



CLINICAL PROFILE AND TREATMENT OUTCOME OF ABDOMINAL TUBERCULOSIS-A SINGLE CENTRE EXPERIENCE

Medical Gastroenterology

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ABSTRACT

Abdominal Tuberculosis (TB) is one of the most common forms of extrapulmonary TB but still a diagnostic dilemma in clinical practice because of its non-specific clinical presentation resulting in delayed diagnosis and initiation of anti-tuberculous therapy (ATT) **Aim:** To determine clinical profile, diagnostic approaches, and treatment outcome in patients with abdominal TB This was a prospective observational study conducted at Department of digestive health and diseases, KMC, Chennai, over a 9 month period extending from January 2022 to September 2022. Patients diagnosed with abdominal TB were included in the study. Demographic data, clinical, pathological, endoscopic, and radiological features were collected. A total of 50 patients were included in the study. Luminal involvement accounted for 60% of TB Abdomen cases followed by peritoneal involvement in 30% of cases. 24% of patients were started on empirical ATT showed good response with complete resolution of their symptoms at the end of 6 months of treatment. 8% developed drug induced liver injury.

KEYWORDS

Abdominal tuberculosis, Anti tubercular therapy

INTRODUCTION

Tuberculosis in Indian subcontinent accounts for almost 45% of global TB burden. Extrapulmonary Tuberculosis (EPTB) accounts for 15% of the total TB cases in HIV negative patients while in HIV positive patients, it accounts for 40-50% of new TB cases¹.

Abdominal tuberculosis (TB) includes involvement of the gastrointestinal tract, peritoneum, lymph nodes, and solid organs. The important modes of infection in the cases of abdominal TB includes swallowing infected sputum, hematogenous spread from a pulmonary focus, lymphatic spread from infected lymph nodes and contiguous spread from adjacent organs in the setting of active pulmonary TB².

In Abdominal TB, ileocecal region being the most common site affected followed by ascending colon, jejunum, appendix, duodenum, stomach, esophagus, sigmoid colon, and rectum. Clinical manifestations of abdominal TB may include fever, weight loss, ascites, hepatomegaly, diarrhea, bowel obstruction and abdominal mass³.

Diagnosis of abdominal tuberculosis is often challenging because of its non-specific clinical presentation and tendency to mimic other abdominal pathologies such as Crohn's and malignancy resulting in delayed diagnosis and initiation of anti-tuberculous therapy (ATT) leading to significant morbidity and mortality. This study was done to determine the clinical profile including spectrum of clinical presentation, imaging, endoscopic profile and treatment outcome in patients with abdominal TB

SUBJECTS AND METHODS

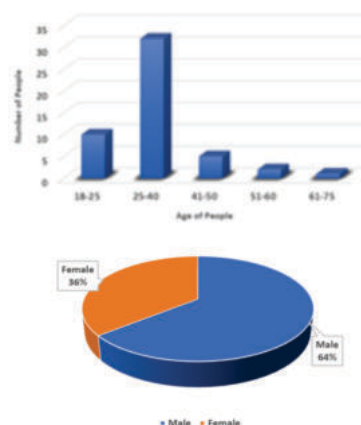
This was a prospective observational study conducted at Department of digestive health and diseases, KMC, Chennai, over a 9 month period extending from January 2022 to September 2022. A total of 50 patients were diagnosed with abdominal TB were included in the study based on their clinical, pathological, endoscopic, and radiological features. Careful history and physical examination with complete hemogram, chest X-ray, ultrasound of the abdomen and colonoscopy was performed. Ascitic fluid analysis, and contrast-enhanced computed tomography (CECT) of the abdomen and pelvis with peritoneal biopsies were performed where needed. Abdominal TB diagnosed patients were started on Anti-tuberculous therapy (ATT) and monitored for treatment response

RESULTS

Demographics

A total of 50 patients were included in the study. Out of these, 32

patients (64%) were female and 18(36%) patients were male. The maximum incidence of the disease appeared to be between the ages of 25 and 40 years. Coexisting pulmonary tuberculosis was found in 7 cases. Pulmonary TB contact was noted in 10 patients. 12 Cases had previous history of Pulmonary Tuberculosis.



