

# Management and Outcome of Abdominal Tuberculosis

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## ABSTRACT

**Objective:** To Study the management and outcome of Abdominal tuberculosis.

**Place and Duration of Study:** This study was conducted at Jinnah Hospital & Avicenna Medical College Lahore from Jan' 2009 to Jul' 2010.

**Patients and Methods:** A total of 38 patients irrespective of age and gender who were diagnosed to be suffering from abdominal tuberculosis were included in the study.

**Results:** 24 patients, (63.15%) were females thus making the majority, while 14 ( 36.85%) were males. 28 patients out of 38, underwent-major surgical procedure like hemicolectomies, resection of small bowel and end to end anastomosis, stricturoplasty, Ileostomy etc., while 10 patients were treated conservatively. All were put on antituberculous therapy.

**Conclusion:** Abdominal tuberculosis continues to be a major health concern in our country. An early diagnosis may prevent the patient from a major disaster, but as it poses diagnostic problems, it is often diagnosed late, presents late with complication that require major surgical procedures.

## INTRODUCTION

Intestinal tuberculosis is one of the earlier diseases known to mankind and despite advances in diagnostic modalities, and drug treatment, it continues to be a diagnostic and therapeutic challenge<sup>1</sup>. It still remains a major health concern in Pakistan as well as many Asian countries. Abdominal tuberculosis is a common extra pulmonary manifestation of tuberculosis, but its clinical presentation is non specific<sup>2</sup>, and so its diagnosis is often delayed<sup>3</sup>,

Once a disease of the underdeveloped or developing countries, there has been a concern about the rising incidence among the developed countries<sup>4,5</sup>, perhaps due to an increase in the immigrant population, usually from the subcontinent. Although abdominal tuberculosis can be treated early enough, but due to its varied presentation and difficulty in diagnosis most of the patients present late as an emergency with obstructive symptoms or peritonitis<sup>6</sup>.

This study of 38 patients was carried out in surgical unit-4, Jinnah hospital, & Avicenna Medical College Lahore, from Jan'09 to Jul' 10, to find out the management options and outcome of abdominal tuberculosis, in patients who were diagnosed to be suffering from the disease and underwent surgery or were treated conservatively.

## PATIENTS AND METHODS

A total of 38 patients, irrespective of age and sex were included in this study.

### Inclusion Criteria:

Patients with vague abdominal symptoms like abdominal pain vomiting, distension (signs of obstruction), and borborygmi, peritonitis, abdominal mass, ascites and doughy abdomen.

### Exclusion Criteria:

- Patients with known malignancy.
- Patients with abdominal presentation of multiple disorders like chronic liver disease, renal failure etc.

In this study of 38 cases, majority of the patients were females, Male 14(36.85%)- Females 24 (63.15%) with male to female ratio of 1:2. Age percent age is shown in Table: 1

Table 1:

No of patients	Age	Percentage
22	15-25	57.89
12	26-35	31.57
2	36-45	5.26
2	<b>Above-45</b>	5.26

Among 38 cases, two presented in the outpatients department while 36 presented in the emergency department. Clinical presentation of these patients is shown in table II

A thorough clinical examination was carried out in all patients and all relevant investigations were carried out. Chest radiograph was done in all cases, which revealed that-6(15.78%) patients

have evidence of pulmonary tuberculosis, active or healed. Plain x-rays of abdomen, erect and supine were done in all cases to see for multiple air fluid levels, gas under diaphragm due to perforation. Multiple air fluid levels were found in 32 (84.21%) cases while 6(15.78%) patients had gas under diaphragm due to perforation.

Table II:

Mod of presentation	No of patients	Patients
Abdominal pain	36	94.73
Abdominal Distension	32	84.21
Vomiting	28	73.68
Mass abdomen	14	36.84
Ascites	10	26.31
Peritonitis	6	15.78
Enterocutaneous Fistula	1	2.63
Constitutional Symptoms		
Fever, wt. Loss	23	60.52
Pulmonary	6	15.78

Ba-meal and follow through was done in 4 out of 10(40%) suspected cases of abdominal tuberculosis in patients who were managed conservatively, and all showed features of the disease. Diagnostic laparoscopy was performed in 6 cases and mesenteric lymph node biopsy was taken to confirm the diagnosis.

**RESULTS**

Majority of the patients, 28 in number (73.68%) needed surgical intervention and were operated upon. These patients had presented with signs and symptoms of acute intestinal obstruction (either due to mass abdomen or some constricting lesion) or peritonitis due to perforation of the gut. H/P examination of resected intestinal segment and mesenteric lymph node was performed to confirm diagnosis. Surgical procedures included adhenolysis , stricturoplasty, resection and end to end anastomosis and right hemicolectomy. All patients were put on ATT (antituberclous therapy).

Ten patients (26.31%) were managed conservatively; these patients had presented with vague abdominal and constitutional symptoms such as fever, at loss, borborygmi, signs of sub acute obstruction, doughy abdomen. Evidence of tuberculosis was obtained on barium meal and follow through or diagnostic laparoscopy. They

were managed conservatively with Anti tuberculosis therapy. Various surgical procedures done are shown in table III.

