.

We found that out of 30 patients, males were 17 and females were 13. The age group <20 years had 5, 20-40 years had 19, 40-60 years had 6 patients. Chalya et al<sup>12</sup> found that out of 256 patients enrolled in the study, males outnumbered females. The median age was 28 years (range = 16–68 years). The majority of patients (77.3%) had primary abdominal tuberculosis. A total of 127 (49.6%) patients presented with intestinal obstruction, 106 (41.4%) with peritonitis, 17 (6.6%) with abdominal masses and 6 (2.3%) patients with multiple fistulae in ano. Forty-eight (18.8%) patients were HIV positive. A total of 212 (82.8%)

patients underwent surgical treatment for abdominal tuberculosis. Bands /adhesions (58.5%) were the most common operative findings. Ileo-caecal region was the most common bowel involved in 122 (57.5%) patients. Release of adhesions and bands was the most frequent surgical procedure performed in 58.5% of cases. Complication and mortality rates were 29.7% and 18.8% respectively. The overall median length of hospital stay was 32 days and was significantly longer in patients with complications. Advanced age (age  $\geq$  65 years), co-morbid illness, late presentation, HIV positivity and CD4+ count  $<$  200 cells/ $\mu$ l were statistically significantly associated with mortality. The follow-up of patients were generally poor as only 37.5% of patients were available for follow-up at twelve months after discharge.

We observed that Clinical features were abdominal pain in 26, abdominal distension in 14, vomiting in 14, fever in 12, diarrhea in 7, constipation in 13, loss of appetite in 16 and weight loss in 15 patients. Miah et al<sup>13</sup> found that out of the 53 patients, 33 were males and 20 females with age ranging 16-70 (Mean  $30.01\pm11.7$ ) years. Abdominal pain was the most common presenting symptom in 47 (88.68%), fever in 45 (84.9%) and weight loss in 37 (69.81%) cases. Anemia was found in 41 (77.36%), cachexia 40 (75.47%), ascites 20 (37.74%), palpable abdominal mass in 14 (26.42%) and features of intestinal obstruction in 5 (9.43%) cases. Five patients had

positive family history of TB and five had past history of pulmonary TB. The diagnosis of abdominal TB was confirmed microscopically in 5 (9.43%), histopathologically in 31 (58.49%) and the remaining 17 (32.07%) cases were diagnosed by a positive response to anti-TB therapy. According to site of involvement, 31 (58.51%), patients had intestinal TB, 9 (16.98%) had peritoneal TB and disseminated TB in 20 (37.74%) of the case. Twenty- seven patients were given 3 drugs regimen for 12 months and 26 patients received 4 drugs regimen for 9 months under close supervision. By 9 months of therapy 51 patients become symptom free and no pathological findings were observed thereafter at follow-up visits after 6 months. Response was not satisfactory in two patients and subsequent follow-up investigation revealed to have crohn's disease rather than TB and none of them died.

We found that the sites of abdominal tuberculosis was Ileocccal in 13 (43%), Ileal in 6 (20%), peritoneal in 12 (40%), Jejunal in 3 (10%), Nodal in 6 (20%), solid visceral organ in 1 (3.3%) and Rectosigmoidal/ Anorectal in 1 (3.3%) cases. Majji et al<sup>14</sup> in their study out of 30 patients, 16 patients were treated conservatively with anti-tubercular therapy (ATT) alone and 14 patients underwent surgical treatment. Out of 14 patients, 5 patients were operated on emergency basis and 9 were operated electively. Of the 5 emergency cases, 2 patients underwent resection anastomosis of small bowel, 1 patient underwent adhesiolysis, and 3 patients with hollow viscous perforation underwent perforation closure with peritoneal drainage.

## CONCLUSION

Authors found that common clinical features were abdominal pain, abdominal distension, vomiting, fever, diarrhea, constipation, loss of appetite and weight loss. The common the sites of abdominal tuberculosis was Ileocccal, Ileal, peritoneal, Jejunal, and Nodal.

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