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Case Report

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CONGENITAL TUBERCULOSIS

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ABSTRACT

Congenital tuberculosis is rare disease that is acquired from mother, as most of female who suffer from tuberculosis tend to have associated infertility. Affected babies have varied presentation. This requires high degree of suspicion, as early diagnosis and treatment is associated with better outcome. We report a case of congenital tuberculosis which presented as acute respiratory condition.

KEYWORDS: congenital tuberculosis; hepatosplenomegaly; gastric aspirate; DNA PCR.

INTRODUCTION

Congenital transmission of tuberculosis is rare. In the past the diagnosis has usually been made in the post-mortem room and the condition has interested the pathologist more than the clinician.[1] Congenital tuberculosis (TB) occurs in infants infected with Mycobacterium tuberculosis (MTB) in utero or during delivery. The infants may be infected by hematogenous dissemination of MTB from the maternal circulation, or by swallowing and aspirating infected amniotic fluid or maternal blood. Early diagnosis of congenital TB is essential for survival of the infected infant, as disease may rapidly progress and most of the time diagnosis is great challenge as infected neonate may present with non-specific symptoms that mimic other common neonatal illnesses.[2]

India is endemic for tuberculosis; despite this very few cases of congenital tuberculosis have been reported so far. Congenital tuberculosis (TB) is a rare entity with 300 cases reported so far and only 11 cases from India.[3]

We report an infant with congenital TB who presented to us with respiratory distress, fever and poor weight gain and who showed complete recovery with anti-tuberculous therapy.

CASE REPORT

A two and half month old male infant, weighing 3kg, presented to us with a history of cough since ten days, fever for 3 days, fast breathing for 2 days and refusal to feed for one day. The baby was delivered as full term by spontaneous vaginal delivery with birth weight of 2800g. There was no intrapartum or immediate postpartum complications. Mother had history of fever which started 15 days prior delivery and continued till 3 months post delivery period.

Physical examination of infant had a fever (102°F) and dyspnea with a respiratory rate of 82/min. On examination of chest, inspection revealed marked subcostal and intercostals retractions. On auscultation air entry was equal on both sides but bilateral crepitations were present but more on right lung fields. Abdominal examination was suggestive of hepatosplenomegaly (liver 4 cm below right costal margin span 12 cm, spleen 3 cm below left costal margin). Cardiovascular examination was normal. There was no lymphadenopathy.

Investigations revealed: hemoglobin: 7.5 gm/dl, total leukocyte count: 15,200/cu mm with 58% neutrophils, 38% lymphocytes and 4% monocytes. Erythrocyte sedimentation rate was 20mm after the 1st hour. The liver function tests revealed; AST: 274 IU/L, ALT: 119 IU/L, serum bilirubin: 0.8 mg/dl, direct bilirubin: 0.3 mg/dl, serum total protein: 5.2 g/dl, serum albumin: 3 g/dl, alkaline phosphatase: 159 IU, prothrombin time 18 seconds (control: 13 seconds) and activated partial thromboplastin time: 40 seconds (control: 32 seconds). Cerebrospinal fluid examination was normal. Serum electrolytes, creatinine, urea and blood sugar were normal.

Chest radiograph revealed miliary mottling with right sided non homogenous opacity.

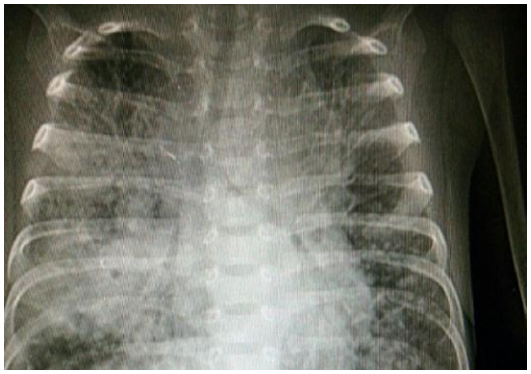

Fig: 1

Blood, C.S.F and urine cultures were sterile. Gastric aspirate smears detected Acid Fast Bacilli (+++). Gastric aspirate showed M.tuberculosis by Polymerase Chain Reaction (Gene Xpert). Culture of gastric lavage revealed growth of tubercular bacilli. Ultrasonography of abdomen showed hepatosplenomegaly with no evidence of fluid in peritoneal cavity. The biliary system was also normal. Ophthalmological examination was normal. Mother tridot for HIV was negative.

Anti-tubercular treatment was started with four drugs (isoniazid, rifampicin, pyrazinamide and streptomycin) with monitoring of liver functions. The infant improved symptomatically over a period of 10 days and started breast feeding.

The infant's family was screened for tuberculosis and his mother was found to be the source of infection.

As mother was having fever since past two months she was thoroughly investigated by physician. Sputum was negative for Acid Fast Bacilli. X ray chest was normal. Tuberculin skin test with 5 units PPD was 22x20 mm (positive). Endometrial biopsy revealed granulomatous lesion. Mother was started on antitubercular therapy for which she responded and was afebrile after one week.

DISCUSSION

Original criterion for diagnosis of congenital tuberculosis, as defined by Betzke, included confirmation of tuberculosis in infant, lesions in first few days of life, demonstration of primary hepatic complex, on exclusion of postnatal exposure by separation of the infant from the mother and other potential sources of tuberculosis at birth.[4]

Cantwell et al[5] have proposed revised diagnostic criteria for the diagnosis of congenital TB. The infant must have proved tuberculous lesions and at least one of the following: (i) Lesions in the first week of life; (ii) A primary hepatic complex or caseating hepatic granulomas (iii) Tuberculous infection of the placenta or the maternal genital tract or (iv) Exclusion of the possibility of postnatal transmission by a thorough investigation of contacts, including the infant's hospital attendants, and by adherence to existing recommendations for treating infants exposed to tuberculosis.

Hudson et al[1] described clinical features of congenital tuberculosis. The median age of presentation of congenital TB is 24 days (range, 1 to 84 days). Clinical manifestations are non specific and include poor feeding, fever, irritability, failure to thrive, cough, and respiratory distress. Our patient had similar presentation at the time of admission. In most infants with congenital TB chest radiographs are abnormal at presentation and include non specific parenchymal infiltrates, adenopathy and miliary mottling. Gastric aspirate and PCR for AFB are the most expedient and reliable ways of establishing the diagnosis. Gastric aspirate culture has been associated with a high yield of positive cultures for M tuberculosis in most of the reported cases of congenital TB.[6]

Our patient presented with respiratory distress and hepatosplenomegaly and diagnosed to have congenital tuberculosis as all other contacts of patients were screened negative, mother had normal chest x ray with positive montoux test along with endometrial granulomas which indicates less chances of post natal transmission of disease.

Congenital tuberculosis carry grave prognosis if not detected earlier. It requires early diagnosis and thorough investigations of contacts.

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