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Paediatrics

# A LIFE CUT SHORT: A DEVASTATING CASE OF INFANTILE DISSEMINATED TUBERCULOSIS

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**ABSTRACT** Disseminated tuberculosis is a diagnostic dilemma in infancy, most likely due to the paucibacillary nature of the disease, and underdeveloped immunity. A high index of suspicion, thorough family history, and extensive investigations may be the only way to reach a diagnosis. We present the case of a 5-month-old who presented to us first with a pneumonia, then with abdominal distension against a backdrop of paternal history of pulmonary tuberculosis. The mother though not diagnosed with tuberculosis, had been screened with a sputum examination both of which were negative. The child was discharged after thorough investigations failed to show any evidence of tuberculosis but a rude shock awaited us two months later in the form of a sudden onset left divergent squint due to an underlying midbrain tuberculoma. The child sadly succumbed to this illness in spite of appropriate management which emphasizes the crucial role of time when it comes to infantile tuberculosis.

**KEYWORDS :** tuberculosis, paucibacillary, disseminated, tuberculoma

## INTRODUCTION

The spectrum of pediatric tuberculosis in India is akin to an iceberg, with only a small fraction of cases getting timely diagnosis and treatment. The diagnosis of pediatric tuberculosis is complicated by its paucibacillary nature requiring more invasive tests to establish a microbiological diagnosis. Extrapulmonary tuberculosis in children is also more common than in adults, adding to the diagnostic difficulty.

Even today, the myth that children cannot get tuberculosis remains strong which prevents them from getting screened in case of a TB contact. Many a times, the tuberculin skin test which is widely used ends up falsely negative especially in malnourished children. Moreover chest X-Rays are often non-specific, resulting in misdiagnosis as pneumonia and delay in appropriate treatment[1]. This delay often predisposes the child to severe disseminated forms of tuberculosis like neurotuberculosis.

According to the India TB report of 2025 by the NTEP, 1/3rd of the children with TB globally are from India. 3.42 lakh children (0-14 years of age) are estimated to get TB every year with only 44% receiving correct and timely management with anti TB drugs[3].

The exact contribution of TB to 'Under-5 Mortality' is unknown; many TB related deaths are possibly reported as pneumonia. Tuberculosis is a tremendous problem throughout the world. It is hardly surprising that in many countries it has been deduced that the best option is to simply rely on imaging and clinical features for diagnosis as opposed to waiting for a definitive diagnosis. At least in this way, the reasoning goes, some of the energy invested in the diagnosis is reclaimed in the form of successful treatment.

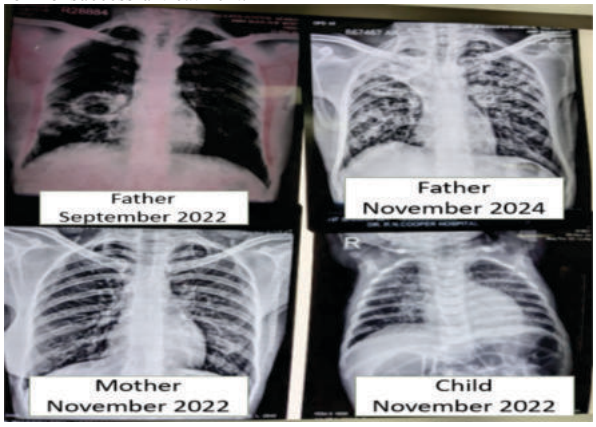


**Figure 1:** Chest X-Rays of the father, mother, and child respectively.

## CASE STUDY

A 2-month-old female child was brought with complaints of rapid breathing, fever, cough, and poor feeding. She was treated with oxygen via nasal prongs, intravenous fluids, and intravenous antibiotics. Chest X-Ray showed infiltrates in both lower lobes of the lungs, and complete blood count showed lymphocytic leukocytosis supporting the diagnosis of a viral pneumonia. The course was complicated by acute onset abdominal distension. With a significant history of tuberculosis in the father two years prior, a CT scan of the abdomen was done which revealed dilated bowel loops without any classical features of abdominal tuberculosis like omental or ileo-cecal thickening; Gene Expert of the gastric aspirates was negative as well. Hypokalemic and septic ileus were ruled out as well. The symptoms resolved with time and the child was discharged after the pneumonia cleared. (Ask if we should include the bit about poor weight gain and how we started her on measured feeds- EBM + formula feeds, documented weight gain and then sent her home). The parents were screened as well, and the mother's Chest X-Ray was normal, and sputum was negative for Gene Expert. However, the father developed clubbing and was hypoxic on room air with breathlessness on minimal exertion. His chest X-Ray revealed bronchiectasis with collapse of the right upper lobe. His sputum for Gene Expert was negative as well. In view of clubbing, hypoxia, and history of chronic smoking, he was to be evaluated further by the pulmonology team to rule out malignancy.

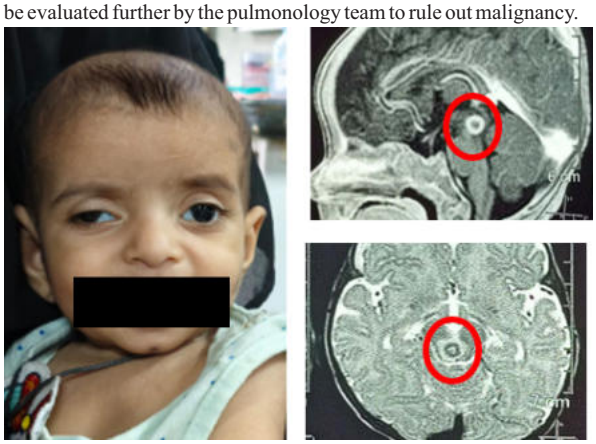

**Figure 2-** Clinical photograph of squint along with MRI finding of tuberculoma in midbrain.

At the age of 5 months, the child was brought with acute onset squint (right sided divergent) with non-reactive pupil on the right side. Neuroimaging (MRI) revealed a ring enhancing lesion in the midbrain. The child was active and playful, without any signs of raised

intracranial tension. CSF studies showed normal cytology and biochemistry Chest X-Ray revealed miliary shadows in both upper lobes. The gastric aspirate as well as CSF turned out to be negative for Gene Expert but on a clinical suspicion the child was started on Anti Tubercular treatment with steroids (Prednisolone at 2mg/kg/day). Tragically, the parents never followed up and after a month, the child deteriorated and had succumbed to the illness upon her arrival to the casualty.

## CONCLUSIONS

Mortality in tuberculosis has declined steadily with the advent of safe and accessible Antitubercular therapy. However diagnostic challenges may lead to therapeutic delay and increased mortality. Microbiological diagnosis is a challenge in pediatric tuberculosis. One may have to rely on the clinical and radiological route[4]. It is imperative to be vigilant especially in case of family contact. It is likely that the father may also have a greatly reduced lifespan due to this illness. In today's age, an outcome like this is highly undesirable and precautions must be taken to prevent every mortality linked to tuberculosis.

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