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### A prospective study of clinical presentation & surgical management of abdominal tuberculosis at BMC, Sagar

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#### Abstract

Abdominal tuberculosis is an increasingly common disease that poses diagnostic challenge, as the nonspecific features of the disease which may lead to diagnostic delays and development of complications. This condition is regarded as a great mimicker of other abdominal pathology. A high index of suspicion is an important factor in early diagnosis. Abdominal involvement may occur in the gastrointestinal tract, peritoneum, lymphnodes or solid viscera. Various investigative methods have been used to aid in the diagnosis of abdominal tuberculosis. Early diagnosis and initiation of antituberculous therapy and surgical treatment are essential to prevent morbidity and mortality. Most of the patients respond very well to standard antitubercular therapy and surgery is required in some cases. Imaging plays an important role in diagnosis of abdominal tuberculosis because early recognition of this condition is important.

Abdominal tuberculosis constitutes a chief public health setback, presents a diagnostic challenge requiring a high index of clinical suspicion. Young age at presentation, delayed presentation, poverty & high morbidity & mortality are among the hallmarks of the disease in this region. These challenges need to be addressed in order to deliver optimal care for these patients. Early diagnosis, early antituberculous therapy & surgical treatment of the related complications are important for survival.

**Keywords:** Surgical, Abdominal & Tuberculosis.

#### Introduction

Tuberculosis (TB) is a life threatening disease which can virtually affect any organ system <sup>[1]</sup>. Abdominal TB comprises around 5 percent of all cases of TB <sup>[2]</sup>. The prevalence of TB has increased in both immunocompetent and immunocompromised and it can affect virtually any organ. The primary site of TB is usually lung, from which it can get disseminated into other parts of the body. The other routes of spread can be contiguous involvement from adjacent tuberculous lymphadenopathy or primary involvement of extrapulmonary organ. The diagnosis of extrapulmonary TB can be difficult as it presents with nonspecific clinical and radiological features and requires high degree of suspicion for diagnosis. The abdominal TB, which is not so commonly seen as pulmonary TB, can be a source of significant morbidity and mortality and is usually diagnosed late due to its nonspecific clinical presentation <sup>[3]</sup>. Approximately 15%-25% of cases with abdominal TB have concomitant pulmonary TB <sup>[4, 5]</sup>. Hence, it is quite important in identifying these lesions with high index of suspicion especially in endemic areas. ABDOMINAL TB is a type of TB that affects the Gut, Peritoneum, Abdominal lymph nodes and more rarely the solid organs in the abdomen (liver, pancreas, spleen). Abdominal TB leads to severe illness in adults and children and can cause complications such as bowel perforation can lead to death. Risk factors for development of abdominal TB include cirrhosis, HIV infection, diabetes mellitus, underlying malignancy, treatment with anti-tumor necrosis factor (TNF) agents, and use of peritoneal dialysis <sup>[6-10]</sup>

#### Material & Method

It is a prospective observational study including 100 patients were part of this study conducted from Dec 2019 to June 2020 with a diagnosis of abdominal tuberculosis confirmed histopathologically carried out in Bundelkhand Medical College, Sagar, Madhya Pradesh, India Detailed clinical examination of patients were evaluated. Investigations viz. blood CBC, RBS, serum urea, creatinine, BT, CT, Electrolytes, HbsAg, HIV, urinalysis, ECG, X-ray chest P.A.

view and X-ray plain abdomen in erect posture were carried out. After admission in surgical ward or in surgical intensive care unit as per patient's general condition, all the patients were resuscitated by continuous nasogastric suction, intravenous fluids, intravenous broad-spectrum antibiotics & proton pump inhibitors. Adequate hydration achieved with urine output monitoring.

After adequate resuscitation, laparotomy under endotracheal general anaesthesia was performed through midline incision.

Then cases of acute & chronic abdominal diseases were treated by appropriate surgical intervention & supplementation of respective drug regimen, to reduce the complication that may occur from acute to chronic stage of the disease.

#### Inclusion criteria

The patients included in the study were all cases admitted to hospital with acute /subacute/chronic intestinal obstruction with old history and risk factors for tuberculosis and compared to the study.

- Incidence of abdominal tuberculosis in reference to acute and chronic abdomen
- Various mode of presentation of acute and chronic cases.
- Degree of involvement of abdominal organ by Mycobacterium Tubercular bacteria
- Outcome on basis of treatment by operative procedure and Medical treatment.

#### Exclusion criteria

- The patients of pathology other than abdominal tuberculosis like inflammatory bowel diseases, other bacterial enteritis, pseudo-obstruction or malignancy.
- Patients those who are treated on OPD basis.
- Infants with intestinal obstruction due to congenital causes.
- Patients who refused admission.

