Brief Reports

Congenital Tuberculosis

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Congenital tuberculosis is a rare, though well recognized entity(l-4). To the best of our knowledge only five cases have been reported from India so far(5-9). We recently came across such a patient who was diagnosed early and responded well to therapy.

Case Report

A 1350 g, 33 weeks gestation male baby was delivered vaginally by a 27 years old primiparous woman following an uneventful pregnancy and labor. The placenta was normal on gross appearance but was not examined histologically. The baby was separated from the mother and kept in Special Care Nursey because of prematurity and low birth weight. His cardio-pulmonary status stabilized in 12 hours and continuous orogastric expressed breastmilk feeds were started at 24 hours of age. Feeds were gradually increased till he was tolerating 150 ml/kg/day. But, on day 16, he had an apneic episode from which he could be revived with intermittent positive pressure ventilation (IPPV) using a bag and mask. Feeds were stopped, sepsis screening was done and ampicillin, gentamicin along with theophylline were started. Blood glucose, total and differential leucocyte counts and chest radiograph were normal. Blood culture in glucose broth was sterile. However, the baby deteriorated with persistent respiratory distress, sclerema, icterus, fluid retention, prolonged capillary refill and low oxygen saturation. Ampicillin and gentamicin were stopped after three days and cefotaxime, cloxacillin and amikacin were started. He had another episode of apnea on day 21 from which he was revived again with IPPV. His respiratory status did not improve and repeat chest X-ray on day 31 displayed bilateral generalized mottling which was interpreted to be due to bronchopneumonia. On day 49, the infant was noticed to be having fixed upward gaze and hepatosplenomegaly. CSF examination revealed 10 lymphocytes/mm^3, proteins 20 mg/dl and glucose 50 mg/dl. No microorganisms were found on smear and culture was sterile. Generalized bilateral mottling *(Fig. 1)* was again found on a repeat chest radiograph. At this stage, the possibility of congenital tuberculosis was entertained and gastric aspirate examined for presence of acid fast bacilli using Ziehl Neelsen's stain. Of the three

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Received for publication: June 28,1994; Accepted: November 1,1994

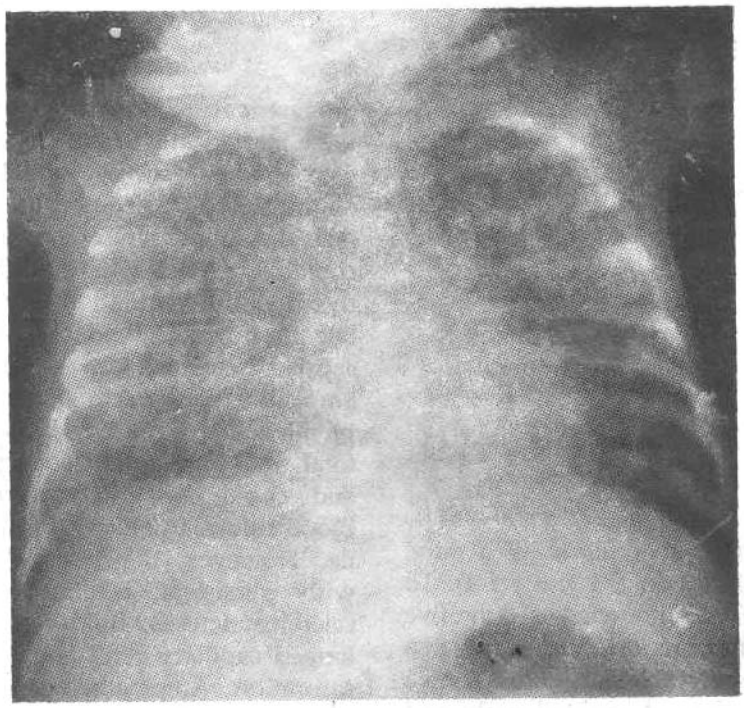

Fig. 1. X-ray chest on day 49 showing bilateral mottling suggestive of miliary tuberculosis.

samples sent, two were positive for acid fast bacilli; however, culture for *Mycobacterium tuberculosis* was negative. Antituberculous treatment was started on day 51. INH (10 mg/kg/day), rifampicin (15 mg/kg/day) and pyrazinamide (25 mg/kg/day) were used along with prednisolone (2 mg/kg/day). Thereafter, the baby recovered quickly. Hepatosplenomegaly regressed and breastfeeding could be started on day 75. Prednisolone was gradually tapered off over four weeks.

The mother was completely asymptomatic till diagnosis of tuberculosis in the infant. On investigations, she was found to be having silent pulmonary tuberculosis with right pleural effusion. Repeated smear examinations for acid fast bacilli on sputum as well as milk were negative. After the diagnosis, she was also treated for tuberculosis. The infant has regularly been followed up after discharge from the hospital. On day 120, he was growing well on breast feeds and the weight was 3000 g.

