

## A STUDY OF CLINICAL PRESENTATION AND MANAGEMENT OF ABDOMINAL TUBERCULOSIS IN A TERTIARY CARE HOSPITAL

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**ABSTRACT: BACKGROUND:** Abdominal Tuberculosis remains a major health problem in the developing countries especially in Indian subcontinent. Abdominal tuberculosis is a disease which has no clear clinical features even after a complete range of investigations. Thus, a high index of clinical suspicion is required to establish a diagnosis. Tuberculosis of GI tract accounts for 50% of all gastrointestinal cases. **MATERIAL AND METHOD:** The study was conducted in the Department of Surgery, Chirayu Medical College and hospital Bhopal from January 2011 to August 2013 to assess the clinical presentation management and outcome of abdominal tuberculosis. All patients with clinical features suggestive of abdominal tuberculosis were included in the study. Records of the patients were retrieved and reviewed to measure parameters of age, gender, socio-economic status, mode of presentation, operative findings, hospital stay and complications. The diagnosis of abdominal tuberculosis was confirmed by histopathology. **RESULTS:** A total of 51 patients were included in the study. Out of these, 26 patients (62%) were male and 25 patients (38%) were female. 21 patients (41.17 %) presented with acute while 30 patients (58.82 %) presented with chronic onset of disease. Intestinal obstruction was seen in 11 (21.56%) patients and perforation peritonitis was present in 10(19.60%) patients. Subacute intestinal obstruction was seen in 23(45.09%) cases. 4 patients (7.8%) presented with mass in right iliac fossa. 27 patients (52.94%) were treated conservatively while rest of them 24 (47.0%) underwent laparotomy. Grossly ileum was involved in 17 cases (9perforation and 8 stricture).During hospital course, 15 (29.41%) patients had post operative wound infection, 2(3.92%) had burst abdomen and 1(1.90%) had faecal fistula. Histopathological confirmation of tuberculosis was done in 72.54 % of cases. All patients were prescribed anti tuberculosis drugs for 12 months duration. Mean hospital stay was  $16 \pm 14.67$  days. **CONCLUSION:** Abdominal tuberculosis is a disease that is frequently overlooked, with consequent delay in treatment. As a treatable condition, abdominal TB should be considered early in the differential diagnosis of abdominal symptoms in our country. Failure to recognise this disease early may lead to increase morbidity and mortality, as many of the patients need surgical intervention and prolonged hospitalization in addition to chemotherapy with anti tuberculosis drugs.

**KEY WORDS:** Abdominal tuberculosis, Antituberculosis drugs, Laparotomy

**INTRODUCTION:** In the paradoxical land of plenty with poverty, the age old disease tuberculosis since the time of Hippocrates is still rampant. According to W.H.O nearly one third of the world population is at risk of acquiring tuberculosis. It is estimated that about 40% of the Indian population is infected with TB bacteria, majority having latent than active TB.<sup>1</sup> One half of the world population is infected with M. tuberculosis and is the leading cause of infectious death with approximately 1.6 million deaths annually.<sup>2</sup>India is the highest TB burden country with WHO statistics for 2011 giving an estimated incidence figure of 2.2 million cases of TB for India out of a

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global incidence of 8.7 million cases. Abdominal tuberculosis is the fourth common site of extra pulmonary involvement. Abdominal tuberculosis is a disease which has no clear clinical features even after a complete range of investigations. Thus, a high index of clinical suspicion is required to establish a diagnosis.<sup>3</sup>Tuberculosis of GI tract accounts for 50% of all gastrointestinal cases. The commonest site is distal ileum and caecum. Bhopal is an endemic area for tuberculosis and abdominal tuberculosis is also very common in this part of the country. Definitive diagnosis of abdominal tuberculosis is difficult therefore present work is undertaken in Chirayu Medical College and hospital, Bhopal to study and unmask the varied clinical picture with special reference to the surgical management.

## **MATERIAL AND METHODS:**

**Study design:** This is a retrospective study comprising of patients of abdominal tuberculosis.

**Study Place:** Department of surgery, Chirayu Medical College and Hospital, Bhopal.

**Study period:** January 2011 to August 2013.

**Sample size:** A total of 51 patients presenting with sign and symptoms of abdominal tuberculosis were included in the study.

**Ethical clearance:** After approval from the ethical committee.

**Data analysis:** Data were reviewed by using Microsoft excel for variables like age, gender, mode of presentation, management, type of surgery, postoperative course and follow up.