#### Results

**Table 1:** Age wise distribution

S. No.	Age Group	No. of Patient	Percentage
1	15-20	29	29
2	21-40	38	38
3	41-60	19	19
4	>60	14	14

Patients of Abdominal TB where mainly from age group 21 year to 40 year (38%), from 15 year to 20 year comprises of 29% patients and from 41 years to 60 year comprises of 19%. Patients above 60 years of age comprises of 14%.

**Table 2:** Distribution of patients by intra operative finding

S. No.	Finding	No. of Patient	Percentage
1	Ileal strictures	43	43
2	Ileocecal mass	19	19
3	Stercoral perforations	14	14
4	Adhesions	08	08
5	Plastered abdomen	06	06
6	Bands	04	04
7	Primary perforations	03	03
8	Colonic strictures	01	01
9	Jejunal stricture	01	01
10	Splenic abscess	01	01

Most common intraoperative finding was ileal stricture present in 43% of patients followed by ileocaecal mass in 21% patients

while Colonic strictures, Jejunal stricture, Splenic abscess was least common presents in only one patients only. Adhesions and Plastered abdomen were also present in 08 and 06 patients respectively.

**Table 3:** Groups of patients according to management

S. No.	Finding	No. of Patient	Percentage
1	Operated	83	83
2	Conservative	17	17

In most of the patients have been treated operatively i.e. 100 patients, while 34 were managed by conservative & most common operation done was resection & operate done in (83%) patients. Total Death was 04%.

#### Discussion

The total number of patients in our study group was 47, with males and females being 34 (72.34%) and 13 (27.6%), respectively. Charokar K reported 61% males and 39% females in their study group <sup>[11]</sup>. The youngest and the oldest patient in our study group were 16 years old boy and a 67 years old lady, respectively. The mean age of the patients in our study was 26.4 years. Sadia J reported mean age in their study to be 35.9 years. This difference in mean ages in this study and hers is probably due to the larger sample size of 161 patients in her study as compared to our sample size of 47 patients. Majority of study patients 85% were in the undernourished category and 15% were in the normal weight category as per the WHO-BMI classification. Strong association between malnourishment and tuberculosis. Tuberculosis affects primarily the malnourished and later on due to anorexia and malabsorption leads to further malnourishment. Similar findings have been reported by other researchers like Charokar K, who reported 68% of his study group patients to be in underweight category and 32% in the normal weight category <sup>[11]</sup>. Thirty five of our patients presented to our surgery emergency with features suggestive of peritonitis and 12 patients with acute intestinal obstruction and sub acute intestinal obstruction. The most frequent complaint in history was pain (85%) followed by vomiting (74.4%), weight loss (74%), fever (36%) and altered bowel habits (21%). Sharma MP have reported similar findings in their research <sup>[12]</sup>. Study found that primary perforation was the commonest intra-operative finding be it Ileal or jejunal perforation followed in decreasing order of frequency by multiple small bowel perforations, ileocecal mass, adhesions or bands, plastered abdomen, single or multiple small bowel strictures, small bowel strictures with impending perforation. Charokar K and Sadia J have reported similar results in their research <sup>[11, 13]</sup>. Ileostomy was the commonest surgical intervention performed in our study in 39 Patients (83%) followed by adhesiolysis(68%), primary repair of the perforated viscus (25%), right hemi-colectomy or limited ileocecal resection, stricturoplasty and in a solitary case only omental and peritoneal biopsy with peritoneal lavage was done. Different authors and researchers, Charokar K, Sadia J and Ali N <sup>[14]</sup> have suggested and reported a multitude of surgical procedures in the surgical management of abdominal tuberculosis but it has been rightly stated by Sabooni K <sup>[15]</sup>, that given the diverse presentation and characteristics of abdominal tuberculosis, no definite surgical procedure can be regarded as the standard of care. Hence, we may say that the appropriate surgical procedure and decision has to be taken by operating surgeon based on the performance status and general condition of the patient at the time of surgery, the site and extent of the disease and the expertise of the operating surgeon.

In our study group four patients were treated conservatively and had recovered without any surgical intervention. There was mortality of two patients due poor general condition, fecal peritonitis and ongoing septicemia at the time of admission. Similar findings have been reported by Sadia J <sup>[13]</sup>

### Conclusion

Abdominal tuberculosis constitutes a chief public health setback, presents a diagnostic challenge requiring a high index of clinical suspicion. Young age at presentation, delayed presentation, poverty & high morbidity & mortality are among the hallmarks of the disease in this region. These challenges need to be addressed in order to deliver optimal care for these patients. Early diagnosis, early antituberculous therapy & surgical treatment of the related complications are important for survival.

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