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Congenital Tuberculosis—A Case Report

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Summary

Sathiakumar N and Anene EN. Congenital Tuberculosis—A Case Report. *Nigerian Journal of Paediatrics* **1987; 14:27.** A case of congenital tuberculosis in a female neonate is reported. She presented with hepatosplenomegaly and failure to thrive. Antituberculous chemotherapy resulted in a remarkable improvement in her general state.

Introduction

CONGENITAL tuberculosis is a rare condition and only few authenticated cases have apparently been reported.[1] The infecting organism may either penetrate directly into the foetal circulation after granulomata have been formed in the placenta, or a tuberculous endometritis may develop with subsequent aspiration of infected amniotic fluid by the foetus. The commonest manifestations of congenital tuberculosis include jaundice, anaemia, failure to thrive, cyanosis hepatosplenomegaly and diffuse pneumonia[2]. The tuberculin test may remain negative until the second or third month after birth. Diagnosis is often made by the evidence of maternal tuberculosis, occasionally by finding tubercle bacilli in gastric washings or by discovering granulomata and organisms in liver or lung biopsy specimens[2] and in lymph node aspirates. Chemotherapy with isoniazid and rifampicin usually produces excellent results.

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The present case is reported because of the rarity of the condition and because of the diagnostic problems it presented.

Case Report

A full-term, normally delivered female baby was admitted directly from the Labour Room into the Nursery, at the Ahmadu Bello University (ABU) Hospital, Zaria, with mild respiratory distress and lethargy. The mother was reported to have had polyhydramnios. She denied any illness during the antenatal period.

Physical examination revealed a female neonate weighing 3 2kg. She was slightly tachypnoeic with clear lung fields. In the abdomen, the liver was palpable 5cm below the costal margin in the mid-sternal and mid-clavicular lines; the spleen was tipped. The baby was placed under observation. On the third day, she was found to be more tachypnoeic and lethargic with scattered crepitations in both lung fields. A provisional diagnosis of pneumonia with septicaemia acquired perinatally, was made and she was investigated accordingly.

Haematological investigations showed a haemoglobin of 12.8 gm/dl, packed cell colume of 0.38,

mean corpuscular haemoglobin concentration of 33, total white blood cell count of 28,800/mm^3 (28.8 x 10^9/L). The differential counts were neutrophils 77%, lymphocytes 21% and monocytes 2%; the smear showed neutrophils with a left shift and toxic granulations. Cultures of blood, urine and cerebrospinal fluid yielded no organism. The serum IgM level was elevated at 326 international units/ml, (normal 140–200 international units/ml). Blood urea nitrogen, sugar and electrolytes were within normal limits. Liver function tests showed an elevated serum glutamic pyruvic transaminase of more than 60 international units/L (normal 4–20) and normal alkaline phosphatase level of 12 King Armstrong units. Radiography of the chest showed patchy opacities in both lung fields suggestive of bronchopneumonia.

On the third day of admission, the baby was started on a combination of intramuscular crystalline penicillin 100,000 units/kg/day and gentamycin 5mg/kg/day; these were given for 10 days. Supportive treatment in the form of intravenous fluids and packed red blood cell transfusion was also given. By the eighth day of admission, the tachypnoea had disappeared and there were no adventitious sounds on auscultation of the lung fields. However, the baby still appeared ill; she was losing weight (2.3kg) and the liver size did not regress.

During the course of the second week, cervical lymph nodes appeared and were gradually increasing in size. The nodes were firm, non-tender and easily demarcated with an average diameter of 1cm. A fine needle aspiration of one of the lymph nodes was performed. The smear of the aspirate showed epithelioid cells and Langhan's type of giant cells. A diagnosis of granulomatous lymphadenitis consistent with tuberculosis was made. Three gastric washings for acid-fast bacilli were however, negative. When the mother was examined, she was found to have pulmonary tuberculosis, based on her chest radiographic changes and a positive mantoux of 25 mm. Three specimens of sputum were negative for acid-fast bacilli and yielded no tubercle bacilli, on culture.

The baby and the mother were placed on antituberculous treatment. The choice of drugs for the baby consisted of rifampicin 10mg/kg/day and isoniazid 10mg/kg/day both administered orally. The baby started gaining weight by the beginning of the second week after treatment and by the end of six weeks, the baby weighed 4.6 kg with complete regression of the liver to normal size.

All the nursery personnel who were screened by chest radiography and sputum examination were found to be free from tuberculosis.

Discussion

This neonate presented with clinical and radiological features of bronchopneumonia. The blood counts and peripheral film were consistent with a pyogenic infection. Although there was clinical improvement of the bronchopneumonia after a course of antibiotics, the hepatomegaly persisted. Furthermore, she was losing weight and presented a diagnostic problem.

The appearance of the enlarged cervical lymph nodes was a clue to the diagnosis. Fine needle aspiration of an enlarged lymph node as was done in the present case is a simple, safe and quick method of diagnosis. The accuracy of fine needle aspiration in general, varies from 60–95% in different series[3,4].

The aspects which are in favour of congenital tuberculosis in this patient are (a) hepatosplenomegaly and failure to thrive since birth, (b) the isolation of the baby in the nursery from the moment she was born; she was therefore, never in contact with the mother after birth, (*c*) significant elevation of the serum IgM level, (*d*) Nursery personnel on screening (chest radiography and sputum for acid fast bacilli), were found to be free from tuberculosis, (*e*) the positive evidence of tuberculosis in the mother and (*f*) a remarkable response by the baby in the nature of complete

regression of hepatomegaly and gain in weight with antituberculous chemotherapy.

It is worthwhile to remember that tuberculosis should be entertained as a diagnostic possibility in a neonate with hepatosplenomegaly, anaemia and failure to thrive.

References

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