



## Surgery

## A STUDY OF ABDOMINAL TUBERCULOSIS IN A NORTH INDIAN POPULATION AT A TERTIARY CARE HOSPITAL- A RETROSPECTIVE CROSS-SECTIONAL STUDY.

**Dr. Naveed Anjum Qureshi**

Registrar Surgery, Post Graduate Department of Surgery, GMC Jammu.

**Dr. Viney Sambyal\***

Lecturer Medicine, Post Graduate Department of Medicine, GMC Jammu.  
\*Corresponding Author

### ABSTRACT

**INTRODUCTION:** Tuberculosis is a global health problem with an estimated 8.6 million annual incidence with India having largest tuberculosis burden with around 26% of world tuberculosis cases. Abdominal tuberculosis is defined as infection of the peritoneum, hollow or solid abdominal organs with Mycobacterium Tuberculi. The peritoneum and the ileocaecal region are the most likely sites of infection and are involved in the majority of the cases by hematogenous spread or through swallowing of infected sputum from primary pulmonary tuberculosis.

**MATERIALS AND METHODS:** The patients presenting to Out Patient Department (OPD) and in-patient department (IPD) of a tertiary care hospital (GMC Jammu) from January 2016 to December 2016 were considered in the study. 121 patients were enrolled in to the study. The age group of the patients are from 20-80 years.

**RESULTS:** All diagnosed patients of tuberculosis received three-drug anti-tubercular regimen. There was no post-operative mortality. In spite of specific anti tuberculosis drugs and vast measures against the disease including chemoprophylaxis and pasteurisation, abdominal tuberculosis remains a fairly common disease even today. Young adults between 20-40 years are the most commonly affected.

**CONCLUSION:** Abdominal tuberculosis poses a diagnostic challenge as the disease presents with non specific symptoms, a diagnosis of GI tuberculosis is often delayed. Early diagnosis is the key factor in avoiding systemic and local complications of intestinal tuberculosis.

**KEYWORDS :** Abdominal tuberculosis, Intestinal obstruction.

### INTRODUCTION

Tuberculosis (TB) is a life threatening disease which can involve any organ system, abdominal tuberculosis can involve any part of the gastrointestinal tract from mouth to anus, the peritoneum and the pancreato-biliary system. It can have a varied presentation, frequently mimicking other common and rare diseases. The clinician must look for tuberculosis, and confirm or exclude this treatable condition in any patient who presents with gastrointestinal disease. TB of the gastro intestinal tract (digestive system) and abdominal cavity is known as abdominal tuberculosis. Ingestion of the tuberculous germ by drinking unpasteurised milk of a cow infected with TB is one of the mechanisms of abdominal TB.(1-6) According to WHO report 2013 there were an estimated 8.6 million annual incidence of tuberculosis globally and India has about 26% of the global burden of the disease followed by China and South Africa. Abdominal TB can also occur by spread of the TB bacillus from the lungs to the intestines by the blood stream. In 2/3 rd of children, there is predominant involvement of the digestive system. Involvement of the abdominal cavity (peritoneum) occurs in remaining of the patients. Involvement of only the lymph glands in the abdomen is rare. Clinical feature of abdominal tuberculosis is varied. The most common symptoms are pain in the abdomen, loss of weight, anorexia, recurrent diarrhoea, low grade fever, cough and distension of abdomen. The doctor on examination may feel a lump, fluid in the abdomen or a doughy feel of the abdomen. Also there may be enlarged lymph glands elsewhere in the body. Diagnosis can be confirmed by isolating the TB germ from the digestive system by either a biopsy or endoscopy. However, other supportive tests that may be done are the Mantoux test, Chest X-Ray, Abdominal X-Rays (with or without barium) and scans such as ultrasound and CT scan. Untreated TB of the intestine may lead to intestinal obstruction, fistula or even abscess and perforation with resultant peritonitis. Abdominal TB needs to be treated with at least 3-4 anti TB drugs for the initial 2 months and subsequently 2 anti TB drugs for at least 7-10 months. The commonly used drugs during the initial 2 months therapy (intensification phase) are Isoniazid (INH), Rifampicin, Ethambutol and Pyrazinamide. During the next 7-10 months (continuation phase) 2 the drugs commonly used are INH and Rifampicin. Surgery is required whenever there is perforation, abscess or fistula formation. The postulated mechanisms by which the tubercule bacilli reach the gastrointestinal tract are: (i) hematogenous spread from the primary lung focus in childhood, with later reactivation; (ii) ingestion of bacilli in sputum from active pulmonary focus; (iii) direct spread from adjacent organs; and (iv) through lymph channels from infected nodes. The most common site of involvement is the ileocaecal region, possibly because of the increased

physiological stasis, increased rate of fluid and electrolyte absorption, minimal digestive activity and an abundance of lymphoid tissue at this site. It has been shown that the M cells associated with Peyer's patches can phagocytose BCG bacillus.(7-9)

### MATERIALS AND METHODS

In this study, 121 cases were studied. Study was done in surgery and medicine department of GMC Jammu, from January 2016 to December 2016. Clinical information, including age, sex, medical history, symptoms and signs, physical findings, laboratory and image findings (radiography and sonography), therapeutic methods and outcomes were reviewed and analyzed. Histopathology and CT scan of abdomen was done in selected patients.

Two groups of the patients are considered for the study.

