Symptomatic Early Congenital Syphilis: A Common but Forgotten Disease
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ABSTRACT
Congenital syphilis is a severe, disabling infection often with grave consequences seen in infants. It occurs due to the transmission of the disease from an infected mother to the unborn infant through the placenta. Congenital syphilis can involve any organ system and present with various symptoms. However, early diagnosis of congenital syphilis is difficult because more than half of the affected infants are asymptomatic, and the signs in symptomatic infants may be subtle and nonspecific. The continuing prevalence of this disease reveals the failure of control measures established for its prevention. Here we report a case of a one-month infant who presented with skin rash. The report stresses upon the importance of implementing the World Health Organization's recommendation that all pregnant women should be screened for syphilis in the first antenatal visit in the first trimester and again in the late pregnancy.

Key Words: Congenital syphilis. Skin rash. Metaphysitis.

INTRODUCTION
Congenital syphilis, caused by Treponema (T.) pallidum is still a public health issue worldwide, especially in the developing countries.1 World Health Organization (WHO) estimates that worldwide two million pregnant women get infected with syphilis every year. In pregnant women, the incidence ranges from 1.5% in Europe to 3.9% in parts of the United States and 1.48% in South East Asia. Incidence of congenital syphilis is 13.4 cases per 100,000 live births were reported in the United States and 9 cases of presumptive congenital syphilis occurred in the United Kingdom and much higher in Africa.2 Without adequate treatment many of them transmit this infection to their offspring, thus increasing the number of reported cases of stillborn, preterm, low birth weight, or congenital infection.

Congenital syphilis results from transplacental transmission of spirochetes. Approximately 66% of infected infants from congenital syphilis are asymptomatic at the time of birth and are identified only by routine prenatal screening. Untreated syphilis during pregnancy has a transmission rate nearing 100%.3 We put forth a case of symptomatic congenital syphilis presented with skin rash, excessive irritability and joint swelling.

CASE REPORT
A one-month old neonate presented with 3 week history of joint swelling that initially involved the wrist joints and then involved the ankle joint. It was associated with excessive irritability and inability to move the lower limbs. He had been born to a 24 years, second para mother who had prenatal care at other clinics. She was not tested for syphilis. Upon physical examination, his weight and height was on 50th centile and head circumference was 38 cm. He was quite irritable especially to touch and his activity was decreased. His abdomen was soft and liver and spleen were not palpable. He had generalized erythematous, scaly macules, papules and desquamation at the hand and foot (Figure 1). He had swelling at both wrist and ankle joints and they were tender and hot as well (Figure 1).

Complete blood cell counts demonstrated normocytic normochromic anemia (hemoglobin 11.1 g/dL, hematocrit 32.1%) with leukocytosis (white blood cell [WBC] 20,100/mm3 with 30% neutrophils, 60% lymphocytes, 4% monocytes and 1% eosinophils) and thrombocytopenia (44,800/µL). Liver function tests were normal with alanine aminotransferase activity 43 IU/L. His blood Venereal Disease Research Laboratory (VDRL) test was positive in 1:128 dilutions and...
Cerebrospinal Fluid (CSF) VDRL analysis negative. His syphilis serology test showed a positive *T. pallidum* hemagglutination assay test (TPHA). Radiographic examination of the infant's long bones showed metaphysial irregularity and sclerosis (metaphysitis), periosteal reaction along shafts of long bones and soft tissue swelling (Figure 2).

His hearing test was normal. After his illness was diagnosed as congenital syphilis, his parents were tested for syphilis and the mother's VDRL was found to be reactive with 1:4 dilutions and the father's VDRL was found to be reactive with a 1:1 dilution.

The patient was treated with procaine penicillin G for 14 days. His skin eruption resolved within several days. After 4 days of penicillin, results of serology test returned to normal with platelet count of 215,000/µL, WBC count of 16,500/mm³. Irritability of patient settled down and joint swelling resolved after 3 weeks. Parents were also given single I/M benzathine penicillin. The patient was 4 months old at the last visit and his physical examination was normal, including neurologic and loco motor examination.

**DISCUSSION**

Congenital syphilis is acquired by an infant from an infected mother by transplacental transmission of *Treponema pallidum* during pregnancy or possibly at birth from contact with maternal lesions. Intrauterine infection with *Treponema pallidum* can result in still birth, hydrops fetalis, or preterm birth, or can be asymptomatic at birth. Early form of congenital syphilis is when the clinical manifestations occur before 2 years of age and late congenital syphilis is when manifestations occur after 2 years of age.

Manifestations of congenital syphilis are divided into early and late signs based on the first 2 years of life. Mucocutaneous involvement is present in as many as 70% of infants and may be apparent at birth or develop during the first few weeks of life. Cutaneous findings of early congenital syphilis is classically a vesiculobullous or maculopapular rash on the palms and soles and may be associated with desquamation. Other types of rashes such as erythema multiforme have also been reported. In addition, symptoms of early congenital syphilis include fever, failure to thrive, hepatosplenomegaly, lymphadenopathy, osteochondritis, pneumonitis, and rhinitis.

Upon physical examination, a high index of suspicion is necessary to make the right diagnosis early. Although acral dermatitis, vitamin or nutrient deficiency, and hand eczema might mimic this disorder, skin rash of early congenital syphilis is relatively recalcitrant to classical eczema treatment, which may turn negative after full course of treatment. Treponemal tests like TPHA (Treponema Pallidum Haem-Agglutination) and FTA-Abs (Fluorescent Treponemal Antibody Absorbed) are diagnostic and remain positive even after treatment.

Syphilis is a treatable condition as *T. pallidum* is sensitive to penicillin. VDRL (Venereal Disease Research Laboratory), a non-treponemal test, is commonly used as a screening test for syphilis, which may turn negative after full course of treatment. Treponemal tests like TPHA (Treponema Pallidum Haem-Agglutination) and FTA-Abs (Fluorescent Treponemal Antibody Absorbed) are diagnostic and remain positive even after treatment.

Congenital syphilis is a preventable and treatable disease. If physicians are aware of its diverse clinical symptoms it can be picked early. Therefore, clinical suspicion and formal confirmation of antenatal screening results as well as a detailed maternal history provide important clues for the diagnosis of congenital syphilis. World Health Organization (WHO) recommends that all pregnant women should be screened for syphilis in the first antenatal visit in the first trimester and again in the late pregnancy. We support the recommendation that in our country there should be a screening program antenatally to detect syphilis which is considered to be an uncommon disease. Vigilant screening pre-natally, at delivery, and an adequate follow-up are critical to reduce the incidence of congenital syphilis.

**REFERENCES**