Discussion

Congenital tuberculosis has been reported only rarely and less than 300 cases are on record in the medical literature(l). Majority of cases are of prechemotherapy era(2,3) when the reported survival was very low(l). Surprisingly, only five cases have been reported from India(5-9) inspite of high

prevalence rate of tuberculosis in the population. This could be partly due to the fact that infertility is common in women suffering from genital tuberculosis.

Prematurity, respiratory distress, fever, hepatomegaly with or without splenomegaly, poor feeding, irritability and lymphadenopathy are common presenting features while skin lesions, ear discharge, failure to thrive, and abdominal distension are uncommon. Seizures and meningitis are unusual and so is icterus(2-5). The disease may manifest anytime between day one to eight weeks(2-4). Mothers may, at times, have no complaints(2,5) as was the condition in our case.

The diagnosis of congenital tuberculosis can be made only on demonstration of tuberculosis in the neonate and proving the antenatal origin of infection(2,3,5). Direct smear examination and culture for AFB from gastric aspirate is a useful diagnostic tool with 80% positive yield(2). Radiographic findings vary considerably depending on the route of infection and time in the course of illness(3). This was quite obvious in our case when the first chest X-ray was normal although repeat radiograph showed miliary pattern. Hence, in cases where respiratory difficulty persists, a repeat X-ray may have a diagnostic value. Our case had two unusual features: recurrent apnea and subtle seizures. In two recent reviews of 40 cases by Hageman *et al.(2)* and Nemir *et al.(4),* there was no case with apnea and only three cases with seizures. In our case, it is not likely to be the apnea of prematurity as the infant was of 33 weeks' gestation at birth and first apnea occurred in third week of life. With respect to seizures, these details have not been described and ours is probably the first report with subtle seizures as a manifestation of congenital tuberculosis.

Once the diagnosis is confirmed, the disease is curable with a reported survival rate of 54%(2). Therefore, despite its rarity, congenital tuberculosis must be suspected in neonates with unexplained fever, hepatomegaly and persistent pneumonia. Needless to say babies born to mothers with tuberculosis need to be carefully followed up.

Acknowledgement

The authors are thankful to the General Manager, Medical Services, Tata Steel for permission to publish this case report.

REFERENCES

1. Snyder DR Jr, Bloch AB. Congenital tuberculosis. Tubercle 1984, 65: 81-82.
2. Hageman J, Shulman S, Schreiber M, Luck S, Yogev R. Congenital tuberculosis : Clinical reappraisal of clinical findings and diagnostic procedures. Pediatrics 1980, 66: 980-984.
3. Polansky SM, Frank A, Ablow RC, Effmann EL. Congenital tuberculosis. Am J Roentgenol 1978,130: 994-996.
4. Nemir RL, O'Hare D. Congenital tuberculosis. Review and diagnostic guidelines. Am J Dis Child 1985, 139: 284-287.
5. Mathur RP, Ramji S, Cherian S, Thirupuram S. Congenital tuberculosis. Indian Pediatr 1987, 24:1144-1148.
6. Thora S, Chansoria M, Kaul KK. Congenital tuberculosis: A case with unusual features. Indian J Pediatr 1985, 52: 425-427.

7. Pai PM, Parikh PR. Congenital miliary tuberculosis—A case report. Clin Pediatr 1976,15: 376-378.

8. Kalra SK, Vatwani V, Sarkar P, Kohli KS. Congenital tuberculosis. Indian Pediatr 1980,17: 376-379.

9. Saxena S, Sharma G, Garg OP. Congenital tuberculosis. Indian Pediatr 1969, 6: 48-50.

Tuberculosis in BCG Vaccinated Children

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Inspite of BCG vaccination, children of all age groups are vulnerable to contract tubercular infection. We carried out a retrospective study to ascertain the site of tubercular infection in hospitalized patients in relation to their immunization status.

Material and Methods

This retrospective study was undertaken at Pimpri Chinchwad Municipal Corporation Hospital, Pune. Three hundred cases of tuberculosis diagnosed over a period of four years were analyzed. Tuberculosis was diagnosed by history, clinical examination, tuberculin test, chest X-ray, ESR, biopsy of the lesion whenever available, isolation of AFB if possible, and examination of the spinal, pleural or ascitic fluid depending upon the type of tuberculosis. Tuberculin test was done with 1 TU of purified protein derivative and was considered positive, when after 72 hours, an induration of more than 10 x 10 mm was seen. Presence of BCG scar was taken as confirmation of immunization. The cases were analyzed according to site of tuberculosis and the BCG immunization status. Relative risk (odds ratio) of the type of tuberculosis, its 95% confidence interval were calculated.

Results

Of 300 patients, 147 were boys; 145 had a BCG scar. The youngest child was six months old, 147 were below 5 years, 100 were between 5 to 10 years and 53 were between 10-15 years. Children immunized with the BCG vaccine presented with less severe forms of tuberculosis including primary complex or thoracic tuberculosis *(Table* I). Unimmunized children presented with disseminated disease including miliary, intracranial and tubercular lymphadenitis involving multiple groups of glands. Most unimmunized children were seriously ill and required prolonged hospital stay.

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Received for publication: March 18,1994; Accepted: November 4,1994