**Group A: Acute Symptom Patients:** This group of the patients showed the acute symptoms like: pain, vomiting, constipation affecting intestinal obstruction/perforation needing urgent surgical involvement. In this study group diagnosis was done by operative findings and histopathological biopsy of tissue.

**Group B: Chronic Symptoms Patients:** This group of the patients having symptoms like pain, fever, lump and abdominal distension. The diagnosis of this group patients is done by the heamogram, sputum analysis, x-ray of abdomen, ultrasonography. If there is uncertain about the diagnostic findings then surgical interventions was done. After confirmation of the diagnosis all patients were prescribed anti TB treatment for period of 9 months to 18 months.

### RESULTS

Out of total 121 patients, most common age group effected was young adults between 20 to 40 yrs as depicted in Table 1. Females were more commonly involved than males with 1.9:1 ratio.(Table 2)

Most common symptom was Abdominal Pain (79.3%) followed by anorexia and weight loss (64.4%). (Table 3). Among the signs, most common sign was pallor (82.64%) followed by abdominal lump (55.37%). (Table 4). Lesions were most commonly distributed over peritoneum (17.35%) and abdominal lymph nodes (17.35%).(Table 5) Diagnostic methods used for diagnosis are elaborated in Table 6 below. The diagnosis of abdominal TB was confirmed by the presenting complaints of fever, weight loss, altered bowel habit, abdominal pain and distension in 90 patients, 19 by acid fast bacilli detection in sputum and 12 were diagnosed after the biopsy report of the specimen after operation as shown table 6.

**TABLE 1 SHOWS AGE DISTRIBUTION**

AGE GROUP (IN YRS)	NUMBER OF PATIENTS (N)	PERCENTAGE (%)
<20	18	14.8
20-40	74	61.1
>40	29	23.9
TOTAL	121	100

**TABLE 2 SEX DISTRIBUTION.**

SEX	NUMBER OF PATIENTS (N)	PERCENTAGE (%)
MALE	41	33.05
FEMALE	80	66.95
TOTAL	121	100

**TABLE 3 SHOWS SYMPTOMOLOGY OF PATIENTS**

SYMPTOM	NUMBER OF PATIENTS (N)	PERCENTAGE (%)
FEVER	66	54.5
ANOREXIA	78	64.4
ABDOMINAL PAIN	96	79.3
ABDOMINAL LUMP	75	61.9
WEIGHT LOSS	78	64.4
ABDOMINAL DISTENTION	62	51.23
CONSTIPATION/DIARRHOEA	71	58.6

**TABLE 4 SHOWS SIGNS IN PATIENTS WITH ABDOMINAL TUBERCULOSIS**

SIGN	NUMBER OF PATIENTS (N)	PERCENTAGE (%)
PALLOR	100	82.64
LYMPHADENOPATHY	20	16.52
FEVER	54	44.62
LUMP ABDOMEN	67	55.37
ASCITES	10	8.26

**TABLE 5 SHOWS LEISON DISTRIBUTION IN ABDOMINAL TUBERCULOSIS.**

LEISION	NUMBER OF PATIENTS (N)	PERCENTAGE (%)
PERITONEUM	21	17.35
SMALL INTESTINE	18	14.8
SMALL AND LARGE INTESTINE	9	7.4
ABDOMINAL LYMPHNODES	21	17.35
MULTIPLE LEISIONS	15	12.39

**TABLE 6 SHOWS DIAGNOSTIC METHODS USED FOR DIAGNOSIS OF ABDOMINAL TUBERCULOSIS**

DIAGNOSTIC METHOD	NO OF PATIENTS (N)	PERCENTAGE
CLINICAL	90	74.38
SPUTUM EXAMINATION	19	15.70
BIOPSY	12	9.91

**DISCUSSION:**

Tuberculosis is the leading cause of infectious death, with approximately 2 million deaths annually. Up to 5% of patients with myco tuberculosis have GI involvement, and the GI tract is reported to be the sixth most common extra pulmonary site. GI TB is often difficult to diagnose and sign and symptoms are non-specific and in our samples, clinicians often failed to consider TB in the initial differential diagnosis. Time to specific diagnosis ranged from >1 week to >3 months. In the present series, most common clinical symptoms were abdominal pain in 96 (79.3%), weight loss in 78 (64.4%) and Anorexia in 78 (64.4%) patients. Our study is comparable to studies of SK Bhansali and A Mohammed reporting pain abdomen as primary symptom in 94% cases and 98% respectively (10-15). Similarly, Bernhard JS et al has also mentioned for these features as most common symptoms in his series of 18 patients (16,17,18). Fever was present only in 66 (54.5%) of patients; which was not a common feature in abdominal tuberculosis. Diarrhoea/constipation was present in 71 (58.6%) of patient. The majority of the patients were admitted with intestinal obstruction and peritonitis. They all underwent emergency laparotomy. This further supports the view of delay in

diagnosis of abdominal tuberculosis, till the development of complications. In the present study all the patients were prescribed anti tuberculous drugs for 12 months, as most of the series recommend.

**CONCLUSION:**

In our study Abdominal TB affects females more than males. Productive age group is affected more than others. Major proportion of ATB patients belong to rural areas. HIV association is low and so is the mortality. Complaints are vague and diagnosis requires a high clinical suspicion. Elective diagnostic laparoscopy can help in confirming the disease.

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