Early prenatal syphilis

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ABSTRACT

Syphilis in pregnancy still remains a challenge despite the availability of adequate diagnostic tests for serological screening and penicillin therapy. We report a case of 2 month old female infant who presented with runny nose, papulosquamous lesions over both palms and soles and perianal erosions since 1 month after birth. Cutaneous examination revealed moist eroded areas in the perianal region and fine scaly lesions over palms and soles. Radiograph of both upper limbs and limbs revealed early periosteal changes in lower end of humerus and lower end of tibia. Diagnosis of early pre-natal syphilis was confirmed by Child's Serum Rapid Plasma Reagin Antibody test [S.RPR] being positive with 1:64 dilution while that of mother was 1:8.

Key words: Prenatal syphilis, serological screening

INTRODUCTION

Prenatal syphilis is defined as syphilis transmitted by the infected mother to the fetus in utero.[1] The clinical manifestations of early prenatal syphilis are a consequence of active infection with *T. pallidum* and the resultant inflammatory response induced in various organs and tissues. This case report is presented to recognize importance of maternal serological screening and treatment during early pregnancy and repeat screening during the final trimester or at delivery.

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CASE REPORT

A 2-month old female child presented with thin, watery nasal discharge along with crying on holding hands and feet since 1 month, scaling of skin over both soles and moist perianal erosions since 15 days. There was no history of swelling over wrist joint and ankle joint, fever, bullous lesions, convulsions or oral lesions. Birth history included a full term, normal vaginal delivery in hospital. The infant cried soon after birth and her body weight was 2.5 kg. Her mother was S.RPR positive and had not received any treatment for syphilis during antenatal period or at delivery. Mother was clinically asymptomatic with bilateral, non tender, firm, discrete inguinal lymphadenopathy. Mother's obstetric history was G2P2AOL1. Father was a garage worker, giving history of extramarital unpaid, unprotected exposure before one and half years. He too was S.RPR positive.

Cutaneous examination showed moist perianal erosions and papulosquamous lesions over both soles, dactylitis over both hands and bilateral, firm, nontender, discrete inguinal lymphadenopathy. Systemic examination was normal [Figures 1 and 2].

Laboratory examination revealed hemoglobin 8.7 gm%, total leukocyte count 17,100/mm^3, platelet count 3,62,000/mm^3 and erythrocyte sedimentation rate 35 at 1 hour. S.RPR 1:64, CSF VDRL test was negative. Radiograph of both upper limbs and lower limbs showed early periosteal changes in lower end of humerus and lower end of tibia. Urine examination showed mild albuminuria. Diagnosis of pre-natal syphilis was made and child was put on Inj. Crystalline penicillin 50,000 units/kg every 12 hourly intravenously for 10 days. Mucocutaneous lesions as well as periosteitis responded to above therapy and infant's S.RPR titre dropped to 1:32 10 days post-treatment [Figure 3].

DISCUSSION

Congenital syphilis (syn. Syphilis connata) follows transplacental transmission of *T. Pallidum* to fetus in utero.[2] Despite the popularity of the term congenital syphilis, 'pre-natal' syphilis better indicates that the signs and symptoms may