Table III:

Surgical Procedure	No of Patients	Percentage
Rt. Hemicolectomy	12	42.85
Resection of Ileum and end to end anastomosis	8	28.57
Ileostomy followed by closure.	6	21.42
Structuros plasty	2	7.14

Table IV:

Histopathological Results	
Biopsy specimen type	Histopathology Report
Resected gut-e.g Rt. Homicolectomy+ adjacent mesentry with lymph nodes	Small and large bowel thick walled_show perforations, mucosal ulcerations, serositis and ch inflammed granulation tissue-no tumor, no growth. There are multiple enlarged lymph nodes, which show necrotizing granulomatous lymphadenitis. ZN stain-negative for acid fast bacilli.
Lymph nodes	<ul style="list-style-type: none"> <li>• Chronic granulomatous tissue, consistant with tuberculosis.</li> <li>• Focally necrotizing chronic granulomatous inflammation.</li> <li>• Inflammed granulation tissue, infiltrated by a moderate chronic inflammatory cell infiltrate. Collection of epitheloid cells forming granulomas are seen. No evidence of malignancy.</li> <li>• Necrotizing granulomatous lymphadenitis consistant with tuberculosis.</li> </ul>

Three (10.71%) patients out of operated 28 died. These patients had presented late in the emergency with peritonitis due to perforation.

Septicemia and multiorgan failure was the cause of death. Histopathological proof of the disease, **Table IV**, was found in 32 cases out of 34, in the lymph nodes taken for biopsy in 28 operated and 6 laparoscopically taken biopsy specimens. Mesenteric nodes only were involved in 24 cases (70%), tuberculosis of both intestine and mesenteric nodes was present in 20 cases (59%). Patients who presented with enterocutaneous fistula, had been operated elsewhere at some local place, was managed successfully with TPN (total parental nutrition) and ATT. No surgery was performed in this case.

### DISCUSSION

Abdominal tuberculosis along with pulmonary tuberculosis is very commonly encountered by surgeon in Pakistan and south Asia. The commonest presenting complaint of the patient in this study was abdominal pain, distension and vomiting. According to Al-Quorain<sup>7</sup> the commonest symptom of abdominal tuberculosis was abdominal pain 78%, fever 65%, weight-loss (45%), vomiting 32%, mass RIF (right Iliac fossa) 14%. These results are comparable to our study. The incidence of pulmonary tuberculosis (active or healed) along with abdominal tuberculosis is variable. It is about 16% in present study, which is comparable to international figures. Tariq<sup>8</sup> documented it as 21% in a series of 230 cases, but active pulmonary lesion may be present in upto 60% of patients with abdominal tuberculosis.<sup>9</sup>

Surgical intervention was performed in 28 (73%) patients. Tariq<sup>8</sup> documented that laparotomy was performed in 70% of the cases. Abdominal exploration by right grid iron incision was carried out in 4 cases. These patients presented in the emergency department with sign and symptoms of acute appendicitis. Appendix was found to be normal. One had stricture terminal part of Ileum and one had enlarged mesenteric nodes proven tuberculous on H/p, stressing the need that surgeon working in endemic areas must examine the Ileum and mesenteric nodes while performing appendectomy.

Ten (26.31%) patients out of 38 were managed successfully with conservative management. Diagnostic laparoscopy was performed in 6 cases. Ba-meal and follow through was conducted in 4 out of 10 cases. Sir car<sup>10</sup> described that 78% of the cases were managed successfully with conservative treatment and only 21% required surgical intervention.

Perforation of the gut with abdominal tuberculosis carries a high mortality rate being 10.71% in our study. Sircar<sup>10</sup> reported it to be 11% and A1 Quarain<sup>7</sup> reported it to be 8% while Hassan H et al<sup>11</sup> reported it to be 13.63%. Tuberculous perforations are usually single and proximal to a stricture<sup>12</sup>. Terminal Ileum was the most commonly involved segment of the gut (45%) followed by ileocaecal junction 38%, finding corresponding to that of Kapoor VK<sup>13</sup>, while Tariq<sup>8</sup> found ileocaecal region to be involved commonly (39%) followed by terminal Ileum (16%).

The most common complication of small bowel or Ileocaecal tuberculosis is obstruction due to narrowing of the lumen by hyperplastic caecal tuberculosis, or by stricture or adhesions. Stricture was found in 2(7.14%) cases, compared with 41% in a study by Hassan et al<sup>11</sup>

In a large series of 248 cases of intestinal obstruction, Bhansali and Sethna<sup>14</sup> found tuberculosis to be responsible for 84(24.13) of cases, 73 were small bowel and 11 were large bowel obstruction.

### CONCLUSION

Despite advances in diagnostic aids, as laparoscopy, radiology etc, abdominal tuberculosis still remains a major health concern. It has varied symptoms and signs, so its diagnosis is always a challenge. Although medical treatment is the mainstay of therapy but, delay in diagnosis, late presentation, development of multidrug resistant strains, incomplete treatment, poor unhygienic living conditions, and high cost of treatment, have all increased the incidence and severity of abdominal tuberculosis and thus its complications, with many of the patient ending up with the need of undergoing major surgical procedures, leading to a higher incidence of morbidity.

Thus considering the serious nature of the disease, with deceptivity in diagnosis, and to avoid the bitter consequences which the patient has bear on late presentation, our studies stresses the need for, on part clinicians, to be very critical, thoughtful have a high degree of suspicion to diagnose early and start the treatment, and on part of the patients who should understand & be counseled about the disease, be compliant & continue with the treatment for full course, even if the symptoms get better, to avoid or lesson the complications.

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