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Two Months Old Girl with Disseminated Lymphadenopathy and Hepatosplenomegaly

Soheila Khalilzadeh^{1,2}, Maryam Hassanzad^{1,2}, Nazanin Parsanejad², Amir Prooshani³, and Ali Akbar Velayati²

¹ Pediatric Respiratory Disease Research Center, ² Department of Pediatrics, NRITLD, Shahid Beheshti University MC, Tehran, Iran.

³ Drexel University College of Medicine, Hahnemann University Hospital, Philadelphia-USA.

WHAT IS YOUR DIAGNOSIS?

A 2-month-old female infant was referred to our center with disseminated lymphadenopathy and hepatosplenomegaly. At birth, she was presented with fever and respiratory distress and underwent sepsis workup. Antibiotic therapy was initiated for her but the fever continued despite administration of broad spectrum antibiotics. Abdominal sonography was performed which revealed paraaortic lymphadenopathy and hepatosplenomegaly. Biopsy of para-aortic lymph nodes showed necrotizing granulomatous inflammation and polymerase chain reaction (PCR) became positive for Mycobacterium tuberculosis complex. (Mycobacterium tuberculosis, bovis, avium, and BCG). Her parents were evaluated for TB for which the results were negative. She had a history of BCG vaccination at birth. An anti-tuberculosis regimen (INH, RIF, ETB, PZA and Amikacin) was initiated for her. She showed no improvement during two months and therefore, she was referred to our center for further evaluation. On arrival her physical examination showed hepatosplenomegaly and cervical lymphadenopathy. On laboratory tests, CBC and Liver function tests were normal. Tripled gastric aspirate test for M.tuberculosis was negative. Parahilar lymphadenopathy and parenchymal lung involvement were detected in spiral chest CT-scan (Figure 1). Her parents were evaluated for tuberculosis for the second time. Their CXR, chest CT-scan, sputum culture and PPD results were unremarkable. No history of TB was reported in her family and relatives. Her treatment regimen was altered. After 6 months, she became totally symptom free. Lymphadenopathies were diminished and chest CT-scan result was normal (Figure 2). During this period her mother developed diarrhea and a month later she was diagnosed with ascites for which she underwent diagnostic tests. (Tanaffos 2010; 9(4): 75-77)



Figure 1. Parenchymal involvement and parahilar lymphadenopathy



Figure 2. Normal lung in CT-scan.

Correspondence to: Hassanzad M

Address: NRITLD, Shaheed Bamonar Ave, Darabad, TEHRAN 19569, P.O:19575/154, IRAN

Email address: Mar_hassanzad@yahoo.com

Diagnosis: Congenital Tuberculosis

Diagnosis of tuberculosis in neonates could be challenging, as the signs and symptoms are nonspecific and could be present in other conditions such as toxoplasmosis, rubella, cytomegal virus, herpes simplex (TORCH), sepsis and prematurity.

The most common presentation is hepatosplenomegaly, respiratory distress, fever, and lymphadenopathy (1, 2).

Infants usually develop symptoms in the 2nd or 3rd weeks but they may also manifest it at birth (1).

In this case the infant presented with fever at the first week along with a nonspecific symptoms mimicking bacterial sepsis. Sepsis workup was done and antibiotic therapy was initiated but the patient showed no response to the therapy. In this setting a high index of suspicion for making the diagnosis of tuberculosis was paramount.

In an infant with sepsis symptoms whose response to the therapy is poor, intrauterine infections such as TORCH and congenital tuberculosis, especially in endemic places should be considered.

Mycobacterium cultures and acid fast bacilli (AFB) smears from different sites like gastric fluid, endotracheal aspiration and tissue biopsies can help to find the tuberculosis lesion in infants.

The other key in diagnosing TB in an infant is the maternal history of tuberculosis. However, in many cases mothers have subclinical tuberculosis which manifests after the disease is observed in the infant. In a review, 24 of 32 mothers of infants with congenital TB were asymptomatic (3).

In this case, the mother was asymptomatic at initial investigations. She lately presented with diarrhea and ascites and her PPD was converted to positive "0 to 15 mm". Consequently, a peritoneal

biopsy was carried out and the pathologic results showed chronic necrotizing granulomatosis and PCR was also positive for *Mycobacterium tuberculosis*.

It was Beitzke who first developed the criteria for distinguishing congenital TB from postnatally acquired TB (4).

Later, Cantwell et al. suggested modified criteria for the diagnosis of congenital TB (5).

The modified criteria includes tuberculosis lesion in infants accompanied with one of the followings:

1) Lesion during the first week of life, 2) A primary hepatic complex or caseating granuloma, 3) Documented tuberculosis infection of placenta or endometrium, and 4) Exclusion of postnatal transmission by through contact tracing.

The diagnosis of congenital tuberculosis in our patient was based on finding a lesion in the first week of life. Development of maternal peritoneal TB confirms the transmission of TB in prenatal period.

These diagnostic criteria emphasize the importance of evaluating the mother of infants with suspected congenital TB.

In conclusion, early diagnosis of congenital TB is highly contributed to the maternal history in countries with high prevalence of TB and it is of great value to screen all suspected pregnant women for tuberculosis. Newborns with sepsis like or TORCH syndrome in endemic countries should also be evaluated for TB.

REFERENCES

1. Pal P, Ghosh A. Congenital tuberculosis: late manifestation of the maternal infection. *Indian J Pediatr* 2008; 75 (5): 516-8.

2. Hageman J, Shulman S, Schreiber M, Luck S, Yogev R. Congenital tuberculosis: critical reappraisal of clinical findings and diagnostic procedures. *Pediatrics* 1980; 66 (6): 980- 4.
3. Abughali N, Van der Kuyp F, Annable W, Kumar ML. Congenital tuberculosis. *Pediatr Infect Dis J* 1994; 13 (8): 738- 41.
4. Beitzke H. Über die angeborene tuberkulose infektion. *Ergebn. Tuberk Forsch* 1935;7:130
5. Cantwell MF, Shehab ZM, Costello AM, Sands L, Green WF, Ewing EP Jr, et al. Brief report: congenital tuberculosis. *N Engl J Med* 1994; 330 (15): 1051- 4.