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UNCOMMON PRESENTATION OF A COMMON DISEASE IN A CHILD – A CASE REPORT

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ABSTRACT Abdominal tuberculosis (TB) is an important form of extrapulmonary tuberculosis that continues to pose significant diagnostic and therapeutic challenges, particularly in developing countries where tuberculosis remains endemic. It may involve the gastrointestinal tract, peritoneum, mesenteric lymph nodes, solid abdominal organs, or a combination of these sites. The diagnosis of abdominal tuberculosis requires a high index of suspicion and is based on a combination of clinical findings, radiological imaging, endoscopy, histopathology, microbiological tests, and molecular methods such as cartridge-based nucleic acid amplification tests. Early recognition is essential, as timely initiation of anti-tubercular therapy can lead to excellent outcomes and prevent serious complications requiring surgical intervention. This case report is about a 13-year-old girl from Pallavaram with a complex clinical presentation of chronic abdominal pain, fever, abdominal distension, vomiting, and loose stools. Despite initial diagnostic challenges, a diagnosis of abdominal tuberculosis (TB) was made based on clinical findings and imaging studies. The patient responded well to anti-tubercular therapy (ATT), demonstrating clinical improvement with resolution of symptoms.

KEYWORDS :

INTRODUCTION

Abdominal tuberculosis (TB) is a rare extrapulmonary manifestation of Mycobacterium tuberculosis infection, accounting for approximately 11% of extrapulmonary TB cases globally. It poses diagnostic challenges due to its nonspecific clinical features and often requires a high index of suspicion, particularly in endemic regions and in individuals with known TB contacts. The clinical presentation of abdominal TB is often nonspecific and variable, ranging from chronic abdominal pain, fever, weight loss, anorexia, altered bowel habits, abdominal distension, and palpable mass to acute complications such as intestinal obstruction, perforation, fistula formation, or gastrointestinal bleeding. Because these manifestations can mimic several other conditions such as Crohn's disease, malignancy, appendicitis, or other inflammatory bowel disorders, diagnosis is frequently delayed. Despite advances in diagnostic techniques, abdominal TB remains underrecognized due to its protean manifestations. Reporting individual cases is valuable to highlight unusual presentations, diagnostic dilemmas, and management strategies. This case highlights the importance of considering abdominal TB in the differential diagnosis of prolonged febrile illnesses associated with gastrointestinal symptoms, especially in young patients with no improvement following empirical treatments.

CASE REPORT

A 13-year-old girl presented with a two-month history of diffuse abdominal pain, intermittent fever, abdominal distension, vomiting, and bloody loose stools. She had a history of recent varicella infection and contact with a TB-positive relative. On examination, the patient appeared dull with pallor but no jaundice or significant lymphadenopathy. Abdominal examination revealed uniform distension with sluggish bowel sounds, and initial investigations showed microcytic hypochromic anemia, neutrophilic leukocytosis, and thrombocytosis. Imaging studies including ultrasound and CT abdomen revealed mesenteric lymphadenopathy, omental and mesenteric thickening, and minimal ascites, consistent with subacute intestinal obstruction and suggestive of tuberculous peritonitis.

Despite negative CBNAAT, Mantoux, and gastric aspirate for acid-fast bacilli (AFB), clinical suspicion for abdominal TB remained high due to the chronicity of symptoms, contact history, and imaging findings. The patient underwent Ryle's tube insertion for decompression, which yielded bilious drainage.

Following clinical diagnosis of abdominal TB, the patient was initiated on anti-tubercular therapy (ATT) comprising first-line drugs. Subsequently, she showed significant improvement with resolution of fever, reduction in abdominal distension, cessation of vomiting and diarrhea, and improved appetite.

DISCUSSION

The annual incidence of tuberculosis (TB) is nearly 10.1 million, including around 1 million children[1]. Overall, abdominal TB (ATB) is the sixth most frequent extra pulmonary site[2]. It is an uncommon presentation of TB, seen in only 0.3% of pediatric TB[3]. It can occur either as primary disease or secondary to pulmonary TB. Abdominal pain, fever, and weight loss (triad of ATB) were the most frequent findings on presentation, and a triad of these symptoms was present in more than half of patients. TB bacteria reach the gastrointestinal tract via haematogenous spread (from a pulmonary focus acquired during primary infection in childhood), ingestion of infected sputum, or direct spread from infected contiguous lymph nodes . Swallowed bacilli pass through the Peyer's patches of the intestinal mucosa and are transported by macrophages through the lymphatics to the mesenteric lymph nodes where they remain dormant [4]. Abdominal TB can involve any part of the alimentary tract (from oesophagus to the anus)[5,6]. The ileocaecal region is the most common site of involvement (75%) because of increased physiological stasis, fluid and electrolyte absorption, minimal digestive activity and abundance of lymphoid tissue (Peyer's patches)[7].

ATB was divided into four patterns of involvement –

- Peritoneal-including wet type (characterized by ascites formation), dry fibrotic type (associated with peritoneal thickening, adhesions, omental), mixed type (combination of both)
- Gastrointestinal tract-is uncommon (1%) due to the bactericidal properties of gastric acid, scarcity of lymphoid tissue in the mucosa and rapid emptying of gastric contents[7].
- Visceral organs
- Abdominal lymph node

Diagnosis is often delayed due to nonspecific presentation. Diagnosis relies on a combination of clinical suspicion, imaging studies (ultrasound, CT scan), and sometimes invasive procedures like laparoscopy or biopsy for definitive confirmation.

Children diagnosed with ATB were divided into two groups based on their diagnosis

1. "Confirmed case of abdominal tuberculosis"-diagnosis based on

the bacteriological identification of Mycobacterium tuberculosis through Ziehl Neelsen acid fast stain and/or culture and/or polymerase chain reaction (PCR) based assays or the presence of caseating granulomas on histology.

2. "Clinically diagnosed abdominal tuberculosis"—diagnosis based on strong clinical suspicion and exclusion of other diseases, with suggestive features on imaging, histology (noncaseating granulomas and/or chronic inflammatory changes), and biochemistry (elevated ascitic adenosine deaminase >30 U/L) and with a subjective and/or objective response to antitubercular therapy (ATT) with no relapse within 3 months of completion of therapy.

In this case, despite initial negative microbiological tests, clinical judgment supported by imaging findings led to the diagnosis and timely initiation of ATT, resulting in favorable outcomes. Treatment is primarily medical line with ATT. Surgical intervention required only when associated with complications like strictures or obstruction Most patients (>85%) respond well to ATT. If untreated abdominal/ gastrointestinal TB has a 6% to 20% mortality rate. About 4% of patients may need surgical management.

CONCLUSION

This case underscores the importance of maintaining a high index of suspicion for abdominal TB in young patients presenting with prolonged febrile illness, gastrointestinal symptoms, and a relevant history of TB exposure. Early diagnosis and prompt initiation of anti-tubercular therapy can lead to favorable outcomes and prevent potential complications associated with delayed treatment. Further studies are warranted to explore diagnostic modalities that can enhance early detection and management of abdominal TB, particularly in resource-limited settings.

This structured case report provides a comprehensive overview of the clinical course, diagnostic challenges, treatment approach, and outcome in a pediatric patient with abdominal TB, contributing to the existing literature on this rare yet significant disease manifestation.

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