



A CLINICAL STUDY OF ABDOMINAL TUBERCULOSIS (A SURGICAL DILEMMA) AND IT'S MANAGEMENT IN TERTIARY CARE HOSPITAL

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ABSTRACT **Background:** Abdominal tuberculosis continues to be an important surgical problem in developing countries due to delayed diagnosis and variable clinical manifestations. The present study evaluated the clinical profile, radiological findings, and management outcomes of patients diagnosed with abdominal tuberculosis in a tertiary care hospital. **Methods:** A hospital-based observational cross-sectional study was conducted in the Department of General Surgery, Fathima Institute of Medical Sciences, Kadapa, from May 2022 to October 2023. Thirty cases of abdominal tuberculosis were considered. We analyzed demographic profile, clinical presentation, laboratory investigations, imaging findings, operative procedures. **Results:** The mean age of patients was 31.6 ± 9.6 years, and there was a slight female predominance (53.33%) over males (46.67%). The most common site of involvement was the ileocecal region (40%). The most common presenting symptom was abdominal pain (53.3%), followed by vomiting (26.7%) and diarrhea (26.7%). 73.3% of the patients showed raised ESR. **Conclusions:** Abdominal tuberculosis presents with diverse manifestations and frequently mimics other surgical conditions, leading to diagnostic difficulty. Early diagnosis, timely initiation of anti-tubercular therapy, and appropriate surgical intervention in complicated cases are essential for improving patient outcomes.

KEYWORDS : Abdominal Tuberculosis, Ileocecal Tuberculosis, Surgical Management, Intestinal Obstruction, Tuberculosis**INTRODUCTION**

Tuberculosis remains a major public health concern in developing countries, with India carrying a significant proportion of the global disease burden (27%). Around 10 million people contracted TB in 2018, around 1.2 million TB deaths were seen among HIV negative patients globally. Even though pulmonary tuberculosis is the most prevalent type, extrapulmonary involvement (12%) is becoming more well acknowledged. Abdominal tuberculosis accounts for a considerable proportion (11-16%) of extrapulmonary tuberculosis. Any area of the GI tract may be affected by abdominal TB.

TB infection in the abdomen is caused by:

1. Ingestion of sputum by patients with active pulmonary disease due to MTB.
2. Lymphatic spread from infected nodes
3. Hematogenous spread.
4. Direct extension from the contiguous site
5. Ingestion of milk products that are infected with *M. bovis* – especially with the consumption of raw milk.

Abdominal tuberculosis often presents with nonspecific clinical symptoms such as abdominal pain, fever, weight loss, vomiting, altered bowel habits, and abdominal distension. The disease can mimic malignancy, Crohn's disease, appendicitis, and other inflammatory abdominal conditions, thereby creating diagnostic confusion. Delayed diagnosis may result in complications including intestinal obstruction, perforation, fistula formation, and peritonitis, many of which require emergency surgical intervention.

The ileocecal region is the most commonly involved site because of physiological stasis which allows for absorption of organisms, reduced digestive activity and presence of M cells in lymphatic tissue (Peyer's patches) which can take up *Mycobacterium Tuberculosis*. Imaging studies, histopathology, and microbiological investigations contribute to diagnosis, while surgery is reserved for patients with complications or diagnostic uncertainty.

All the confirmed cases of abdominal Tuberculosis should be treated with standard anti-tubercular therapy for at least a period of 6 months.

Isoniazid, Rifampicin, Pyrazinamide, and Ethambutol (HRZE) are recommended as part of a standard 4-drug regimen for two months (intensive phase), followed by Isoniazid and Rifampicin for four months (continuation phase). National and WHO current guidelines recommend daily dosing in the intensive and continuation phases. It is quite effective, has good cure rates. Intestinal ulcers will heal within 2 months of starting ATT.

This study was undertaken to evaluate the clinical spectrum,

radiological findings, and surgical management patterns of abdominal tuberculosis in patients admitted to a tertiary care hospital.

MATERIALS AND METHODS

A hospital-based observational cross-sectional study was carried out in the Department of General Surgery, Fathima Institute of Medical Sciences, Kadapa, Andhra Pradesh, between May 2022 and October 2023.

After taking informed consent, 30 eligible patients were added to the trial.

Patients presenting with evening raise of temperature, generalized abdominal pain, palpable mass in the right iliac fossa, obstruction or perforation, vomiting, altered bowel habits, weight loss, loss of appetite were considered.

Clinical history, demographic details, socioeconomic status, and presenting complaints were documented. Routine blood investigations including Hemoglobin level, Leukocyte count and Erythrocyte Sedimentation Rate (ESR) were done. Sputum examination was also done. Radiological investigations included erect x-ray of abdomen, ultrasonography, and computed tomography when indicated. Histopathological examination was done in some patients. Presence of chronic granulomatous inflammation along with caseation necrosis and giant cells is the diagnostic criteria for abdominal TB in HPE.

Depending on the clinical state, patients were treated either conservatively with anti-tubercular treatment alone or surgically. Postoperatively, all individuals received ATT category 1 treatment for six months as per the Revised National Tuberculosis Control Program (RNTCP). Descriptive statistical techniques were employed to analyse the data and were presented in the form of frequencies, percentages, means and standard deviations.

RESULTS

The mean age of the study population was 31.6 ± 9.6 years. Most of the patients were in the age group of 21 – 30 years.

53.33% of the patients were female and 46.67% of the patients are male in our current study.