Clinical Features

Abdominal pain was the most common symptom noted in 45 patients followed by weight loss and anorexia in 43 patients. 28 patients had abdominal distension and 15 patients presented with diarrhoea. 3 patients presented with bowel obstruction requiring emergency laparotomy due to stricture at ileocecal region and jejunum. Most commonly observed signs were ascites in 28 patients, fever in 25 patients, abdominal tenderness in 22 patients, lymphadenopathy in 15 patients, Abdominal lump in 7 patients.

Symptoms & Signs	Number of patients (%)
Abdominal pain	45 (90%)
Anorexia & Weight loss	43 (86%)
Fever	25 (50%)
Ascites	28 (56%)
Diarrhoea	15 (30%)
Acute bowel obstruction	3 (6%)
Abdominal lump	7 (14%)
Lymphadenopathy	15 (30%)

Laboratory Findings

Anemia was noted in 25 patients and Elevation in ESR in 30 patients. Other laboratory findings include hypoalbuminemia (Serum albumin

< 3.5 g/dl) in 15 patients. Ascitic fluid analysis was undertaken in 28 patients who had clinical evidence of ascites which showed Low SAAG High protein ascites with ascitic fluid ADA elevated in 20 patients

Radiological Findings

Chest XRAY showed findings in 22 patients. 6 patients had stigmata of previous infection like pleural thickening, 4 patients had parenchymal consolidation and 3 patients had pleural effusion. All patients underwent ultrasonography and the most common findings noted were enlarged mesenteric lymph node in 38 patients followed by ascites in 30 patients. Omental thickening was noted in 12 patients, Bowel wall thickening noted in 8 patients. CECT Abdomen and pelvis was done in 28 patients which showed abdominal lymphadenopathy in 20 patients, ascites in 18 patients ileocecal thickening with pulled-up and deformed cecum in 14 patients followed by peritoneal involvement in 16 patients, 1 patient had liver tubercular abscess and one patient had splenic tubercular abscess. Colonoscopy was done in all patients and biopsies were obtained if any abnormality was noted.

Imaging study	No of Patients (%)
Chest X Ray (n = 50)	
Stigmata of Tuberculosis (Pleural thickening)	6 (12%)
Consolidation	4 (8%)
Pleural Effusion	3 (6%)
USG Abdomen (n=50)	
No significant findings	13 (26%)
Ascites	30 (60%)
Abdominal lymphadenopathy	38 (76%)
Omental thickening	12 (24%)
Bowel wall thickening	8 (16%)
CECT Abdomen	
Ascites	18
Abdominal lymphadenopathy	20
Deformed & Pulledup Caecum	14
Peritoneal Involvement	16
Splenic Tuberculosis	1
Liver Tuberculosis	1

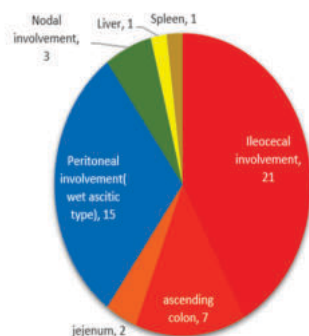
Colonoscopic Findings

The most common Site of involvement in the GIT was the ileocecal region in 38 patients (76%) followed by ascending colon. The colonoscopic features consisted of ulcers in ileocecal region in 34 patients (92%), nodules in 33 patients (88%), deformed caecum and ileocecal valve in 15 patients (42%), strictures in 10 patients (25%) and polypoid lesions in 2 patients (6%). 20 patients (10%) patients who underwent colonoscopic biopsies showed the histological features suggestive of tuberculosis

Colonoscopic findings	No of patients(%)
Ileocecal involvement	38(76%)
Ascending colon involvement	18(36%)
Transverse colon involvement	8(16%)