**Procedure:** Patients who had acute intestinal obstruction and signs of peritonitis were operated in emergency. All these patients were resuscitated and optimized for surgery with parenteral fluids and antibiotics. Baseline investigations were done in all patients and included complete blood picture, ESR, Serum electrolytes, Renal Function Test, X - ray chest, X- ray abdomen erect and ultrasound abdomen. Patients who had presented with an abdominal mass and sub- acute intestinal obstruction were initially managed conservatively and investigated accordingly. The investigations included Barium meal follow through, colonoscopy and CT scan with contrast. Among those operated in emergency, diagnosis of tuberculosis was made on finding tubercles, enlarged mesenteric lymph nodes, strictures and ascites. Definitive diagnosis of abdominal tuberculosis was made by histopathology. In patients who presented with peritonitis due to intestinal perforation with peritonitis, ileostomy was performed as a first stage procedure. Where indicated, resection of the diseased segment and anastomosis was done; in few cases right hemicolectomy was done. Patients with strictures underwent stricturoplasty. Patients with ileostomy had reversal of stoma as a second stage procedure. During this period all the patients had a full course of anti tuberculosis drugs for twelve month.

**RESULTS:** A total of 51 patients were included in the study, out of these, 26 patients (62%) were male and 25 patients (38%) were female. In the present series, maximum incidence was seen in the age group between 20-30 years i. e. 17 (33.3%) patients (Table no. 1). 33(64%) patients belonged to the poor socio-economic class. 21(41.17 %) of cases presented with acute while 30(58.82 %) of patients presented with chronic onset of disease (Table no. 2). Intestinal obstruction was seen in 11(21.56%) of patients and Perforation peritonitis was present in 10(19.60%) of patients. Sub acute intestinal obstruction was seen in 23(45.09%) of cases. 4 (7.8%) patients presented with mass in right iliac fossa. 27(52.94%) patients were treated conservatively while rest of them 24(47.0%)

underwent laparotomy. Grossly ileum was involved in 17 cases i.e. 9 perforations and 8 strictures (Table no. 3). During hospital course, 15(29.41%) patients had post operative wound infection, 2(3.92%) had burst abdomen and 1(1.90%) had faecal fistula (Table no. 4). All patients were prescribed anti tuberculosis drugs for 12 months duration. Mean hospital stay was  $16 \pm 14.67$  days.

**DISCUSSION:** Tuberculosis remains a major health problem in the developing countries especially in Indian subcontinent and Africa.<sup>4</sup>The different variety of clinical presentation and complications of abdominal tuberculosis continue to challenge the diagnostic acumen and therapeutic skills of all physicians.<sup>5</sup>The awareness of clinical presentation of abdominal tuberculosis shortens its diagnostic time and improves its management. Abdominal tuberculosis tends to be more common in females. The female to male ratio as reported in various series is 3:1<sup>6-10</sup>, as females are malnourished and neglected in our population, however in the present series the ratio is almost equal (1.1:1). Abdominal tuberculosis can occur at any age, but most commonly it is seen in young age.<sup>11-12</sup> Maximum numbers of the patients in the present series are in the age group of 20 to 30 years. Majority 70 % of the patients belonged to low socioeconomic status. Under nutrition, overcrowding, unhygienic environment, poor pasteurization of milk have been implicated to contribute to this problem.<sup>13</sup>In the present series 30 cases (56.67%) presented with insidious onset on illness, remaining 21 (43.33%) presented with acute manifestation. The acute group comprised of 11 cases (40%) who presented with features of intestinal obstruction and 10 cases (19%) presented with perforation peritonitis. In the present series ileal region was involved in 33% and combined ileal and ileocaecal lesion was seen in 22.79% of cases. Other studies corroborate our findings.<sup>14-15</sup>Diagnostic laparotomy becomes necessary for histopathological and microbiological diagnosis, more often in patients with peritoneal and or lymph node tuberculosis.<sup>16</sup>