Commonest site of involvement was found to be ileocecal region (40%) followed by ileal involvement (23.3%) and mesenteric lymph node involvement (20%). Intestinal obstruction was observed in 16.7% of patients. Intestinal perforation was observed in 16.7% of patients.

Abdominal pain was the most common presenting symptom, found in

53.3% of patients. Vomiting and diarrhea were observed in 26.7% of cases, while constipation and loss of appetite were reported in 23.3% of cases each. Fever was found in 16.7% and abdominal mass was found in 20% of patients.

Laboratory investigations showed increased ESR in 73.3% of patients and anemia with hemoglobin < 10 g/dL in 33.3%. Thirty percent of cases had neutrophilia.

Acid fast bacilli was found in sputum in 33.3% subjects.

Radiological evaluation showed multiple air fluid levels in 50% of the patients and ultrasonography showed dilated fluid filled bowel loops in 36.7% and lymphadenopathy in 30% of the patients.

Conservative management with anti-tubercular therapy was sufficient in 60% of patients, whereas 40% required surgery. Limited ileocecal resection with anastomosis was the most commonly performed procedure.

Table 1: Age Distribution

Age Group	Frequency	Percent
Below 20	2	6.67%
21-30	16	53.33%
31-40	4	13.33%
41-50	8	26.67%
Total	30	100.00%

Table 2: Gender Distribution

Gender	Frequency	Percent
Females	16	53.33%
Males	14	46.6%
Total	30	100%

Table 3: Clinical Features

Clinical Features	Frequency	Percent
Fever	5	16.67%
Vomiting	8	26.67%
Pain Abdomen	16	53.33%
Abdominal Mass	6	20%
Loss of Appetite	7	23.33%
Weight Loss	4	13.33%
Constipation	7	23.33%
Diarrhea	8	26.67%
Obstruction	5	16.67%
Perforation	5	16.67%

Table 4: Site Distribution

Site	Frequency	Percent
Anorectal	2	6.67%
Ileocecal	12	40%
Ileal	7	23.33%
Jejunal	2	6.67%
Mesenteric Lymphnodes	6	20%
Combination	1	3.33%
Total	30	100.00%

Table 5: Methods used for Diagnosis

S.NO	Method of Diagnosis	Frequency	Percent
1	LABORATORY FINDINGS		
	HB less than 10gm	10	33.33%
	ESR elevated	22	73.33%
	Neutrophilia	9	30%
2	SPUTUM EXAMINATION (Showing Acid Fast Bacilli)	10	33.33%
3	RADIOLOGICAL FINDINGS		
	X-Ray showing air under the Diaphragm	7	23.33%
	X-Ray showing multiple air fluid levels	15	50%
	USG abdomen showing dilated and fluid filled bowel loops	11	36.67%
	USG abdomen showing lymphadenopathy	9	30%
	CT scan – Pulled caecum	5	16.67%
4	HISTOPATHOLOGICAL EXAMINATION (with findings consistent with TB)	12	40%

Table 6: Type of Management

Type of Management	Frequency	Percent
Conservative with ATT alone	18	60%
Surgery + ATT	12	40%
Total	30	100%

Table 7: Type of Surgery done

Type of Surgery	Frequency	Percent
Limited Ileocaecal resection and primary anastomosis	4	33.33%
Resection with Ileostomy	2	16.66%
Right Hemicolectomy	1	8.33%
Adhesiolysis	2	16.66%
Strictureplasty	2	16.66%
Appendectomy	1	8.33%
Total	12	100%

DISCUSSION

Abdominal tuberculosis continues to pose significant diagnostic and therapeutic challenges because of its varied presentation and resemblance to other abdominal diseases. In the present study, younger adults were predominantly affected and Female predominance was also observed. These findings are consistent with previous study by Mukhopadhyay¹⁸.

Chalya PL et al also reported that reproductive age groups patients are most affected with abdominal Tb⁵.

The ileocecal region was the most commonly involved site in our study which is consistent with findings of Chalya PL et al⁵. This is probably because of the abundance of lymphoid tissue and the prolonged stasis in this segment. In the present study, the most common symptom was abdominal pain followed by vomiting and changes in bowel habits. Similar results have been reported in previous studies of P Shukla et al¹⁹ and Bhansali et al² where the most common presenting symptom was abdominal pain.

The most frequent laboratory abnormalities noted were anemia and elevated ESR, which is in keeping with the chronic inflammatory nature of the disease. Imaging findings such as air-fluid levels, bowel wall thickening and lymphadenopathy were helpful in diagnosis but not specific.

Most patients responded well to conservative management with anti-tubercular therapy. However, emergency surgery was required in patients presenting with obstruction, perforation, or severe adhesive disease. Limited bowel resection and anastomosis constituted the most common operative procedure in the present study.

Early recognition and timely treatment are important in reducing morbidity and mortality associated with abdominal tuberculosis. Surgeons practicing in endemic regions should maintain a high index of suspicion in patients presenting with nonspecific abdominal symptoms.

CONCLUSION

Abdominal tuberculosis remains a major surgical challenge in developing countries because of its nonspecific presentation and delayed diagnosis. The ileocecal region is the most commonly affected site, and abdominal pain is the predominant presenting symptom. Although most patients can be managed conservatively with anti-tubercular therapy, surgery remains crucial in patients presenting with complications such as obstruction and perforation. Early diagnosis and prompt treatment can improve the clinical outcomes greatly.

This study was limited by the small sample size, single-center design, and absence of long-term postoperative follow-up. More multicentric studies with larger sample sizes are recommended.

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