Site Of Involvement And Diagnostic Methods

Luminal involvement was seen in most of the patients 30(60%), followed by peritoneal involvement 15(30%) and nodal involvement 3(6%). Visceral involvement was seen in 4% of the patients. 48% of the patients were diagnosed TB pathologically and 28% was diagnosed microbiologically. 24% was diagnosed clinically and all the patients were initiated on ATT



Treatment and Follow-up

All the patients enrolled in this study were initiated on ATT with close monitoring of liver function test. Four patients were lost to follow up. Four patients developed drug induced liver injury and treatment was interrupted and 3 patients tolerated reinitiating of ATT and one patient was started on second line ATT. 39 patients (78%) responded to ATT after 6 months while other (4 patient) required continuation of treatment to 9 months. No response was in 2 of those patients who were empirically started on ATT based on colonoscopic findings in ileocecal region and later found to have Inflammatory bowel disease which is usually the chronic mimicker of it.

Pathologically Diagnosed	
Colonoscopic biopsy	10
Laparoscopic biopsy	12
Surgical biopsy	2
Microbiologically Diagnosed	
Colonoscopic CBNAAT	12
Lymph node FNAC CBNAAT	2
Clinically diagnosed	12

Treatment regimen	
First Line ATT	39 (78%)
Modified regimen	3
Second line ATT	1
Outcome	
Lost to follow up	4
Complete response (in 6 months)	42 (84%)
Extended to 9 months	4
Drug induced hepatitis	4 (8%)

DISCUSSION

50 patients with Abdominal tuberculosis were included in the study and we followed-up them for 9 months for treatment response. Diagnosis of abdominal TB was confirmed either microbiologically or pathologically. Maximum number of patients in this study belonged in the 2nd-3rd decade which was comparable to earlier study by Bhansali et al⁴ and Udgirkar et al⁵. This study showed that abdominal tuberculosis is predominantly a disease of females (64%) which showed marked similarity to the findings mentioned in the study by Sircar et al⁶.

In this study Abdominal pain was the most common symptom noted in 45(90%) of the patients, the same was also reported in previous studies⁷. Other symptoms noted were weight loss, anorexia, fever and diarrhea have been reported similarly by other authors with variable percentages of prevalence^{8,9}.

Concomitant pulmonary tuberculosis was seen in 7 patients (14%) which was similar to previous study which showed ~15 to 25% of cases with abdominal TB to have coexisting pulmonary TB^{10,11}. Most common CECT Abdomen findings noted in this study was mesenteric lymphadenopathy in isolation or with involvement of other GI organs and peritoneum which was similar to the findings demonstrated by Suri et al¹², he reported mesenteric lymph nodes as the most common site of affection in abdominal TB and Other findings included mural thickening of the ileocecal region and peritoneal involvement.

38 patients (76%) was started on ATT after Pathological and Microbiological diagnosis. 12 patients were started on empirical ATT as there was diagnostic dilemma in clinical and laboratory findings and 10 patients showed a good response with ATT with complete resolution of their symptoms at the end of 6 months of treatment. Wagner et al¹³ also favoured initiation of ATT in patients with compatible ileocecal lesions and history of exposure of TB, evidence of TB on chest X ray or those originating from an endemic region. No response was in 2 of those patients who were empirically started on ATT based on colonoscopic findings in ileocecal region and later found to have Inflammatory bowel disease which is usually the chronic mimicker of it.

In this study we were able to achieve complete response in 84% of patients in 6 months, while 8% of patients required extension of ATT to 9 months and 8% of patients developed drug induced liver injury which was similar to the report provided by Garg et al¹⁴

CONCLUSION

The diagnosis of abdominal TB should be reached by combination of clinical, radiological, endoscopic, histopathological findings. A therapeutic trial may be indicated in case of diagnostic dilemma. Early

diagnosis and treatment will decrease the complications and consequently the mortality rates.

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