



A Rare Case of Primary Tuberculous Peritonitis Mimicking Appendicular Perforation in a Young Immunocompetent Patient

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ABSTRACT

Tuberculous peritonitis is a serious condition which may present with nonspecific symptoms and is relatively rare extra pulmonary manifestations of tuberculosis. Tuberculous peritonitis is considered to be of diagnostic challenge due to non specific and varied clinical manifestations. Patients with tuberculous peritonitis may present with symptoms, imaging findings that can mimic malignancy and granulomatous diseases. The prevalence of Disseminated TB has been increasingly recognized in recent times due to increased prevalence of immune suppression. However the incidence of tuberculous peritonitis is lower in immunocompetent individuals. In this case study we report a case of tuberculous peritonitis in a 19year old immunocompetent patient.

Keywords: Tuberculous peritonitis, omental cake, nodules, appendicitis, immunocompetent

INTRODUCTION

Tuberculosis is one of the major health concerns throughout the world. Tuberculous peritonitis is relatively rare and accounts for 0.04%- 0.7% of all tuberculosis¹. The incidence of tuberculous peritonitis is increasing in recent years due to increased immunodeficiency disorders². A high index clinical suspicion is needed in the early diagnosis of tuberculous peritonitis due to non specific symptoms, laboratory and imaging findings. The characteristic intra peritoneal findings such as multiple discrete white nodules, omental thickening with cheesy material and adhesions giving it an omental cake appearance on Computed tomography combined with histological evidence of demonstration of acid fast bacilli is found to be highly specific in the diagnosis of tuberculous peritonitis³. The identification of

mycobacterium complex is an important step in initiating anti tubercular therapy. The mortality rate of tuberculous peritonitis is 50% to 70% in cases of delayed diagnosis and untreated patients⁴.

CASE REPORT

A 19year male moderately built presented to emergency department (ED) with complaints of severe abdominal pain over right lower abdomen, fever, vomiting. Patient denied any history of weight loss, night sweats, chills and rigor and no history of any previous abdominal surgery was present. No relevant past medical history present.

Physical examination revealed severe tenderness over the right iliac fossa. Laboratory investigations were normal except the elevation of C - reactive protein of

12mg/dl. Chest x-ray and x-ray erect abdomen was normal. Ultrasound of abdomen revealed severe probe tenderness in right iliac fossa, omental thickening, and mild free fluid with report consistent with possibility of perforated appendix. The diagnostic possibility of tuberculous peritonitis could not be ruled out at that time. Based on the ultrasound finding and patient giving 3 days history of acute onset severe abdominal pain we proceeded with exploratory laprotomy using Mc Burney incision. Intra operative findings showed minimal free fluid diffuse omental thickening with adhesions, multiple discrete whitish yellow nodules over ileo-caecal junction extending into larger visible part of ileum consistent with fibrotic type of tuberculous peritonitis as shown in **figure 1, 2**. Multiple biopsies were taken from various nodules along peritoneum and omentum and sent for histopathological examination. In addition culture and CBNAAT testing carried out using the peritoneal and ascitic fluid. No drain was kept in order to prevent any further seeding of disease.

CBNAAT found to be negative. Langerhans giant cell with necrosis confirmed by pathological examination on 6 days after surgery as shown in **figure 3**. AFB culture from peritoneum and omentum using ZN stain revealed mycobacterium tuberculosis 21 days after surgery as shown in **figure 4**. Adenosine deaminase (ADA) levels found to be increased 85.6 U/L. Patient was discharged 10 days after surgery and started on Anti-TB drugs. Patient continued anti-TB drugs for 6 months and is under regular follow-up.