Minimal invasive procedures like laparoscopic hemicolectomy, laparoscopic resection and anastomosis and endoscopic balloon dilatation are now increasingly used.<sup>17</sup>The initial surgical approach to abdominal tuberculosis was to perform bypass procedures to relieve intestinal obstruction as resectional surgery was considered hazardous. With the availability of specific antituberculosis drugs, the approach shifted towards radical surgical procedures like right hemicolectomy.<sup>18</sup>Resection and anastomosis was carried out in patients with multiple strictures or perforations. Right hemicolectomy and stricturoplasty were the procedures done in patients with ileocaecal mass and single stricture respectively. These procedures are also favoured and recommended in studies.<sup>19</sup>Localized conservative resection of ileocaecal region was done in seven cases in the present series and standard right hemicolectomy was done in one case for hypertrophic lesions of the ileocaecal region and ascending colon. Small intestine perforations are seen in 8-15% cases with abdominal tuberculosis.<sup>20, 21</sup>In the present series there were 10(19.60%) cases who present with intestinal perforation. In seven cases simple closure of perforation, separation of adhesions, peritoneal toilet, drainage and mesenteric lymph node biopsy was done. In our series post operative wound infection was seen in 15(29.41%) patients, this is seen in other studies as well.<sup>22</sup>All the cases were subjected to strict anti tuberculosis drugs post operatively. The duration of therapy varied from six months to 12 months depending on the type of drug combination and the patient's response. All the cases were closely observed during the post operative period. In more of the cases post operative stay was within 10 to 12 days. Most of the patients in the present series

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have been followed up of period varying between three months to 12 months. Majority of patients gain weight and had improved appetite.

**CONCLUSION:** Intestinal tuberculosis is a common extra-pulmonary manifestation of tuberculosis. Its incidence is increasing in urban and rural areas due to poverty, under nutrition and overcrowding. Abdominal tuberculosis is a disease that is frequently overlooked, with consequent delay in treatment. As a treatable condition, abdominal TB should be considered early in the differential diagnosis of abdominal symptoms in our country. Failure to recognise this disease early may lead to increase morbidity and mortality, as many of the patients need surgical intervention and prolonged hospitalization in addition to chemotherapy with anti tuberculosis drugs.

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Age Groups	Male (n)	Female (n)	Total (n)	Percentage (%)
0-10 yrs.	0	0	0	0
11-20 yrs.	05	07	12	23.5%
21-30 yrs.	07	10	17	33.3%
31-40 yrs.	06	05	12	21.5%
41-50 yrs.	06	02	08	15.6%
51-60 yrs.	02	01	03	07.8%
>60 yrs.	01	0	01	01.9%
<b>Total</b>	<b>26</b>	<b>25</b>	<b>51</b>	<b>100</b>

**Table no.1: Age wise distribution of patients**

Symptoms	No. of Cases	Percentages
Abdominal pain	49	96%
Anorexia	45	88%
Not passing flatus /motion (constipation)	35	68%
Distension of abdomen	35	68%
Loss of weight	29	56%
Vomiting	25	49%
Fever	05	09.8%
Diarrhoea	03	05.8%
Lump in abdomen	03	05.8%

**Table no. 2: Clinical presentation of the patients**

Operative procedure	No. of Cases	Percentage
Resection & anastomosis (ileo-ascending / ileo-ileal/ jejunum-jejunal anastomosis)	8	15.6 %
Perforation repair	7	13.72%
Ileostomy	6	11.2%

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Drain insertion only	5	9.8 %
Adhesiolysis /band release	2	3.9%
Rt hemicolectomy	1	1.9%
Derotation of volvulus	1	1.9 %
Colostomy	1	1.9 %
Drainage of Psoas abscess & Omental biopsy	5	9.8 %
<b>Total</b>	<b>100</b>	<b>100</b>

Table no. 3: Surgical procedures undertaken among the patients.

Type of complication	No. of cases (n)	Percentage (n)
Wound sepsis	15	29.41 %
Burst abdomen	2	03.92 %
Faecal fistula	1	01.90 %
<b>Total</b>	<b>18</b>	<b>35.23%</b>

Table no. 4: Post operative complications observed in patients.

### Clinical Photographs:



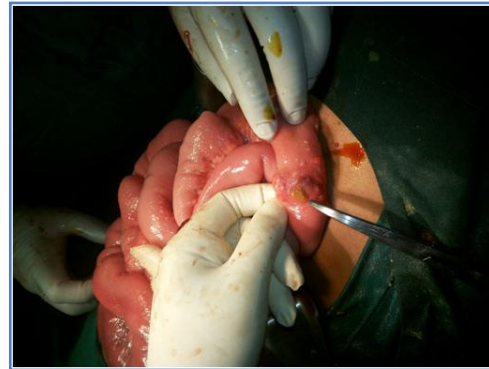
1. Disseminated abdominal tuberculosis



2. Multiple Tubercles studded over small Intestine and mesentery with ischemia



3. Perforation of Ileum Due to Abdominal Tuberculosis



4. Perforation of small intestine due to abdominal tuberculosis

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