



RESEARCH ARTICLE

DISSEMINATED TUBERCULOSIS PRESENTING AS AN ACUTE ABDOMEN

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Abstract

Mycobacterium tuberculosis is a widespread infection in developing countries like India. Tuberculosis is primarily a chronic condition but can present with acute and unusual manifestations. Disseminated tuberculosis is defined as having two or more non-contiguous sites resulting from lymphohematogenous dissemination of mycobacterium tuberculosis ex.: Miliary TB. Before COVID-19, tuberculosis was the world's leading cause of death due to a single infectious agent. Especially in India because India accounts for one-quarter of the global burden and prevalence, the incidence rate of Latent TB Infection (LTBI) and active tuberculosis is 33% & 36% respectively in India which is quite high, therefore it is important to consider tuberculosis as an etiological agent if symptom indicates and subsequent work up consideration. Here we are reporting a rare presentation of disseminated tuberculosis in an emergency department at a tertiary care center with sub-acute intestinal obstruction to emphasize the importance of clinical examination and history to evaluate for the cause, for the management of patients even in acute settings like emergency.

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Introduction:-

Case Report

“Disseminated tuberculosis presenting as an acute surgical emergency”.

Background:

Tuberculosis (TB) is a life-threatening chronic granulomatous inflammatory disease caused by mycobacterium tuberculosis, an aerobic bacterium that usually presents with pulmonary disease(1). Ten percent of cases of tuberculosis are of the abdominal kind, and about twenty percent are extrapulmonary(2). Abdominal TB may arise alone or in association with pulmonary TB. The disease primarily affects the intestine and peritoneal forms,

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although it can also affect lymph nodes, luminal structures, and solid organs(3). India accounts for one-quarter of the global burden and the prevalence, and incidence rate of Latent TB Infection (LTBI) and active tuberculosis are 33% & 36% respectively in India which is quite high(4,5).

We aim to draw health care professionals' attention towards the high suspicion of tuberculosis infection whenever the patient's symptomatology indicates and in addition to that importance of history taking, clinical examination, general and targeted assessment by this case reporting of disseminated tuberculosis with subacute intestinal obstruction. Early etiological diagnosis can prevent unnecessary operative procedures.

Case Presentation:

A 32-year-old female presented in the emergency department with chief complaints of pain abdomen, abdominal distension, nausea and not passing stool/flatulence for the last 3-4 days on the background of fever, weight loss, and right cervical lymphadenopathy for the last 2 months which patient told during detailed history taking and examination. The patient has consulted and received various treatments at different healthcare facilities over the last 2 months. On examination the patient was febrile (100.4) with stable vitals, GCS of 15/15, and other significant findings are mentioned in Table 1. Initially, the patient was managed non-operatively on the line of acute abdomen i.e. Ryle's tube insertion, Nil per oral, i.v fluids, broad-spectrum antibiotics, and simultaneously detailed assessment of her condition and investigations to find out the cause and to plan further line of management. Details of significant findings on various investigations are mentioned in Table 2, Figures 1-3. All the possible differential diagnoses are listed in Table 3.

The patient was initially managed symptomatically and conservatively on the line of acute abdomen in emergency triage, along with simultaneous assessment /evaluation according to various differentials/causes was going on. Because of the patient's history/details and, raised acute phase reactant, fluid cytology, CBNAAT, and radiological imaging as mentioned above (Chest x-ray, CECT Abdomen, and Chest) diagnosis of **Disseminated tuberculosis** (Pulmonary, Abdomen, Lymph node) was made. After intestinal obstruction had resolved on conservative management, the patient then was started on an Antitubercular regimen (as per NTEP guidelines). The patient was then discharged on antitubercular medication in stable condition to follow up in OPD, patient on follow-up is improving and recovering well.

Table 1:- Clinical Findings.

General Examination:	The patient was cachexic with a low BMI (<18)
	Pallor Present
	B/L Pedal Pitting Edema
	Right cervical lymphadenopathy of 1.2*1.2 cms which was tender and discharging fluid.
	No Icterus, Clubbing, Cyanosis, or other lymphadenopathy.
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Systemic Examination:	On per abdomen examination – it was distended (gaseous), tender with diminished bowel sounds and no ascites, no palpable mass.
	The rest of the systemic examination was normal

Table2:- Laboratory Reports.

