



## EPIDEMIOLOGY OF ABDOMINAL TUBERCULOSIS IN SOUTHERN INDIA- A RETROSPECTIVE STUDY

**N. Soundharrajan**

Assistant professor, GVMCH, Villupuram.

**T. Chitra\***

Professor, GVMCH, Villupuram. \*Corresponding Author

### ABSTRACT

**BACKGROUND OF THE STUDY:** In spite of considerable advances in recent times, tuberculosis, particularly of the abdomen is the major health problem in India. Abdominal tuberculosis has been a major source of morbidity. The disease is a diagnostic enigma and the management is still controversial.

**METHODS AND MATERIALS:** The study was done in Govt. Rajaji Hospital and Madurai Medical College from September 2013 to September 2014. 50 cases have been studied. 49 cases underwent definitive surgeries. Follow up period ranges from 1 month to 22 months.

**CONCLUSION:** The most common presenting complaint was abdominal pain (90%) and sign was abdominal tenderness(56%). Most of the cases were anaemic and poorly nourished. Most common age group being the 2nd, 3rd, and 4th, decades of life contributing 74% of the total sample size. The M: F ratio was 1.5:1. Diagnosis is difficult in absence of active pulmonary disease, 4 patients had active pulmonary disease and accuracy of diagnosis was 60%.

### KEYWORDS :

#### INTRODUCTION:

Tuberculosis has been one of the oldest diseases known to mankind.

It is one of the top ten-killer diseases. It forms a major health hazard in the underdeveloped and developing countries like India despite the advent of anti tubercular chemotherapeutic drugs and near adequate control measures. Along with AIDS it has acquired the "Deadly duo" status. The development of multiple drug resistance is another area of concern. Tuberculosis is one of the social disease, commonly known as the 'barometer of social welfare'. Abdominal tuberculosis is a highly endemic entity. It is most common in areas where overcrowding and under nutrition predominate.

In our country intestinal tuberculosis is the single largest causes of intestinal obstruction. Primary tuberculosis of intestine without antecedent or associated pulmonary tuberculosis is fairly common.

Abdominal tuberculosis represents the 6th most frequent form of extrapulmonary tuberculosis after lymphatic, genitourinary, bone and joint, miliary and meningeal tuberculosis[1-3]. Abdominal tuberculosis involves gastrointestinal tract, peritoneum, solid viscera like liver, spleen, pancreas, etc and lymph nodes. The gastrointestinal tract is involved in 65% to 78% of patients with peritoneal and lymph node involvement. Tuberculous bacteria will reach the gastrointestinal tract through blood -hematogenous spread, either ingestion of infected sputum or contiguous spread from adjacent organs. [3-8] Perforation is a serious complication of abdominal TB associated with high morbidity and mortality. [10-12] The low incidence of tuberculous perforation is due to a reactive fibrosis of the peritoneum. [12- 14] However, in recent years, intestinal perforation, which was relatively rare in the past, has been reported more frequently. The cause of this remains unknown.

This common entity of protean manifestations and presentations with varied complication poses a challenge to the diagnostic & therapeutic skill and ingenuity of a surgeon.

#### AIM:

To study the epidemiology and clinical presentation of abdominal tuberculosis and asses the complications and prognosis.

#### OBJECTIVES OF THE STUDY:

To study the age and sex distribution of abdominal tuberculosis and correlate it with the complications and prognosis.

To study the clinical presentations and asses the complications and effective management.

#### METHODS AND MATERIALS:

A clinical study of fifty cases of abdominal Tuberculosis treated surgically in different surgical units of Govt Rajaji Hospital, Madurai was undertaken from September 2013 to 2014.

A collection of common and rare manifestations of abdominal tuberculosis is presented here under. A thorough history taking and physical examination were done. The different surgical procedures were evaluated. All the routine investigations concerning the disease were done; a few patients were subjected to special investigations. The ensuing complications of the treatment were studied and the cases were followed up.

#### OBSERVATIONS AND RESULTS:

##### Age incidence:

In this study the age of the patients varied from 16 to 60 years. Table number 1, shows the age distribution among various age groups. The mean age in the present series was 32.68 years. Most of the cases were in 2nd 3rd and 4th decades of life contributing 74 % of the total. Table 1 shows the age distribution in the present study.

**Table: 1 AGE DISTRIBUTION**

Age in Years	15-20	21- 30	31-40	41-50	51-60	Total
Numbers	9	18	10	9	4	50
Percentage%	18	36	20	18	8	100%
Mean Age ( in years )	32.68					

##### Sex incidence:

In the present series of 50 cases 60 % of cases were males and the remaining 40 % formed by the females. No age difference was seen between males and females. Male: Female ratio was found to be 1.5:1.

##### Socio- Economic Status:

In the present study, except two all the patients belonged to lower socioeconomic strata of the society.

##### History of pulmonary Tuberculosis:

In the present series six cases had history of pulmonary Tuberculosis. One was on treatment while he presented with abdominal tuberculosis and three had discontinued the treatment the after intensive phase of DOTS.

