

## CASE REPORTS

# CONGENITAL MILIARY TUBERCULOSIS IN A SEVEN DAY NEONATE

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### ABSTRACT

Congenital tuberculosis (TB) is rarely reported in India inspite of India being a country having endemic TB. We present a neonate with congenital TB who presented on day seven with fever, hepatosplenomegaly and miliary shadows on chest X-ray (CXR). Gastric lavage for acid-fast bacilli (AFB) isolated Mycobacterium tuberculosis (MTB) complex and mother was subsequently diagnosed to have disseminated TB.

### ARTICLE HISTORY

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### KEYWORDS

Congenital TB, Miliary TB, neonate.

### Introduction

Congenital tuberculosis (TB) has been reported to be a rare phenomenon with incidence of 2%.<sup>1</sup> Only about 300 cases of congenital and perinatally acquired TB have been reported in literature worldwide.<sup>2,3,4,5,6</sup> Only 10 cases were reported from India till 2002.<sup>7</sup> Congenital TB manifests between 1-84 days of life.<sup>8</sup> We present a neonate with congenital TB who presented with miliary TB on Day 7 of life and mother was subsequently diagnosed to have disseminated TB.

### Case Report

A 1 month 18 days old male child with weight of 2 kg and having hepatosplenomegaly, first birth order born of third degree consanguineous marriage was referred to us for further management. He was born full term but had low birth weight (2.06 kg). He was admitted in the neonatal intensive care unit (NICU) for fever and breathing difficulty on day seven of life. Investigations showed hemoglobin 14.8 gm/dL, white blood cell count (WBC) 20,700 cells/cumm (neutrophils 60%, lymphocytes 38%), platelets 2,81,000 cells/cumm, C-reactive protein (CRP) 79 mg/dL, alanine transaminase (ALT) 10 IU/L, alkaline phosphatase (ALP) 649 IU/L, serum calcium 10 mg/dL, total proteins 3.9 g/dL, albumin 2.1 g/dL. Blood culture did not grow any organism. Chest X-ray showed miliary mottling. Ultrasonography (USG) abdomen revealed mild dilation of left kidney and USG skull revealed a right choroid cyst. Lumbar puncture was normal and cerebrospinal fluid TB by GeneXpert was negative. Gastric lavage (GL) for acid fast bacilli (AFB) was positive. Mother was screened for TB subsequently and had erythrocyte sedimentation rate (ESR) 104 mm at end of 1 hour. Chest X-ray showed right lower lobe haziness and USG abdomen showed loculated ascites. CT abdomen also confirmed the loculated ascites. Analysis of ascitic fluid in mother revealed proteins 4.3 g/L, 1720 cells

cells/cumm (80% polymorphs), pleural fluid adenosine deaminase (ADA) was 85.7 IU/L. TB culture of ascitic fluid was sent and the mother was started on first line antituberculous therapy (ATT) with isoniazid (H), rifampicin (R), pyrazinamide (Z) and ethambutol (E). Her HIV Elisa and sputum for AFB was negative. Meanwhile, the child was started on formula feeds and ATT with HRZE. TB MGIT culture grew Mycobacterium tuberculosis (MTB) on culture of GL after 6 weeks. Drug susceptibility testing (DST) was sensitive to all drugs hence same ATT was continued. Child is on regular follow up.

### Discussion

Congenital TB usually presents with fever without apparent focus, hepatosplenomegaly, lymphadenopathy, respiratory distress, bloating, lethargy, and irritability.<sup>3,4,9</sup> Our child had manifested on day seven of life with fever, respiratory distress, and hepatosplenomegaly. Mode of acquisition is in one of the two ways- hematogenous spread through the umbilical vein to the fetus with primary lesions in the liver or from aspiration or ingestion of infected amniotic fluid in utero or during delivery, with pulmonary and gastrointestinal disease predominating.<sup>2,3,4,5,6,7</sup> We do not know the mode of acquisition in our patient as the child had pulmonary involvement predominantly suggesting that the acquisition may have been through aspiration of infected amniotic fluid.

To diagnose and differentiate between congenital and perinatal TB, Cantwell et al proposed criteria stating that the infant must have a proven tuberculous lesion and at least one of the following: (i) lesions in the first week of life, (ii) primary hepatic complex or caseating hepatic granuloma, (iii) tuberculosis infection of placenta or maternal genital tract, or (iv) exclusion of postnatal transmission by thorough contact investigation.<sup>8</sup> However, differentiation of congenital TB from early postnatally-acquired tuberculosis is only of epidemiological importance as the clinical picture and management remains unchanged.<sup>9,10</sup> Our patient fulfils these criteria. Congenital and perinatal acquired TB has a mortality rate of 22% on treatment.<sup>9,10</sup> In our case, fortunately, the child was diagnosed and treated

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on time and is doing well on follow.

### Conclusion

Congenital TB is not common in infants and miliary TB is rarely seen. If TB is diagnosed in infants, the mother should be screened for TB.

### Compliance with Ethical Standards

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Conflict of Interest: None

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