DISCUSSION

Tuberculous peritonitis is the sixth most common extra pulmonary manifestations of TB. Tuberculous peritonitis is relatively rare and accounts for 0.04%-0.7% of all tuberculosis¹. The co existence of active pulmonary TB is rare and is seen only in 3.5% of pulmonary TB. Similarly In our study there was no evidence of any active pulmonary TB both chest x-ray and sputum AFB were negative. Extra pulmonary tuberculosis can occur alone or together with pulmonary TB. Of the 8.6 million new cases of TB notified to world health organization in 2013, 15% were cases of extra pulmonary tuberculosis⁵. Extra pulmonary TB may present with non specific symptoms and can mimic many other disease similar

to our case in which the clinical symptoms and imaging findings were suggestive of appendicular perforation. Extra pulmonary TB is primarily a pauci bacillary disease making conventional method of smear microscopy less sensitive and in most of the cases invasive diagnostic procedures are routinely utilized⁶. Among the invasive procedures Laproscopic peritoneal biopsy is currently the gold standard in diagnosis and less invasive procedure. Increased adenosine deaminase (ADA) is found to be single most specific indicator in diagnosis of tuberculous peritonitis when compared to other variables invested in diagnosing of the tuberculous peritonitis⁷. Three different forms of peritoneal TB have been reported, which include wet TB with ascites, dry type with adhesions, and fibrotic type with omental thickening and loculated ascites⁸. The clinical symptoms and intra operative findings point towards fibrous type of tuberculous peritonitis. The anti -TB drugs should be continued for minimum period of 6 months of duration in cases of tuberculous peritonitis.⁹

CONCLUSION

Early diagnosis is crucial in the management of tuberculous peritonitis to avoid unwanted procedure or surgery as it needs specific target therapy. Hence we recommend tuberculous peritonitis should be kept as differential diagnosis in patients with undiagnosed peritonitis and abdominal pathologies which requires multidisciplinary approach in diagnosis.

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Fig 1 shows multiple discrete whitish yellow nodules along the ileum

