



A COMPLEX DIAGNOSTIC CHALLENGE : DISSEMINATED TUBERCULOSIS WITH ONGOING CHRONIC ANEMIA

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ABSTRACT

Introduction: Tuberculosis (TB) is a contagious disease primarily caused by the bacterium *Mycobacterium tuberculosis*, which typically targets the lungs . Extrapulmonary TB is observed in up to 20% of all TB cases, with intra-abdominal TB making up 5% of the total cases Here we report a case of 65 year old male having disseminated tuberculosis with long standing persistent anaemia. **Case Presentation:** We report a case of 65 year old male resident of sidhauli district Sitapur U.P presenting with chief complaints of low grade fever since 3 months ,pain abdomen since 3 months , decrease appetite since 2 months and blood in stool for 2 weeks . On investigating the patient he had microcytic hypochromic anemia with anisocytosis , raised C – reactive protein , erythrocyte sedimentation rate , PT 23, INR 1.75 . Chest Xray showed b/l consolidation and CT- enterography revealed mild persistent luminal narrowing (? Stricture) cause infective (?tubercular) . Stool for occult blood is positive , Carcino Embryonic Antigen was 3.89 . On basis of all routine and relevant investigation patient was suspected to be having extra pulmonary Koch with chronic anaemia . **Discussion:** Pulmonary Koch and intestinal tuberculosis with overlapping symptomatology , radiological findings with patient presents with only complaint of fever and loss of appetite was a major diagnostic challenge in this region . Case managed with anti tubercular therapy along with blood transfusion and symptomatic treatment . **Conclusion:** Disseminated tuberculosis with persistent chronic anemia presents a significant diagnostic challenge due to its non specific symptoms and overlapping clinical features with other conditions . Early recognition and prompt initiation of appropriate treatment are crucial to improving patient outcome .

KEYWORDS : Tuberculosis(TB) , Chronic Anaemia , Extrapulmonary TB , Anti-Tubercular TB

INTRODUCTION :

Tuberculosis (TB) is a contagious disease primarily caused by the bacterium *Mycobacterium tuberculosis*, which typically targets the lungs. It is mainly spread through respiratory droplets from infected individuals and is believed to impact over one-third of the global population.[1]. In 2018, the World Health Organization reported that around 10 million people were diagnosed with TB, and 1.5 million lost their lives globally.[2]. Extrapulmonary TB is observed in up to 20% of all TB cases, with intra-abdominal TB making up 5% of the total cases.[3-5]. Intra-abdominal TB includes infections affecting the gastrointestinal tract, lymph nodes, peritoneum, and intra-abdominal solid organs.[6,7] Infection with *Mycobacterium tuberculosis* persists for life, and the bacterium affects nearly a quarter of the global population, leaving them at risk of progressing to active tuberculosis [8,9]

Diagnosing and treating abdominal TB can be difficult, as the disease often has a low bacterial count, leading to poor results in microbiological tests. Additionally, it closely resembles many other conditions, which can cause diagnostic uncertainty [10,11]

CASE REPORT

65 year old male resident of sindhauli district Sitapur U.P presenting with chief complaints of low grade fever since 3 months, pain abdomen since 3 months, decrease appetite since 2 months and blood in stool for 2 weeks.

On examination patient was conscious, cooperative , oriented to time ,place and person with BMI 18.5 kg/m² . The patient was febrile (99.10f) ,blood pressure was 98/46 mmhg , respiratory rate was 22 breaths per minute and spo2 was 99% in room air . On general examination pallor and bilateral pitting edema was present but there was no cyanosis ,clubbing , lymphadenopathy at the time of examination .

On routine investigation : hemoglobin was 4.8mg/dl ; TLC-4800 ;DLCP-70 ,L27- M1 ,E2 ;ESR-28 ;CRP-176 ; PT-23 ,INR -1.75 , USG

whole abdomen was normal ; x-ray chest was showing b/l consolidation; iron profile was within normal limit , HbsAg / HIV / HCV was non reactive .

HRCT THORAX reveals a thick walled cavitary lesion with surrounding opacities in right upper lobe ; patchy areas of ground glass opacities without obscuring the traversing lung vasculature in bilateral lung fields . Multiple ill defined nodular opacities of soft tissue attenuation with spiculated margins involving bilateral lung fields and subtle pleural thickening in bilateral upper zone F/S/O infective etiology (? Tubercular) .

CT ENTEROGRAPHY reveals short segment of circumferential irregular enhancing wall thickening involving distal , terminal ileal loops and ilio coecal junction in lower abdomen with mild persistent luminal narrowing (? Stricture) and multiple prominent small bowel loops , significant adjacent mesenteric fat stranding with multiple enlarged necrotic mesenteric lymph nodes as described – likely infective (tubercular) pathology .

Colonoscopy was performed ; however progression was limited to the ileocaecal junction due to the presence of a stricture .

