

## Original article

# Study of clinical presentation and surgical management of Intestinal tuberculosis

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### Abstract:

**Introduction:** Each year Tuberculosis results in the death of 3 million people globally. From 2000-2020, an estimated 1 billion people will be infected, 200 million people will become sick, and 35 million will die from TB, if control is not strengthened<sup>(1)</sup>. Globally Tuberculosis is considered as an adult killer

**Material and methods:** The study was conducted in 60 patients of intestinal Tuberculosis admitted in Tertiary Health Center over the period of two years. The patients with following criteria's were included for study: Cases admitted in emergency as Intestinal obstruction or Peritonitis due to intestinal Tuberculosis and Elective cases admitted in hospital on clinical as well as post investigation diagnosis of Tuberculosis.

**Results:** Most common age group is 2nd to 4th decade of life. Females affected more commonly in 2nd decade and males in 3rd decade of life. Male to female ratio is 1: 1.07

2. Acute presentation appears to be more common (73.33%), predominantly obstructive Variety (46.67%)

3. Most common symptom is pain (97.67%) followed by fever (70%), vomiting (66.67%), Distention (40.67%), constipation (35%) i.e. predominantly obstructive.

**Conclusion:** With new techniques becoming available for the diagnosis of gastrointestinal tuberculosis, more patients are being treated by chemotherapy and fewer are being offered surgery.

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### Introduction

Each year Tuberculosis results in the death of 3 million people globally. From 2000-2020, an estimated 1 billion people will be infected, 200 million people will become sick, and 35 million will die from TB, if control is not strengthened<sup>(1)</sup>. Globally Tuberculosis is considered as an adult killer. At present 26% of avoidable deaths are due to Tuberculosis in developing world with 1/3<sup>rd</sup> of world population already infected with tuberculosis. Around 80% of cases are from economically productive age group<sup>(2)</sup>. Though mortality has been significantly decreased due to chemotherapy, morbidity still remains the same because of addition of new cases. In India tuberculosis is still a problem of large magnitude, rate being 50/1000. At any point 80-90 lakh<sup>(3)</sup> patients need antitubercular treatment. Amongst them 6.4% are believed to be infectious. Mortality rate ranges 5 lakh /year. Out of total Tuberculosis cases 10% cases are of Extrapulmonary Tuberculosis. Of these 20% are abdominal Tuberculosis. Intestinal Tuberculosis is more common in occurrence in India. Tuberculosis is more common in males. But abdominal Tuberculosis is more common in females. Commonest site is ileocaecal region.

Intestinal Tuberculosis has either acute presentation as perforation or intestinal obstruction or chronic presentation as diffuse abdominal pain, weight loss, and other constitutional symptoms when assessed clinically. Treatment offered for abdominal tuberculosis is both medical and surgical according to clinical condition of the

patient. Main stay of treatment in intestinal Tuberculosis still remains surgical in spite of advent of chemotherapy. With availability of antibiotics, aseptic technologies and advances in surgical techniques, there is change in pattern of surgeries from earlier radical right hemicolectomy to more conservative recent surgeries like stricuroplasty or adhesiolysis.

#### **Material and methods**

The study was conducted in 60 patients of intestinal Tuberculosis admitted in Tertiary Health Center over the period of two years. The patients with following criteria's were included for study:-

- Cases admitted in emergency as Intestinal obstruction or Peritonitis due to intestinal Tuberculosis.
- Elective cases admitted in hospital on clinical as well as post investigation diagnosis of Tuberculosis.

#### **Exclusion criteria:**

- Isolated peritoneal tuberculosis, lymph node involvement, mass formation of omentum.
- Acute primary peritonitis.
- Solid organs like liver, spleen, and pancreas, Localized abscesses miliary form.
- Clinical diagnosis not supported by serology, histopathology or Intraoperative findings

Selection of case was done as above and study was conducted with following criteria, with histopathology as a definitive diagnosis although in certain cases diagnosis was based on intraoperative findings.

