

Congenital tuberculosis presenting as cutaneous disease in a premature infant

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ABSTRACT

We report a premature neonate who developed bizarre multiple skin lesions after being cured from hyaline membrane disease. These lesions were thought initially as multiple abscesses at the puncture sites, which did not respond to the conventional antibiotics. Biopsy of the skin lesion was of great importance in reaching the diagnosis of congenital tuberculosis as cutaneous disease.

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Congenital tuberculosis (TB) is considered an extremely rare disease. The non-specific nature of presenting signs and symptoms, and the fatal outcome in the absence of early treatment all underscore the importance of considering congenital TB in the differential diagnosis of suspected infection in a newborn infant. We present a case of congenital TB in a premature infant, presenting as cutaneous manifestation. Biopsy of skin lesions and staining with Ziehl-Neelsen stain was of great importance and an adjunctive tool for early diagnosis and treatment with antituberculous therapy. The objective of this report is to emphasize the concept of considering such rare serious infections in the newborn, particularly when there is no improvement with conventional antimicrobial treatment.

Case Report. A 1900 gm boy was born vaginally at 34 weeks of gestation to a 26-year old, unbooked grand multipara mother (gravida 10, para 9), originally from the southern province of the Kingdom of Saudi Arabia. The infant was admitted to the nursery intensive care unit

due to hyaline membrane disease and was ventilated for 3 weeks. The post extubation period was uneventful. At the age of 4 weeks, multiple skin swellings (0.5 x 0.5 cm) were noticed at the upper and lower extremities, which were thought initially to be multiple abscesses at the vena puncture sites; swellings appeared later at the scalp occipital region (**Figure 1**). There was no improvement on conventional antibiotic therapy; excisional biopsy of the skin lesion showed a thick greasy like material, dense dermal inflammatory infiltrate of neutrophil together with lymphocytes and histocytes, and a vague ill-defined granulomas were present. The stain for acid-fast bacilli was positive, giving a diagnosis of cutaneous TB. The infant was treated with rifampicin, isoniazid, and pyrazinamide. At the same time, a complete work up for congenital TB including gastric aspirate and cerebro-spinal fluid examination were carried out, and the results were negative. On family and maternal history review, it was found that there was a history of chronic cough in the mother as well as a history of TB in other members and relatives. The infant was isolated, and the mother and other members were referred to a TB center for further work up and management. The skin lesions resolved within 2 weeks, and disappeared completely after 3 weeks of antituberculous treatment. There was no side effects of treatment, as this was achieved through frequent monitoring of hematology and hepatic functions profile. Dramatic improvement was observed in the infant's general condition and he was discharged at the age of 3-months to complete treatment at home. The weight gain upon discharge was satisfactory (4,500 gm), and he had a normal growth and development at regular follow up. Calmette-Guérin (BCG) vaccination was given later on.

Discussion. Less than 300 cases have been reported in the world literature,¹⁻³ and fewer cases have been reported since the last major review in 1980.^{4,5} The most common signs of congenital TB are respiratory distress, fever, hepatosplenomegaly, and growth retardation.^{5,6} These non-specific signs and symptoms make diagnosis of congenital TB difficult, requiring high index of suspicion, especially if there is no improvement on conventional treatment.⁷ Mode of fetal infection has



Figure 1 - Cutaneous presentation of congenital tuberculosis. Arrow points towards the skin lesion.

been proposed through hematogenous, fetal aspiration or ingestion of infected amniotic fluid.⁶ Congenital TB manifesting as cutaneous disease has been reported.^{8,9} In our case, we conclude that there was a dramatic improvement and a good response to antituberculous therapy; more challenging, satisfactory growth and normal development have been achieved.

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Ethical Consent

All manuscripts reporting the results of experimental investigations involving human subjects should include a statement confirming that informed consent was obtained from each subject or subject's guardian, after receiving approval of the experimental protocol by a local human ethics committee, or institutional review board. When reporting experiments on animals, authors should indicate whether the institutional and national guide for the care and use of laboratory animals was followed.