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Case Series

Atypical Presentation of Extrapulmonary Tuberculosis: A Case Series

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ABSTRACT

Introduction: Extrapulmonary tuberculosis (EPTB) constitutes a significant proportion of tuberculosis cases and often presents with non-specific clinical features. Atypical presentations may mimic malignancies, autoimmune diseases, or pyogenic infections, resulting in delayed diagnosis and treatment. Early recognition is crucial for reducing morbidity and improving patient outcomes.
Aims and objectives: To describe the clinical profile, diagnostic challenges, management, and outcomes of patients presenting with atypical manifestations of extrapulmonary tuberculosis.
Materials and Methods: This retrospective case series was conducted at Bankura Sammilani Medical College and Hospital. Four patients with atypical extrapulmonary tuberculosis (EPTB) were included. Clinical, radiological, microbiological, and histopathological records including CBNAAT findings were reviewed. All patients received anti-tubercular therapy as per NTEP guidelines and were followed for outcomes.
Results: Four patients with atypical presentations of extrapulmonary tuberculosis were identified, with ages ranging from 10–63 years and a male predominance. Presentations included chest wall swelling, splenic abscess, tubercular osteomyelitis, and abdominal mass mimicking malignancy. Diagnosis was confirmed by histopathology, Ziehl–Neelsen staining, CBNAAT, and culture studies. All patients received anti-tubercular therapy, with selected cases requiring surgical intervention. Most patients showed favorable clinical improvement on follow-up.
Conclusion: Atypical extrapulmonary tuberculosis poses a significant diagnostic challenge due to its varied presentations and resemblance to other diseases. Early diagnosis through imaging, histopathology, and CBNAAT, along with timely anti-tubercular therapy, can improve outcomes and reduce complications.

Keywords: Extra pulmonary Tuberculosis (EPTB), Atypical presentation, Rural Bengal, Diagnostic dilemma.

INTRODUCTION

Tuberculosis (TB) affects lung in 85% cases, [1] but extra pulmonary tuberculosis (EPTB) is also not rare, particularly in rural, underprivileged, low socioeconomic strata and even in affluent parts of the society. Incidence of EPTB is 15-20% of all TB Cases [2]. EPTB usually occurs with lympho-hematogenous spread of primary infection from lungs (during or later) to extra pulmonary organs but sometimes develops even without evidence of pulmonary involvement. EPTB is frequently a diagnostic and therapeutic challenge, particularly in people living with HIV/ AIDS and other immunocompromised states such as diabetes mellitus and malnutrition. Tuberculin skin test, serum interferon gamma release, polymerase chain reaction, adenosine deaminase assays, Cartridge based nucleic acid amplification test (CBNAAT) and imaging modalities are used to diagnose EPTB, although biopsies, detection of AFB in body fluids and culture studies remain gold standard [3,4,5]. EPTB can occur almost anywhere in the body, most commonly in lymph

nodes (50%), pleura (18%), genitourinary system (13%), bones and joints (6%), central nervous systems (3%), and spine (3%)[6]. Involvement of foot bones/ ankle joint is very rare (less than 5% of all skeletal TB)[7]. Isolated soft tissue TB accounts for only 1-2% of all documented cases of TB.[8] Central TB Division developed The National Strategic plan (2017-2025): TB free India with zero death due to TB and Goal is rapid decline in burden of TB morbidity and Elimination by 2025[9]. In this case series , we have discussed 4 such cases of EPTB presented in a medical college catering to rural Bengal. In this case series , atypical presentation were the biggest challenges. We have come across a series of four cases of EPTB having extreme diagnostic dilemma within a span of six months.