1. Age:- all age groups
2. Sex:- both male & female
3. Symptoms:- pain in abdomen, vomiting, fever, lump in abdomen ,distension ,altered bowel habits ,constitutional symptoms(cough ,weight loss ,loss of appetite ,weakness), menstrual symptoms
4. Signs:- lump, distension etc
5. Presentation:- acute/chronic
  - a. Acute:-intestinal obstruction
  - b. Perforative peritonitis
  - c. Chronic :
6. Laboratory investigations:-CBC & ESR, sputum for AFB, arctic fluid, Mantoux test, IGM-TB,PCR
7. Imaging modalities:- X-ray chest & abdomen, USG, Barium studies, CT abdomen
8. Medical management :- AKT
9. Surgical management: - Stricuroplasty, primary closure of perforation, resection anastomosis, adhesiolysis, hemicolectomy, quartercolectomy, colostomy etc.
10. Post-operative management & follow-up.

On admission patients were clinically assessed and supported with proper investigation they were subjected to either emergency surgery or investigated and managed conservatively .

#### **Results:**

History of previous tuberculosis at any other site is given by patients largest being Pulmonary TB. Other sites were insignificant to mention. X-Ray chest was done in all 60 cases and evidence of tuberculosis was seen in 71% cases in the form of active lung lesion (2 cases with percentage of 3.33%) in the form of cavitation, pleural effusion or old healed lesion (17 cases with percentage of 28.33%)

**TREATMENT MODALITIES**

	NO. OF CASES	Percentage
Hospitalization		
Medical	15	25%
Surgical + Medical	45	75%
a. Emergency	25	42.77%
b. Elective	20	33.33%

**Medical:**

Current study results showed that all the patients were given chemotherapy either preoperatively or post operatively. All the patients were treated under DOTS CATEGORY 1 .(HRZE 2months +HR 4 months) according to recommendation by RNTCP\*. Most of the patient responded well to the regime.

35(58.33%) patient treated conservatively in first instance and offered Chemotherapy out of which 11 patients responded well. However 21 patients had been symptomatic either in the form of vague abdominal pain, weight-loss, fever etc or showed worsening of symptom and had to undergo surgery electively (35%). Follow up of patients who were offered antitubercular chemotherapy post operatively showed definite improvement in the form of weight gain, appetite and regression of previous symptoms. 14 Patients received chemotherapy alone (23.33%) out of which 11 recovered well (18.33%) while 4 patients were lost in follow up.

**Surgical:**

Current studies showed that out of 60 patients 46 were offered surgical management either as first instance in emergency or after trial with conservative management in the form of antitubercular chemotherapy alone for 6-12 weeks.

Different type of surgeries were offered in emergency mainly on the basis of clinical findings, past history of Koch's, X-Ray chest, X-ray abdomen findings, Ultrasonography findings, Intraoperative findings and CT scan abdomen findings in rare cases. Patients who were offered conservative management with antitubercular chemotherapy and latter on underwent surgery due to inadequate response to antitubercular chemotherapy, surgical plan is mainly decided mainly with the help of BARIUM STUDIES, and CT SCAN abdomen. Different types of surgeries offered in emergency and elective set up in current study are as follows:-

In present study local ileocaecal resection and anastomosis was seen as the most frequently performed procedure (total 12 cases, 20%) which was either done alone or combined with adhesiolysis, stricturoplasty, or lymph node biopsy. It is also the most frequently performed elective procedure with total 7 cases and percentage of 11.5%

**Post operative complications**

Sr. no	Complications	No. of cases	percentage
1.	Wound infection	6	10%
2.	Fecal fistula	2	3.33%
3.	Burst abdomen	1	1.67%
4.	Septicemia	1	1.67%
5.	Death	1	1.67%

- Post operative complications encountered in 11 cases percentage being 18.33%.
- Commonest complication is wound infection which is seen in 6 patients (10%)
- 2 patients Presented with Fecal fistula postoperatively
- 1 patient had burst abdomen.
- Septicemia is seen in cases while peritonitis is seen in 1 case.
- Post operative mortality is 1(1.67%).