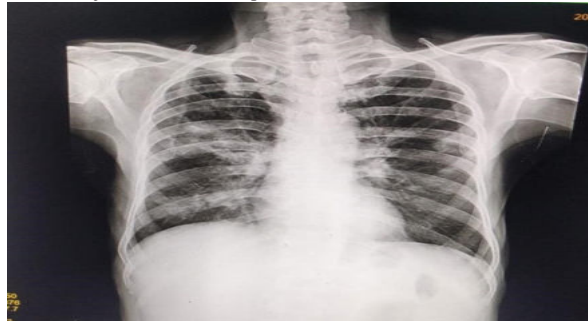


Figure 1: Thakur Prasad 65/M

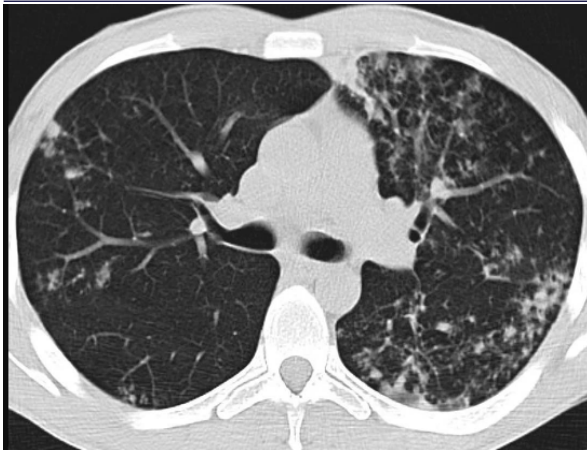
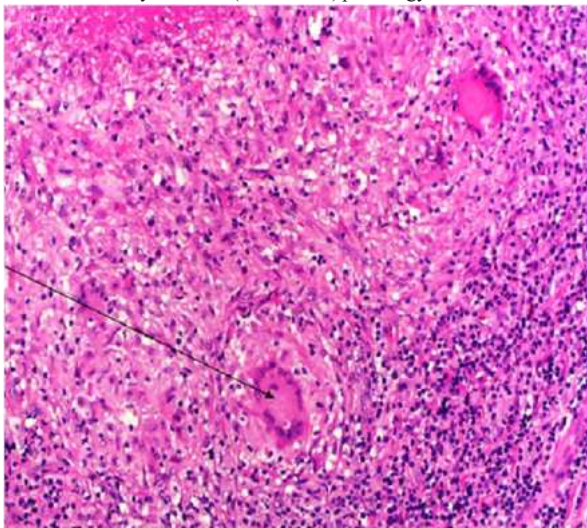


Figure-2 HRCT THORAX HRCT THORAX reveals a thick walled patchy areas of ground glass opacities without obscuring the traversing lung vasculature in bilateral lung fields . Multiple ill defined nodular opacities of soft tissue attenuation with spiculated margins involving bilateral lung fields and subtle pleural thickening in bilateral upper zone F/S/O infective etiology (? Tubercular) .



Figure -3 CT ENTEROGRAPHY reveals short segment of circumferential irregular enhancing wall thickening involving distal , terminal ileal loops and ilio coecal junction in lower abdomen with mild persistent luminal narrowing (? Stricture) and multiple prominent small bowel loops , significant adjacent mesenteric fat stranding with multiple enlarged necrotic mesenteric lymph nodes as described – likely infective (tubercular) pathology.



Lymph Node biopsy :

Histopathologic examination of the biopsy specimen showed necrotizing tuberculous lymphadenitis with a few giant cells (marked by black arrow) .

Patient admitted in Medicine ICU and diagnosed with disseminated tuberculosis with severe anemia . He was managed symptomatically and 2 packed cell red blood cells transfused and treated according to the protocols of NTEP guidelines of extra pulmonary tuberculosis .

Same patient was followed up for adequate treatment, compliance and side effects of various therapies given . Patient is under treatment phase and recovering well without any complications and in follow up phase on regular interval.

DISCUSSION:

- Certain disease manifestations in the human body, such as fever, cachexia, and changes in hematologic parameters, are linked to an overproduction of cytokines. [12,13]
- The sedimentation of red blood cells is influenced by opposing forces, and the erythrocyte sedimentation rate (ESR) serves as an acute-phase reactant that responds to conditions like infections, burns, surgery, or trauma.[14]
- The plasma concentration of C-reactive protein (CRP) rises during inflammatory states, a feature that has been widely utilized in clinical practice. Its rapid production within hours of tissue injury or infection indicates its role in host defense as part of the innate immune response.[15]
- A prospective examination of hematologic manifestations was conducted in 32 patients with disseminated/miliary tuberculosis (TB) and 23 patients with pulmonary TB (PTB). White blood cell abnormalities included leukopenia (observed in 25% of disseminated/miliary TB cases and none in PTB) and neutropenia (22% in disseminated/miliary TB and absent in PTB). Other reported abnormalities included lymphocytopenia, monocytopenia, leukocytosis, neutrophilia, lymphocytosis, and monocytosis. The present study also identified anemia in 44.8% of cases, with severe anemia present in 4.4%. Among the anemia cases, 60.3% were attributed to anemia of chronic disease. Similarly, a study by Lee et al. on 880 TB patients explored the prevalence and characteristics of anemia. [16]

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