CASE REPORT

CASE1:

A 63 yrs. female presented with swelling and pain over the right ankle for 6-7 months (Fig 1)
non alcoholic, non smoker, no family history, non diabetic, non hypertensive or immunocompromised state. Examination shows swollen, mildly tender right ankle. X-ray shows inflammatory changes and peri malleolar soft tissue swelling. USG scan suggests huge collections in and around bony ankle with edema of overlying superficial soft tissue. Blood investigations showed raised CRP(27.4 mg/L) and normal WBC count. Other hematological parameters like LFT, uric acid, serum calcium levels were within normal limits. Rheumatoid factor level and anti ANF were negative. No evidence of pulmonary TB was seen in chest Xray. MRI (Fig 2) documented synovial hypertrophy, patchy contrast enhancement of neck of talus, calcaneus, navicular and distal end of tibia and fibula and periarticular soft tissue thickening. FNAC suggested Tuberculous inflammation and AFB was seen on Zn stain smear of aspirate. Full recovery observed on DOTS regime of EPTB.

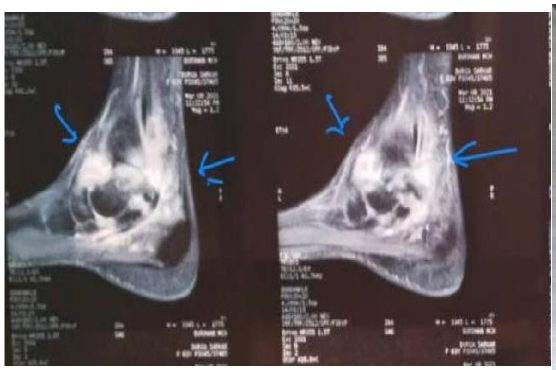

Fig 2 shows synovial hypertrophy, patchy contrast enhancement noted at neck of talus, calcaneus, navicular and distal end of tibia and fibula,

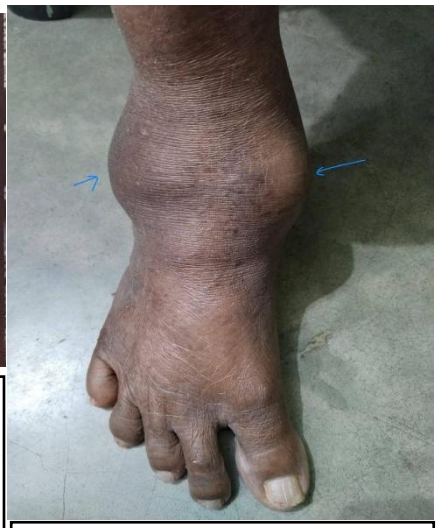

Fig1 shows swelling around

CASE 2:

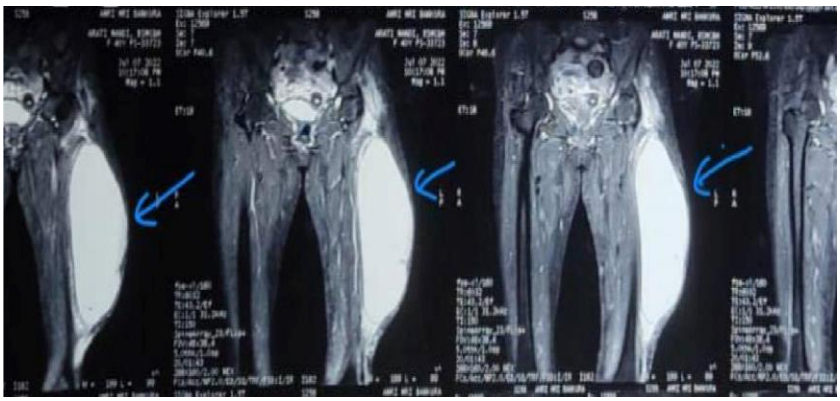

Fig 3: shows lesion as a large thick smooth walled abscess with few thin internal septations seen in intramuscular plane in anterior and lateral aspect of left proximal and mid-thigh mild edema along upper and lower poles (likely cold

A 40-year woman presented with an insidious onset, slowly growing swelling with dull aching pain in the lateral aspect of left mid thigh of size approx. 20x10cms with free overlying unblemished skin for 1 year. She had no history of fever, chronic cough, hemoptysis, chest pain, night sweats or significant weight loss and no other such swelling anywhere but she had a history of contact with MTB positive family member.