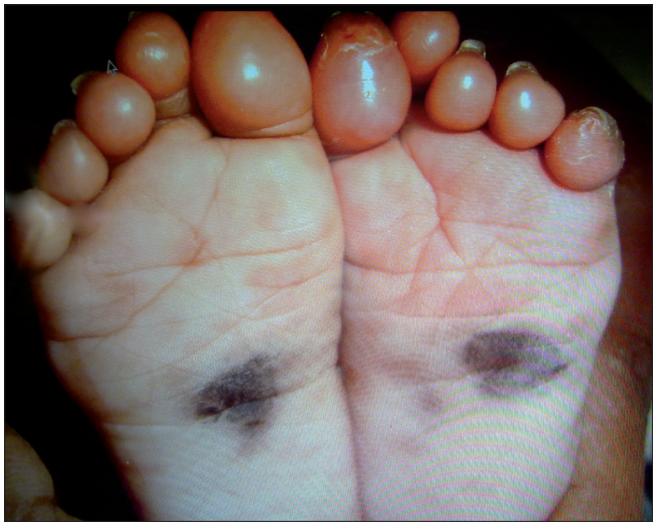

Figure 1: Dactylitis with papulosquamous lesions over both soles

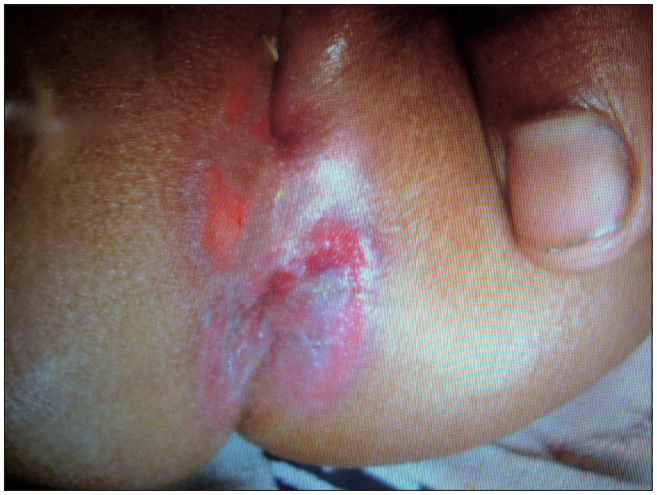

Figure 2: Moist, erosions around perianal region

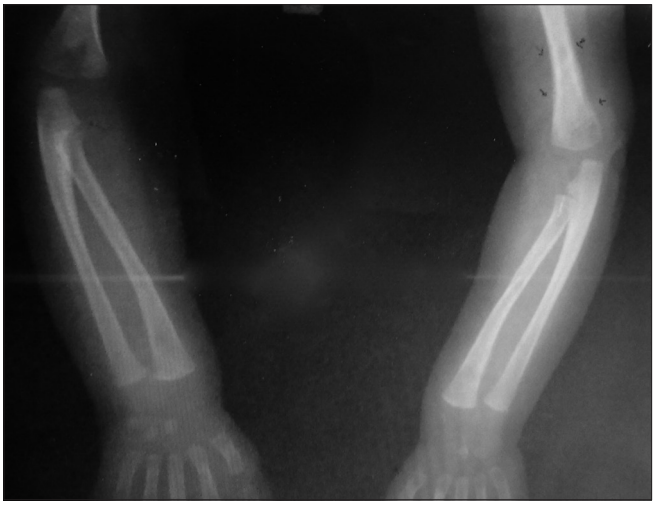

Figure 3: Lower end of humerus showing early periosteal reaction

develop before or after delivery rather than always being present at birth. It is divided into two subtypes: Early prenatal syphilis (syphilis connata praecox) in which lesions occur during the first two years of life (analogous to secondary stage of acquired syphilis) and Late pre-natal syphilis(syphilis connata tarda) where lesions occur after 2 years of age (can be further divided into disease with active pathologic processes and stigmata).

A case of congenital syphilis can be defined as:

- **A confirmed** case if an infant in whom *T. pallidum* is identified in lesions, placenta, umbilical cord or autopsy tissue.
- It is called a **Presumptive** case in any infant whose mother was untreated *or* treated with antibiotics other than penicillin before delivery regardless of any finding in infant *or* any infant or child with reactive treponemal test for syphilis and any one of the following; evidence of congenital syphilis on physical examination *or* X-ray of long bones, presence in cerebrospinal fluid of lymphocytosis with elevated protein(without other causes), reactive CSF VDRL test *or* infant rapid plasma regain four fold higher than mother both drawn at birth *or* reactive immunoglobulin-M treponemal antibody test in serum**.**
- **Syphilitic stillbirth** a fetal death in which the mother had untreated or inadequately treated syphilis at delivery of the fetus after 20 week or a fetus weighing >500 gm.[3]

Clinically, early prenatal syphilis manifests in descending order of frequency, as low birth-weight, hepatosplenomegaly, anemia, jaundice, thrombocytopenia, skin lesions, respiratory distress, rhinitis, and pseudoparalysis. Rhinitis ("snuffles") has been reported in as many as 73% of infants.[3,4] It usually develops in the second to third week of life and may be the earliest clinical sign. Manifestations of late prenatal syphilis include asymptomatic neurosyphilis (30-50%) and interstitial keratitis (8.8%). Bilateral 8th nerve disease with vertigo, tinnitus, and deafness has been reported in 3 per cent to 38 per cent of patients, usually adolescents. Bone manifestations such as arthritic perisynovitis, chondroosteoarthritis, epiphysitis, and periostitis, may also occur in late prenatal infection.[5] Dental abnormalities caused by treponemal invasion of the tooth buds include pathognomonic Hutchinson teeth and 'mulberry molars.'

Treatment of the prenatal syphilis includes Aqueous crystalline penicillin G 100,000-150,000 units/kg/day administered as 50,000 units/kg/dose IV every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of 10 days *or* Procaine penicillin G 50,000 units/kg/dose IM in a single daily dose for 10 days. If more than one day of therapy is missed, the entire course should be restarted.[6] Data are insufficient regarding the use of other antimicrobial agents. The use of agents other than penicillin requires close serologic follow up to

assess adequacy of therapy. In all other situations, the maternal history of infection with *T. pallidum* and treatment for syphilis must be considered when evaluating and treating the infant. Infants who have reactive serologic tests for syphilis should have serial quantitative nontreponemal tests performed until nonreactivity is documented or the titer has decreased four-fold. Follow up should be done at 2, 4, 6, 12, and 15 months. If the nontreponemal serologic titers remain stable or increase after 6-12 months the child should be reevaluated for syphilis, including CSF examination and treated with parenteral penicillin G for 10 days.[7]

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