

## An Unusual Presentation of Pediatric Tuberculosis

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**Citation:** Deniz M, An İ, Değirmenci K, Kabar F, Şahinkaya Ş. An unusual presentation of pediatric tuberculosis. *Çocuk Dergisi - Journal of Child* 2024;24(1):68-69. <https://doi.org/10.26650/jchild.2024.1350135>

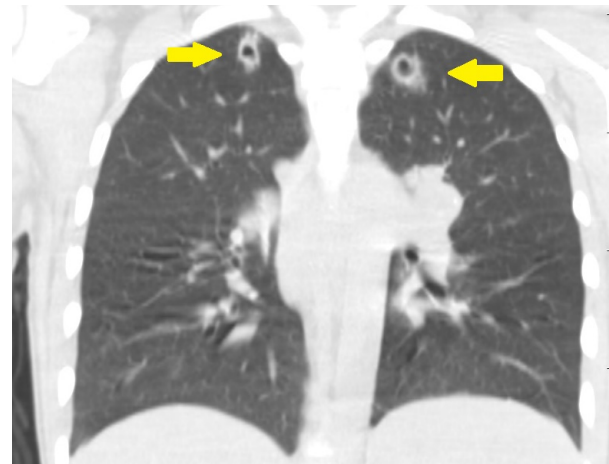
**Keywords:** Cutaneous tuberculosis, infection, pediatric

Dear Editor,

We were interested in reading Kamer et al.'s original research paper on pediatric tuberculosis in Issue 1 of the *Journal of Child*. The authors mentioned that tuberculosis (TB) is a contagious illness able to potentially affect multiple organs within the body. Below, we present a case of cutaneous TB in a pediatric patient.

A 13-year-old girl with recurrent suppurative skin abscesses was admitted to Şanlıurfa Training and Research Hospital. We learned from her medical history that she had visited several healthcare institutions over eight months due to persistent complaints. Despite abscess drainage and various intravenous (IV) and oral treatments, her clinical condition did not improve. The patient also experienced intermittent fever and weight loss. She had no history of contact with a patient with infectious tuberculosis. During the physical examination, multiple non-tender and fluctuant ulcerative erosive lesions and abscesses were found on both palms and dorsal sides of the hands. A soft abscess measuring 2 × 3 cm was palpable in the left triceps tissue, and crackles were heard in the bilateral upper lung zones. Abdominal assessment revealed a palpable liver 1 cm below the right costal margin. During the examination, soft mobile lymphadenitis with a diameter of approximately 2 × 1 cm was palpated in both axillary regions. The patient did not have any Bacillus Calmette–Guérin (BCG) vaccine scar. Other system examinations were unremarkable. No microbial growth was observed in the abscess cultures obtained from the different hospitals. Blood tests showed normal electrolytes and liver and kidney function, but revealed a white blood cell count of 10,160/mm<sup>3</sup>, erythrocyte sedimentation rate of 66/h, and C-reactive protein of 61.5 mg/L. The patient was admitted

to the pediatric infectious disease ward and started on empiric therapy with intravenous ampicillin-sulbactam and clindamycin owing to positive acute phase reactants, presence of fever during hospitalization, and suppurative abscesses. Chest computed tomography (CT) revealed hilar lymphadenopathy and left-sided calcifications, thick-walled cavitory lesions measuring 6 × 8 mm in the right apex and 10 × 10 mm in the left apex, and bilateral axillary lymphadenitis (Figures 1 and 2). Upon sputum induction, the patient's sputum samples were tested for acid-resistant bacilli and TB polymerase chain reaction (PCR) and found to be negative. The patient's tuberculin skin test result was positive, measuring 18 mm. She was referred to the dermatology department, where her



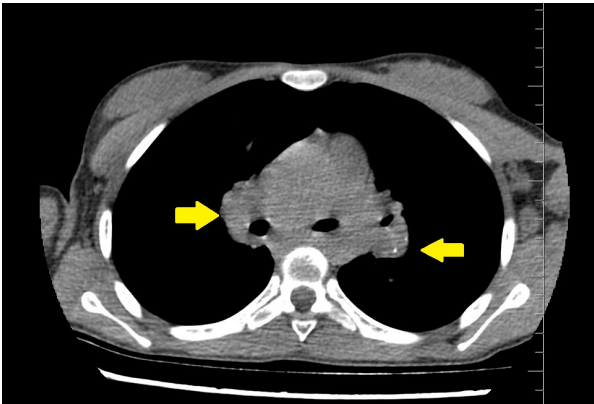
**Figure 1: Bilateral apical cavitory lesions – Coronal reformatted images of non enhanced chest CT. Bilateral thick walled cavitory lesions and adjacent ground glass opacity is seen on coronal plane reformatted chest CT images.**