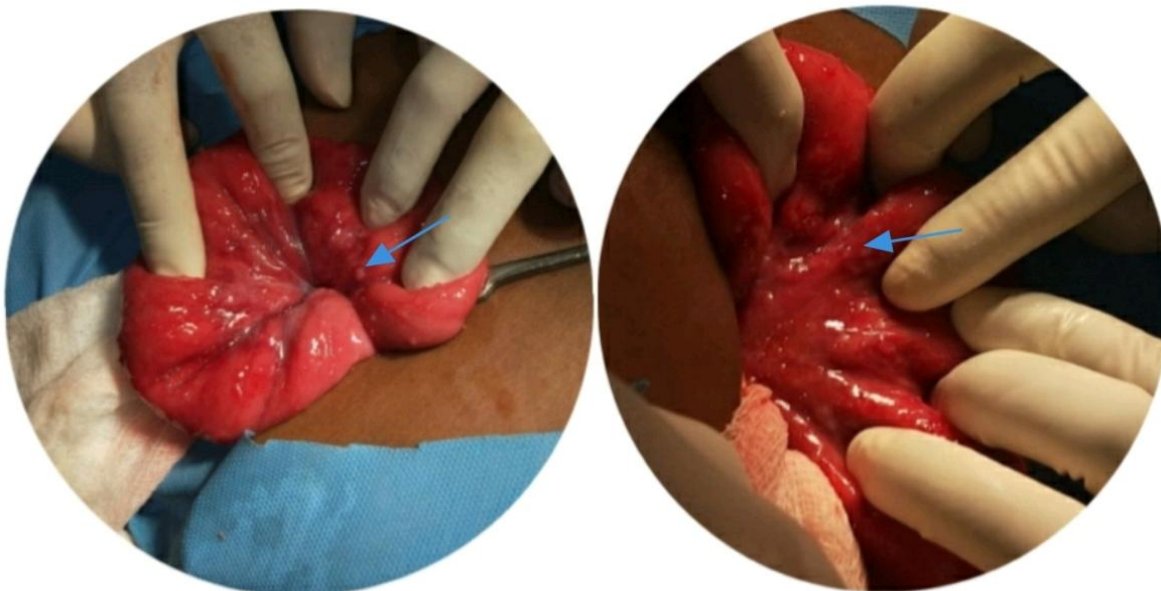


Fig 2 shows multiple nodules seen scattered along mesentery, bowel wall of ileum

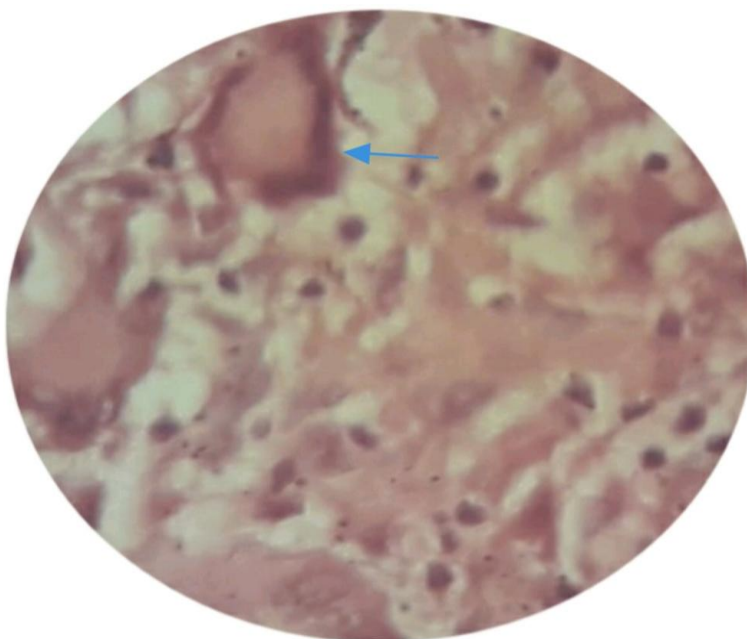


Fig 3 shows langerhans giant cell marked by arrow

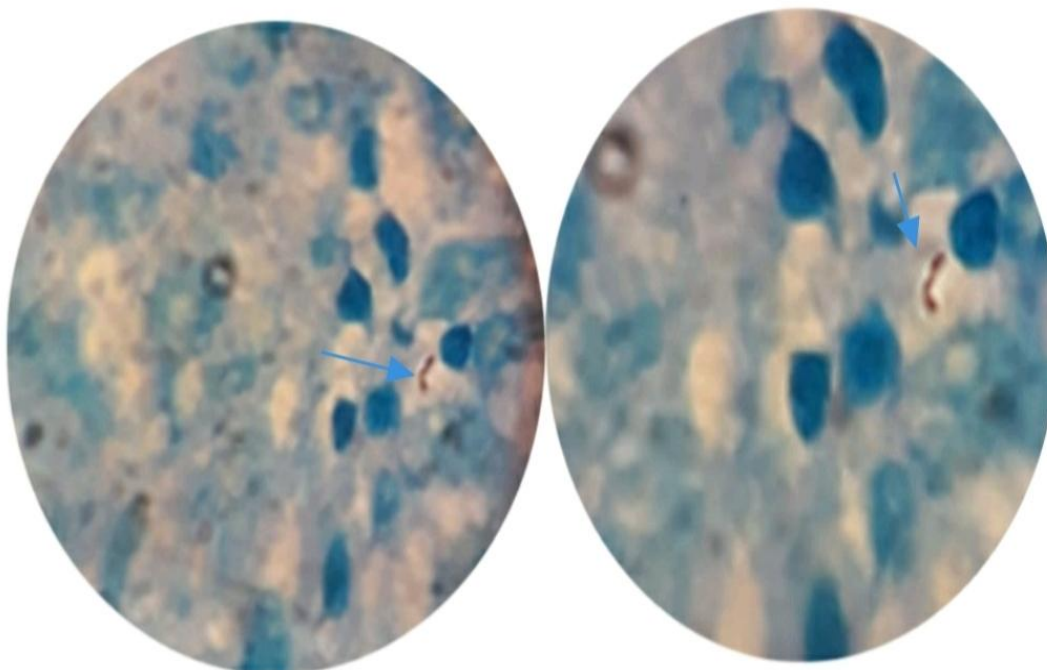


Fig 4 shows acid fast tubercule bacilli using ZN stain marked by arrows