Examination showed a non tender, fluctuant, non-trans illuminant, cystic pyriform swelling. USG suggested cystic swelling, likely abscess. On MRI (Fig 3) it appears a large thick-walled abscess with few thin internal septations likely cold abscess. X ray and MRI D-L spine was normal and HRCT Thorax was also normal. Sputum for AFB and CBNAAT was negative. Zn staining of the aspirate of swelling was negative for AFB. Tru- cut biopsy findings were consistent with TB. Non-dependent drainage of the abscess was done under nerve block and thereafter patient was put on ATD as per DOTS regime and was followed up for 1 year with complete healing.

CASE3:

A 56 yrs old male presented with a large swelling at medial aspect of right thigh (Fig 4) which was insidious in onset, slowly growing without any symptoms like fever, tenderness, pain, weight loss, anorexia and evening rise of temperature. The patient was non-diabetic, non-hypertensive. Local examination revealed elongated, fluctuant, non-translucent, (14x12cm) cystic swelling intramuscular in nature without any overlying skin changes. X-ray showed a soft tissue swelling without any bony changes. USG revealed an intramuscular, well marginated, thin walled, cystic space occupying lesion with echogenic debris present within superficial muscle layer of medial surface of right thigh. MRI showed a large lobulated fluid with internal dependent debris and thick wall, seen in subcutaneous plane extending into inter and intramuscular plane likely cold abscess (Fig 5). Aspirate of the swelling was positive for CBNAAT and showed plenty of MTB on microscopy. Non-dependent drainage of the abscess was done under nerve block and thereafter the patient was started on ATD as per DOTS regime and patient recovered completely.

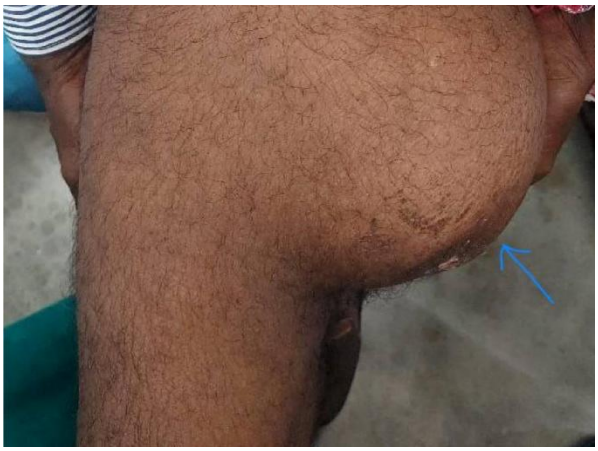

Fig 4 shows fluctuating cystic swelling over medial aspect of right thigh

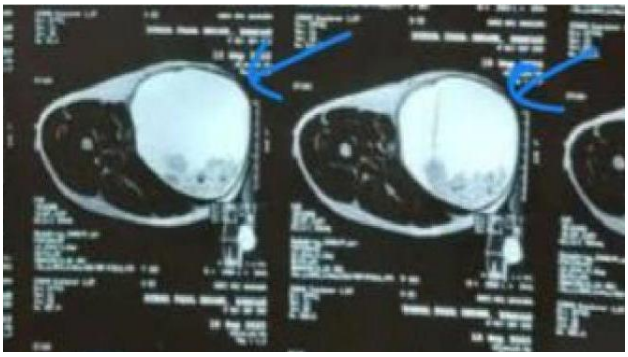

Fig 5: shows a large lobulated fluid with internal dependent debris and thick wall, seen in subcutaneous plane along medial aspect of upper and mid-thigh extending

CASE 4:

This was an unusual presentation of a 10 yrs old girl who presented with multiple discharging sinuses at right loin (Fig 6) for 3 months. She was cachectic, was unable to walk, even sit, with a consistent left lateral decubitus with folded hip and knee. She had persistent fever, extreme anorexia. Examination revealed severely emaciated, distended abdomen with kyphotic spine and multiple lymphadenopathies at neck, groin and axilla. In X-ray spine (Fig 7), L5 vertebrae seen collapsed with lytic areas. USG of the local area showed sinus tract extending intra abdominally to the lower pole of kidney with few air pockets within. USG W/A showed multiple, necrotic mesenteric lymph nodes. CECT showed thickened gut wall at terminal ileum with conglomeration, multiple mesenteric, necrotic lymph nodes (Fig 8). MRI of the spine showed destruction of L3-L5 vertebrae (Fig 9). Lymph nodes biopsy from the neck showed granulomatous lesion and Zn staining of discharge from the sinus showed presence of acid-fast bacilli. The patient was put on ATD as per DOTS with stabilization of spine with a brace. After continuation of 9 months of ATD regime, she showed significant improvement and is still on regular follow-up.