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**Submitted:** 26.08.2023 • **Revision Requested:** 21.09.2023 • **Last Revision Received:** 12.01.2024 • **Accepted:** 15.01.2024



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**Figure 2: Hilar lymph node enlargement- Non enhanced chest CT. Multiple bilateral hilar lymphadenopathies and left-sided calcifications, consistent with tuberculosis on non-contrast CT scan.**

skin lesions were identified as scrofuloderma by an experienced dermatologist, and a biopsy was carried out to obtain samples from the skin abscess on her hand. Acid-resistant bacillus spp. were detected in the biopsy specimen, and the tuberculosis PCR result was positive. No microbial growth was detected in standard blood or abscess cultures. Histopathological analysis indicated granulomatous infection. Serological testing for HIV revealed a negative result. While investigating for involvement of other organs, abdominal ultrasonography detected increased liver size, with cranial magnetic resonance imaging showing no abnormalities. Lymphocyte subgroup analysis, immunoglobulin levels, and vaccine responses were normal, but further immunological analysis could not be conducted owing to hospital conditions. Antibiotic treatment was discontinued and replaced with antituberculosis (anti-TB) treatment consisting of isoniazid (oral: 10 mg/kg/day), rifampin (oral: 15 mg/kg/day), ethambutol (oral: 20 mg/kg/day), and pyrazinamide (oral: 35 mg/kg/day). After receiving anti-TB medication, the patient was clinically improved and then discharged. The patient underwent the standard four-drug anti-TB therapy for two months and then received a combination of isoniazid and rifampin for seven months. The lesions exhibited signs of improvement after two months of anti-Tb treatment. Follow-up lung imaging studies revealed complete resolution of the cavitory lesions during outpatient follow-up.

Tuberculosis can affect any organ, and children are more susceptible to progression after exposure than adults because of their weaker immune systems (1,2). Cutaneous tuberculosis (CTB) expresses only 1-2% of extrapulmonary TB cases (3). The incidence of CTB varies among countries. Studies conducted in India indicate that childhood CTB accounts for 18.7% to 53.9% of general CTB incidences, while it was reported to be 36.3% in Hong Kong and only 6% in Tunisia (4). Cutaneous TB is typically paucibacillary, making it difficult to obtain a positive TB culture from lesions. Therefore, diagnosis is generally based on clinical and histopathological findings. In a study of 103 children diagnosed with CTB, mycobacterial culture positivity was detected in 11 patients (10.6%) (5). Similarly during follow-up, no growth was observed in the mycobacterial culture of our patient. In children, difficulty is had in microbiologically confirming the presence of TB owing to inadequate sampling. A recent study on pediatric

patients with various forms of TB found that only 56.45% of cases were confirmed microbiologically by any of those methods (i.e., testing with smear microscopy, culture, and nucleic acid amplification test). The study group had a 30% positive culture test result, likely due to the disease's paucibacillary character in children (6). This could clarify the reason for the negative microbiological results in our patient's sputum samples, despite having cavitory lesions in both lungs, a positive tuberculin skin test, and complete disappearance of the cavitory lesions on outpatient follow-up imaging after receiving anti-TB treatment. CTB can be difficult to diagnose due to its nonspecific clinical features and resemblance to other diseases (3). Its lesions present a wide range of clinical appearances, including maculopapules, suppurative nodules, patches, abscesses, erosions, and ulcers (7). Therefore, CTB should be considered and tested for prompt diagnosis in patients with unusual skin lesions. Patients diagnosed with CTB should be investigated for coexisting pulmonary and extrapulmonary involvements. Treatment plans for cutaneous tuberculosis are based on clinical observations and the experience of medical professionals, with the goal being full recovery from the lesions (8). While some experts recommend a standard four-drug therapy for two months followed by two-drug therapy for seven months in treating scrofuloderma, others have suggested a total duration therapy of six months as being sufficient for cutaneous tuberculosis (2,3,8).

**Informed Consent:** Informed consent was obtained from the participant.

**Funding:** None

**Disclosure of interest:** The authors report no conflict of interest.

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