##### Symptomatology:

The symptoms in the present series had duration ranging between one day to few years. 42% had one or more symptoms for duration of more than three months. Table number 3 shows the various common symptoms encountered in the present series. In the present series Abdominal pain was the most common presenting

complaint intermittent colicky type of pain, present in 90 % of cases. Lower abdominal pain was the commonest followed by periumbilical and generalised abdominal pain.

Other common symptoms were vomiting; relief of pain on vomiting was found in most cases, Altered bowel habits, especially constipation; diarrhoea was found in two cases. Fever was present in 28% of cases with evening rise of temperature. Abdominal distension was the presenting complaint in 44% of cases, which was generalised in ten cases and lower abdominal distension was seen in twelve cases.

Anorexia and weight loss was also found, most of these cases were that of sub acute intestinal obstruction with duration of more than 2 months of complaints. Menstrual irregularities was a complaint in 10% of cases.

**Table: 2 Symptomatology:**

Symptoms	Numbers	Percentage%
Abdominal pain	45	90
Altered bowel habits	26	52
Vomiting	23	46
Distension	22	44
Fever	14	28
Abdominal mass	4	8
Anorexia/Weightloss	15	30
Menstrual Irregularities	5	10

**Physical Findings:**

As shown in Table number 4, abdominal tenderness was most common finding. Rebound tenderness was present in 14%, all were cases of perforative peritonitis. Abdominal distension was seen in 48% of cases, generalised distension was present in ten number of patients and lower abdomen distension was found in 12 patients. Guarding and rigidity were present, all of them were cases of hollow viscus perforation, and were all associated with rebound tenderness. Right iliac fossa mass was found and one was in the right lumbar region.

Hyperperistalsis was found in 18% of cases. Active Pulmonary Tuberculosis was found in four cases, one of them had extensive miliary mottling. No physical findings in four patients.

**Table: 3 PHYSICAL FINDINGS:**

Signs	Numbers	Percentage%
Abdominal Tenderness	28	56
Distension	24	48
Mass in RIF	13	26
Hyperperistaltic Bowel sounds	9	18
Guarding	7	14
Rigidity	7	14
Mass other than RIF	1	2
No findings	2	4

**INVESTIGATIONS:**

**BLOOD INVESTIGATIONS:**

Blood investigation was done in all cases. Haemoglobin ranged from 6.7 gm% to 13gm%. Of all the fifty patients, 41 cases were having Haemoglobin of less than 11 gm%. Erythrocyte Sedimentation Rate (ESR) was done for all the fifty cases, it ranged from 20mm to 81mm after one hour. Sputum AFB was done for 10 patients, four of them showed a positive report.

**RADIOLOGICAL INVESTIGATIONS:**

Chest- X- Ray was done for 40 cases; four of them showed features of pulmonary tuberculosis, one of them showed miliary mottling. Erect-X-Ray abdomen was done for all 50 cases, of which 22 cases showed multiple air fluid level suggesting obstruction, 7 cases had gas under diaphragm, and 21 had a normal X- ray. Barium study was done for 16 cases, of which 3 showed narrowing of ileocaecal junction, 3 showed strictures, 5 showed pulled up caecum, 3 had ascending colon narrowing. In 2 cases studies were normal. Ultrasound abdomen was done for cases, sonological findings were

that of mass in 9, mesenteric lymph node enlargement was seen in three, 13 showed dilated air filled bowel loops, free fluid was seen in 4 and in one case USG showed features of acute appendicitis. In 9 cases USG showed no abnormality. CT scan abdomen was done for 15 cases, 13 showed ileocaecal and ascending colon thickening, out of those which showed mural thickening, eight showed significant luminal narrowing.

In the present series seven cases showed fat stranding, omental thickening and 5 showed mesenteric or Para aortic lymph node enlargement.

**OTHER INVESTIGATIONS:**

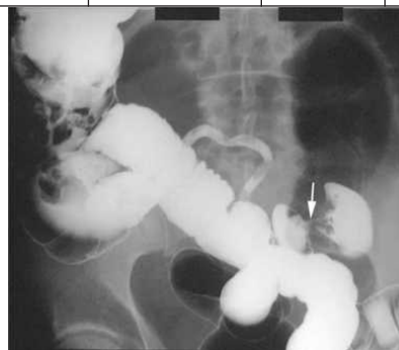
Eight cases underwent Colonoscopy, biopsy was taken in three, all confirming the diagnosis of Tuberculosis, ascending colon narrowing was seen in seven cases, out of these three showed multiple mucosal nodules and fibrosis as well, and in one case only mucosal nodules were seen. Of the fifty cases, nine patients underwent Diagnostic Laparoscopy, and biopsy was taken in five of these cases. Small multiple whitish nodules are scattered all over the peritoneum (tubercles) were seen in four, variable degrees of omental thickening was seen in four. Ileocaecal and ascending colon thickening seen in seven cases and mesenteric lymph node enlargement was seen in six of the cases who underwent the procedure, adhesions were seen in one.