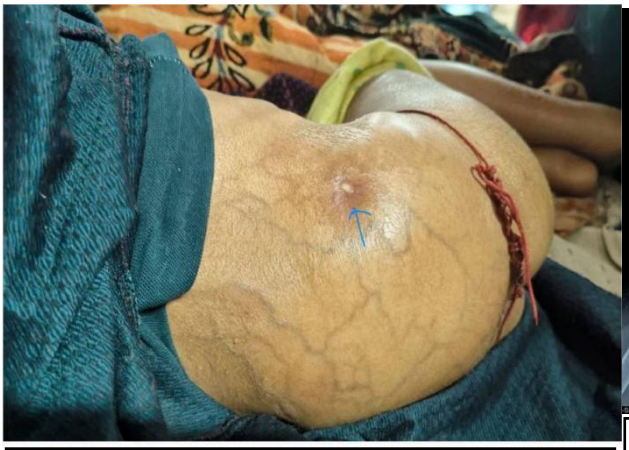

Fig 6: shows multiple discharging sinuses over back region and axillary region.

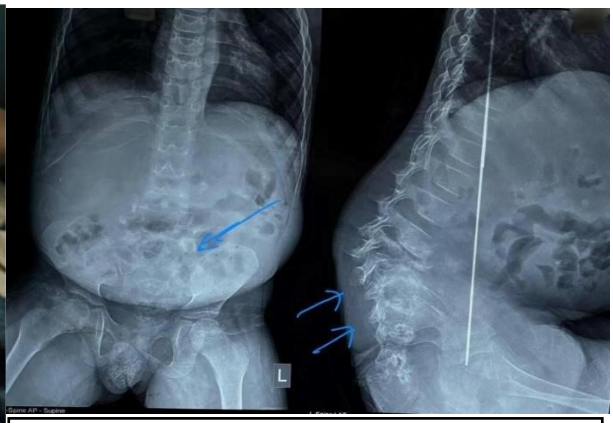

Fig 7: shows degenerative changes, pars fracture or compression fracture at lower lumbars and sacral bones

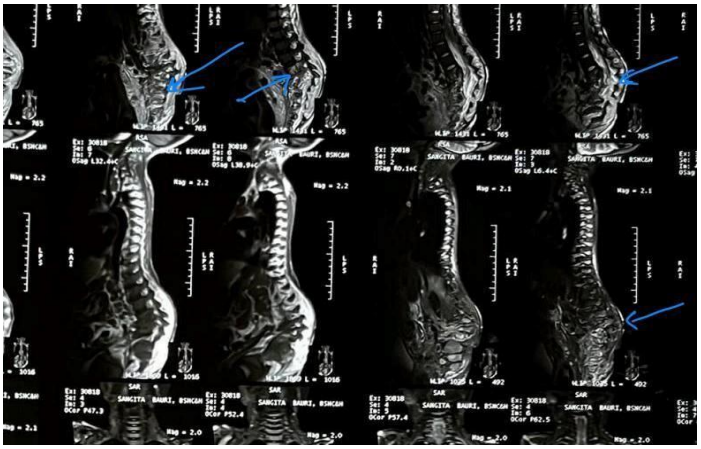

Fig 9: shows Cervical spondylosis ii. destruction of lower lumbar (including L3-L5 vertebrae) and all sacral vertebral bodies with surrounding soft tissue thickening and edema iii. Soft tissue thickening and edema in subcutaneous plane in lower back region, paraspinal muscles and along bilateral psoas muscle with mild associated collections suggestive of spondylodiscitis(tubercular origin) involving L3-L5 vertebrae and