Investigations	Results	Investigations	Results
White Blood Cells	16080	S. Albumin	2.62
Haemoglobin	10.3	S. CRP	38 mg/dL
Platelet	5.7 L	HBsAg/HIV	Negative
Mean Cell Volume (MCV)	79.1	Anti HCV	Negative
S. Sodium	130	Lipase/Amylase	63/43
S. Potassium	4.1	RBS	135
S. Ferritin	400	Fluid (Lymph Node) Culture -	Negative
1. Fluid (Lymph Node) FNAC: AFB/CBNAAT – Positive, Atypical Cells – Negative 2. ECG, Urine Analysis, Pregnancy test – Negative 3. Peripheral Smear (P.S) – Normocytic Normochromic Anemia and no atypical cells.			

Table 3:- Differential Diagnosis.

S. No.	Differentials	Consideration
1.	Acute/Subacute Intestinal obstruction (SAIO) & Perforation	In favor- Short duration of symptoms, as per examination and investigations Against (Perforation) – Negative imaging
2.	Lymphomas and GI malignancies	Against – No atypical cells on P.S. and fluid cytology and negative imaging.
3.	Acute/Chronic pancreatitis -	Against – No typical pain, no predisposing condition/history, Negative lab reports, and imaging
4.	Acute cholangitis/cholecystitis	Against – Reynod's pentad & Charcot's triad is negative (except fever) and negative imaging
5.	Acute mesenteric artery occlusion (AMAO)	Against – Not severe pain, negative patient profile, and imaging.

**Figure 1:-** Chest X-ray showing Miliary pattern.



Figure2:-CECT Chest showing –Miliary pattern distribution in the bilateral lung field.



Figure 3:-CECT Abdomen showing –Small bowel obstruction with dilated proximal small bowel and ileum with dilated large bowel.

Discussion:-

TB is still a difficult infectious disease to treat, especially if it affects organs other than the lungs. Despite the availability of several diagnostic modalities, the diagnosis of abdominal tuberculosis remains difficult. Still,

microbiological diagnosis with culture-positive results is considered the gold standard of diagnosis. Strict adherence to TB treatment is necessary for the full recovery from TB infection(6). Mycobacterium tuberculosis infections can cause latent tuberculosis infection or active tuberculosis disease in those who contract them(7). Multiple potential routes of infection can lead to abdominal tuberculosis infection. It can spread hematogenously from a primary focus, directly from an adjacent focus, through lymphatic vessels, or by ingestion of contaminated items like milk or sputum. Based on the site, there are four types of abdominal tuberculosis (TB): peritoneal, nodal, gastrointestinal (luminal), and visceral(8). The ileocecal area is the most affected site, and the luminal is the most prevalent type(9). Primary digestive involvement results from the direct consumption of mycobacterium, while secondary involvement results from the hematogenous or lymphatic passage of highly bacilliferous lung lesions(10).

The less acute and less specific clinical symptoms of abdominal TB typically result in a delayed diagnosis. Persistent stomach pain is the most common manifestation. Additional symptoms include diarrhea (15%), constipation (40%) ascites (40–100%), fever (66%), weight loss (80%), and occasionally dysenteric syndrome in cases of rectosigmoid placement. Rarely, SAIO may occur(11). Our case presented as acute abdomen with a background of pulmonary TB. Diagnosis becomes challenging in these cases where multisystem clinic radio correlation becomes much more important. In this case, the presentation was in the abdomen, but the diagnosis was made possible only after analyzing the chest X-ray followed by a CT scan of the chest. The presentation frequently resembles Crohn's disease or colon cancer, which are the primary differential diagnoses(10). Treatment is mainly anti-tubercular drugs with supportive measures. Our patient improved with the close monitoring of vitals and conservative treatment.

Conclusion:-

Due to its vague clinical presentation, abdominal TB becomes a diagnostic challenge that we see increasingly often in developing nations. This differential diagnosis should be considered for individuals who have persistent fever, HIV history, immunodeficiency, contact with TB patients, and weight loss over an extended period. Antitubercular therapy (ATT) is the initial line of treatment, and early detection enables prompt initiation of treatment. This lessens the risk of serious outcomes such as intestinal perforation or obstruction, which necessitate rapid surgical repair. Sometimes it is wiser to know when to wait & watch patiently and not rush to operate.

Learning Points

1. Always examine the patient completely, as in this case of abdominal presentation diagnostic clue we got from the chest.
2. Not all the acute abdomen needs urgent exploratory laparotomy, its wiser to spend some time on planning and ruling out other possibilities like this.

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