1. Most common age group is 2nd to 4th decade of life. Females affected more commonly in 2nd decade and males in 3rd decade of life. Male to female ratio is 1: 1.07

2. Acute presentation appears to be more common (73.33%), predominantly obstructive Variety (46.67%)

3. Most common symptom is pain (97.67%) followed by fever (70%), vomiting (66.67%), Distention (40.67%), constipation (35%) i.e. predominantly obstructive.

4.. Association with pulmonary tuberculosis is seen in 31.33% cases.

5. Ileocaecal region is the most common site for involvement of intestinal tuberculosis.

6. All the patients were offered antitubercular chemotherapy either preoperatively or post operatively .25% patients were treated with chemotherapy alone.

7. Local ileo-caecal resection is most frequently performed operative procedure (20%) both in emergency set up and elective cases. Ileoileal resection is next to it (18.33%).

8 Most common post operative complication is wound infection seen in 10% cases. complications are more common in poorly nourished and anemic patients. Seropositivity is Appears definite contributory in this respect.

**Discussion:**

Abdominal tuberculosis is prevalent in economically productive age group as in pulmonary tuberculosis. Both the sexes appears to be equally affected with presentation in male is 1 decade later . Meajority of cases reported in hospital are acute or subacute( 36.67% & 26.67% respectively) This indicates that abdominal TB presenting more and more as acute presentation with only 36.67% cases presenting as chronic variety. ESR, Mountoux test, Histopathology, IgM tuberculosis are important investigations for confirmation of clinical diagnosis of tuberculous etiology and are necessary for starting anti- tubercular chemotherapy.

Cat 2 Antitubercular chemotherapy was offered to all diagnosed cases of abdominal tuberculosis either postoperatively in emergency operated patients or is started to patients who are conserved in emergency and

chronic Cases who are diagnosed as abdominal tuberculosis.

Only .23.33% patients showed improvement with chemotherapy alone. Surgical management was offered to 76. 67% cases. Most commonly performed procedure is Local Ileocaecal resection and anastomosis both in emergency as well as elective set up followed by ileo-ileal resection and anastomosis (18.33%) which are supported by stricturoplasty, adhesiolysis, lymph node biopsy. This showed preference to more conservative surgeries as compared to more radical Hemicolectomy (13.33%) under cover of antitubercular chemotherapy. Most important post operative complication was wound infection seen in 10% cases and is more associated with poor general health and immunocompromised state. Abdominal TB when associated with HIV runs more fulminant course. While association with pulmonary tuberculosis is seen in 31.67% cases.

60% of the cases in the current study were in their second and third decades of life. As per our current study male to female ratio in my study was 1.07:1 which Correlates with the Singh et al<sup>(6)</sup> study.

In our present study 35 of total 60 patients were treated by medical line of treatment initially while 25 cases were operated in emergency and then subjected to antitubercular chemotherapy. In the end all patients either preoperatively or post operatively received chemotherapy.

Post operative management is identical for emergency as well as elective variety, this includes patient nil by mouth for an adequate period of time ,intravenous fluids, ryle's tube aspiration and antibiotics .Many patients require intravenous nutritional support and products like human albumin, and essential amino acids. Patients were gradually started on liquids orally which were then stepped up to soft diet and then finally to full diet. The patients were started on full dose of antitubercular chemotherapy after they tolerated oral intake. In the past multiple ileal strictures presenting with obstruction were dealt with by doing multiple stricturoplasties rather than formal resection and anastomosis. The argument in favor of this was higher leak rate from unprepared bowel that would have to be resected with consequent nutritional disturbances in the form of decreased absorption of bile salts, fats and fat soluble vitamins like A, D, E, and K compounded with decreased absorption of vitamin B12. This however has been discouraged in the present years with greater emphasis on formal resection and anastomosis. This is being done more often for impassable solitary strictures, multiple strictures over large bowel segment. The leak rates have been very low with better techniques, better suture materials and better post operative management in the form of general care, intravenous nutritional support with essential amino acids.

#### **Conclusion:**

With new techniques becoming available for the diagnosis of gastrointestinal tuberculosis, more patients are being treated by chemotherapy and fewer are being offered surgery.

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