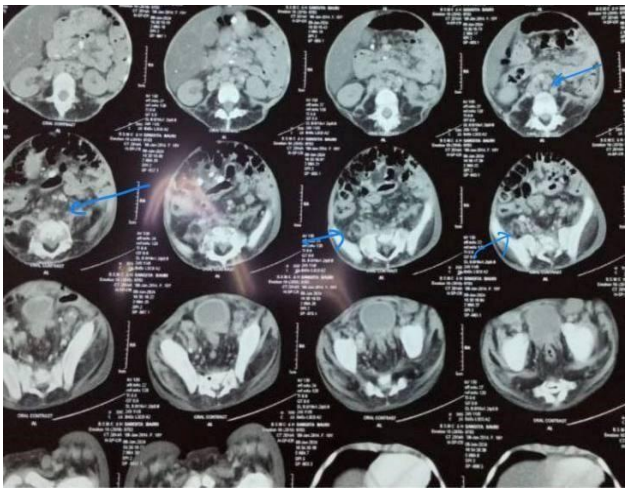

Fig 8: shows Gut wall thickening at ileocecal region with clumped and aggregated terminal ileal loops with sub mucosal edema with enlarged retroperitoneal, mesenteric and bilateral inguinal lymph nodes with enlarged few pelvic lymph nodes suggesting Koch's aetiology.

DISCUSSION

The purpose of this article is to identify the rare presentations of EPTB. Extrapulmonary tuberculosis (EPTB) refers to tubercular involvement of organs other than lungs(e.g.- pleura, lymph nodes, abdomen, genitourinary tract, skin, joints, bones and meninges). Tubercular involvement of organ along with lung is not so uncommon. Isolated EPTB is rare and a challenge to the clinician. Tubercular involvement of some parts of our body makes the challenge more critical because these mimic with some common pathologies.

In our case no. 1 its unusual to think of an isolated ankle joint swelling in a aged woman as tuberculosis instead of arthritis due to many reasons but the treatment failure and poor yield of imagings raises the suspicion and on FNAC the presence of AFB confirmed the diagnosis. Involvement of foot bones and ankle is very rare (less than 5% of all skeletal TB).[7] So very often we miss the differential diagnosis of TB ankle as a cause of ankle swelling.

Large soft tissue swelling over thigh in a adult male as in case no. 3 is usual to make suspicion like large lipoma, hematoma , soft tissue sarcoma. Again it was a great challenge to reach to a diagnosis of isolated soft tissue tuberculosis. Though MRI had some suspicion ultimatel it was proved to be a case of cold abscess by CBNAAT and presence of MTB in microscopy. Isolated soft tissue TB accounts for only 1-2% of all documented cases of TB.[8]

Genitourinary tuberculosis accounts for 13% cases of EPTB.[6] Commonly it is secondary to pulmonary TB. Tubercular obstructive or destructive lesions in the kidneys and ureter are responsible for renal function loss. But discharging sinuses at parietal wall of abdomen arising from lower pole of the kidney are extremely rare and considered as severe presentation of genitourinary TB.[11] Spinal tuberculosis is more common in children and young adults[12]. Thoracic vertebrae is most frequently affected. Spine deformity with discharging sinuses from kidney made a diagnostic dilemma. MRI spine , lymph node biopsy, ZN staining from the discharge and CECT abdomen in the 4th case helped to reach the diagnosis as EPTB.

CONCLUSION

Extra pulmonary tuberculosis without lung involvement is a challenge to the clinician, because of difficulties in diagnosis. Even role of modern imaging(digital Xray , USG, CT, MRI) also has its limitations. Tissue biopsy/ fluid for CBNAAT or culture or ZN staining are typically used to make the diagnosis. Early diagnosis and treatment is the key statement to prevent functional loss. The nonspecific symptomatology, long indolent course of the infection, lack of suspicion for TB, increasing multidrug resistance, diagnostic difficulties and sometimes serious, irreversible complications demand early diagnosis and prompt management of EPTB[11].

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