**Histopathological study:**

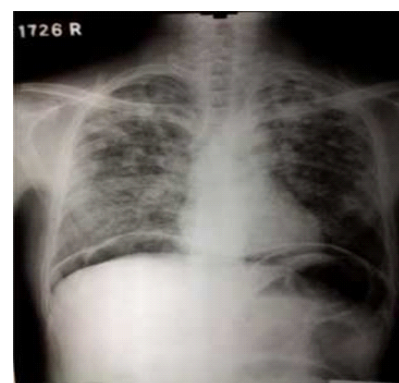
Histopathology of the biopsy specimens showed the following features.

**Table : 4 : Histopathological diagnosis:**

Site	Pathological type	Numbers	Percentage
INTESTINAL	Hyperplastic	31	62
	Ulcerative	12	24
	Ascitic	Nil	-
	Caseous	Nil	-
PERITONEAL	Plastic	1	2
	Mixed	Nil	-
MESENTERIC NODE		6	12



**PHOTO 1: BARIUM MEAL SHOWING ILEAL STRICTURE**



**PHOTO:2 CXR SHOWING B/L TUBERCULOSIS, AIR UNDER HEMIDIAPHRAGM**

**DISCUSSION:**

The following conclusion can be obtained from the study.

1. The signs and symptoms of intestinal tuberculosis are protean and non specific, and there are no unequivocal diagnostic features either clinically or radiologically. The most common presentation was abdominal pain (90%) and the most common sign was abdominal tenderness (56%). As a result, laparotomy and histopathological examination were frequently necessary to establish confirmatory diagnosis. Most of the cases were anaemic and poorly nourished.
2. Most common age group being the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> decades of life contributing 74% of the total sample size.
3. The M:F ratio in the present series was 1.5:1.
4. Diagnosis is difficult in absence of active pulmonary disease, 4 patients had active pulmonary disease and accuracy of diagnosis was 60%.
5. The most common site involved was ileocaecal region, in 44% of cases.

The results are analysed in comparison to various studies done on Abdominal Tuberculosis. 74% cases were in 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> decades while Forrest C et al presented 71% cases Bhansali S K and M B Islam et al 82% and 81.6% respect. In the same age group. Regarding sex incidence in the present study the male : female ratio was 1.5:1. while Bhansali. S.K reported a ratio of 1:1, while Forrest C et al reported a ratio of 1.28:1, M.B. Islam et al reported a female preponderance with a ratio of 0.7:1

Pain abdomen was the commonest symptom in the present study, present in 90% of cases. In Forrest C et al series, it was present in 86% of subjects, in M.B. Islam et al series it was present in 83.3% of subjects. Altered bowel habits were the second most significant complaint in the present series, 52% cases. Forrest C et al reported it to be present in 50% of cases, while M.B Islam et al reported the symptom in 71.6% of cases in both the studies it was the second most common presenting complaint. Abdominal tenderness was the commonest sign in present study while in others it was abdominal distension.

**REFERENCES**

1. Marshall JB. Tuberculosis of the gastrointestinal tract and peritoneum. *Am J Gastroenterol* 1993;88:989-99.
2. Aston NO. Abdominal Tuberculosis. *World J Surg* 1997;21:492-9.
3. Kapoor VK. Abdominal tuberculosis: the Indian contribution. *Indian J Gastroenterol* 1998;17:141-7.
4. Kapoor VK. Abdominal Tuberculosis. *Postgrad Med J* 1998;74:459-67.
5. Das P, Shukla HS. Clinical diagnosis of abdominal tuberculosis. *Br J Surg* 1976;63:941-6.
6. Bhansali SK. Abdominal tuberculosis: Experiences with 300 cases. *Am J Gastroenterol* 1977;67:324-37.
7. Prakash A. Ulcero-constrictive tuberculosis of the bowel. *Int Surg* 1978;63:23-9.
8. Horvath KD, Whelan RL. Intestinal tuberculosis: Return of an old disease. *Am J Gastroenterol* 1998;93:692-6.
9. Talwar S, Talwar R, Prasad P. Tuberculous perforations of the small intestine. *Int J Clin Pract* 1999;53:514-8.
10. Seabra J, Coelho H, Barros H, Alves JO, Rocha-Marques A. Acute tuberculous perforation of the small bowel during anti-tuberculosis therapy. *J Clin Gastroenterol* 1993;16:320-2.
11. Wig JD, Malik AK, Chaudhary A, Gupta NM. Free perforations of tuberculous ulcers of the small bowel. *Indian J Gastroenterol* 1985;4:259-61.
12. Dhar A, Bagga D, Taneja SB. Perforated tuberculous enteritis of childhood: A ten year study. *Indian J Pediatr* 1990;57:713-6.
13. Chaudhary SK. The perforation of tuberculous lesion of the intestine is extremely rare. *J Indian Med Assoc* 1997;95:59-63.
14. Arunabh AS, Kapoor VK, Chattopadhyay TK. Tuberculous perforations of the small intestine. *Indian J Tuberculosis* 1986;33:190-1.