A rare case of early congenital syphilis with patent ductus arteriosus: The continuing curse for generations

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Abstract

A 19-year-old female with untreated syphilis (venereal disease research laboratory test reactive) delivered a female child at 34 weeks with low birth weight, intrauterine growth retardation, respiratory distress, and bilateral pedal edema. One week later, the baby was found to be having pansystolic murmur confirmed by ECHO as patent ductus arteriosus. At 2 weeks, the baby developed maculopapular rash; hepatomegaly; and swelling of the shoulder, knee, ankle, wrist, and medial end of the clavicle. Both parents and baby were rapid plasma reagin test. X-ray showed Wimberger's sign at the upper end of the tibia. A diagnosis of congenital syphilis was made. The baby became asymptomatic after giving injection benzylpenicillin for 10 days.

Key words: Congenital syphilis, patent ductus arteriosus, venereal disease research laboratory test

INTRODUCTION

Congenital syphilis is a severe systemic infection affecting almost all the structures of the body that occurs due to the transmission of *Treponema pallidum* from mother to child during fetal life, but if diagnosed early is treatable to the point of presumptive cure.[1,2] Here, we report a case of early congenital syphilis associated with patent

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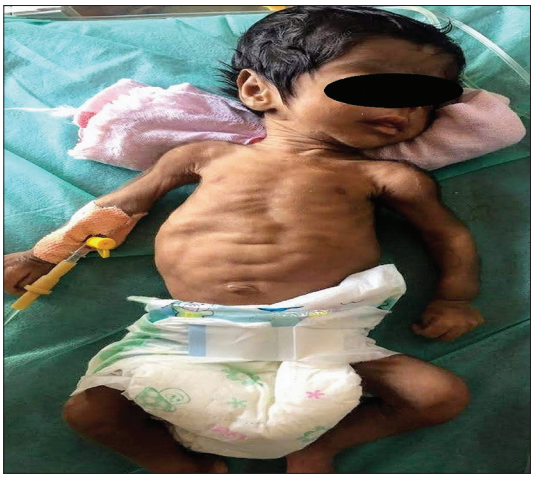

Figure 1: Multiple joint swellings

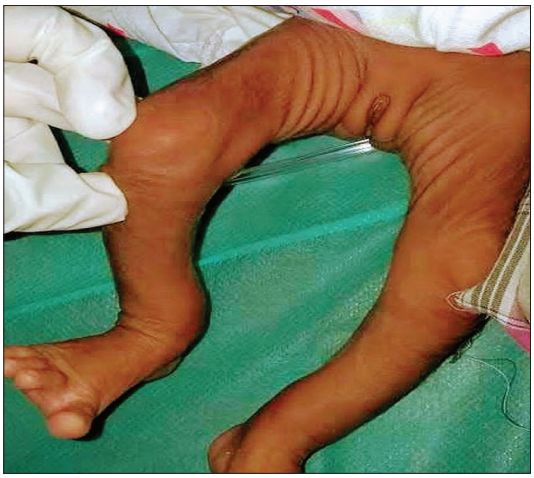

Figure 2: Swelling of knee joint and ankle joint

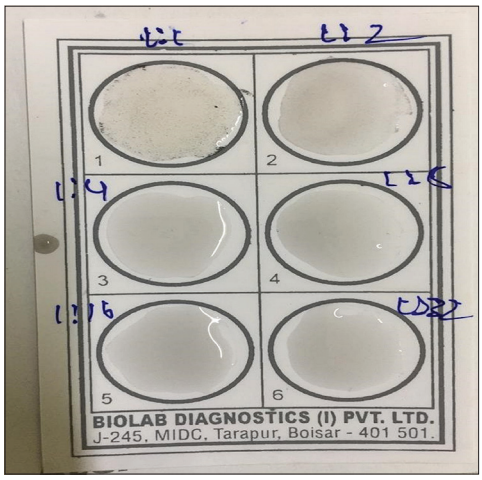

Figure 3: Rapid plasma reagin test showing reactive 1:1

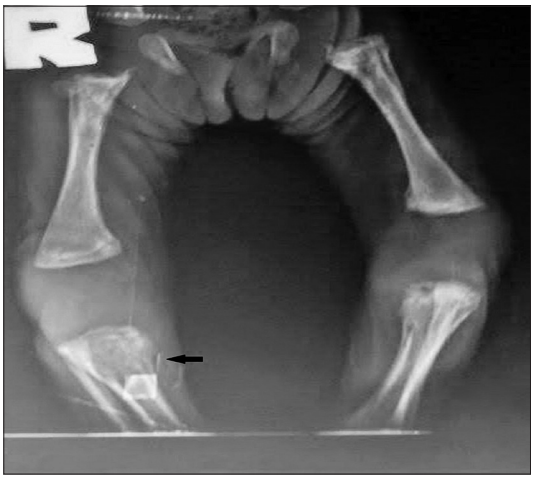

Figure 4: Wimberger's sign at the upper end of the tibia

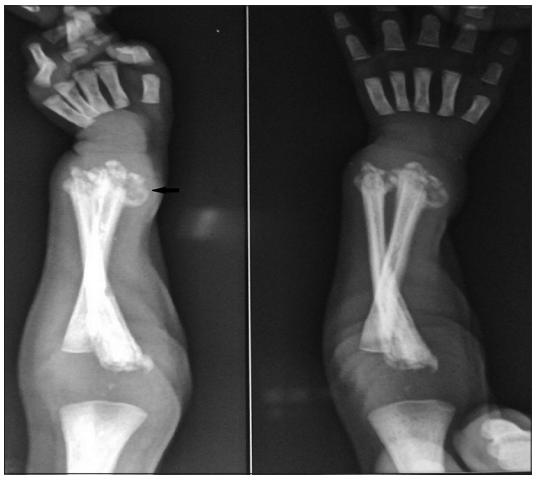

Figure 5: Bucket-handle sign

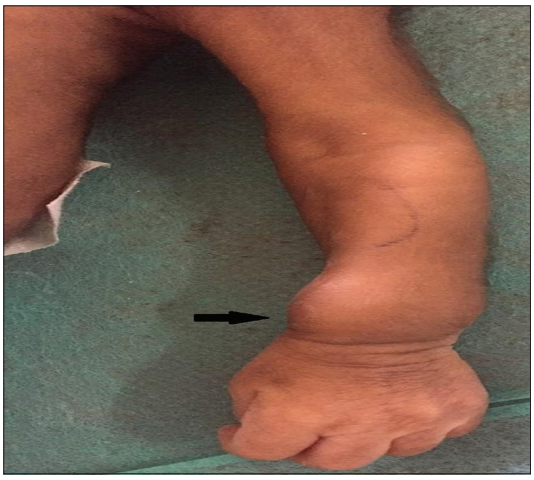

Figure 6: Swelling of wrist joint before treatment

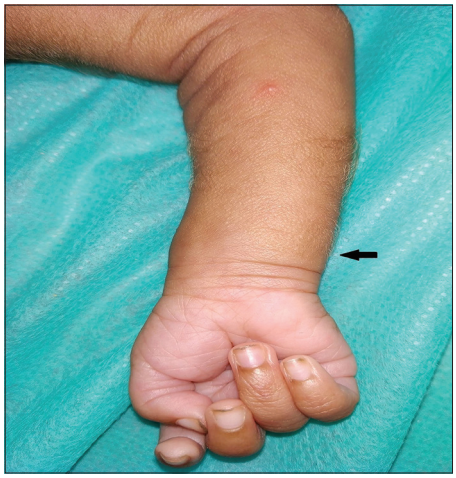

Figure 7: Resolution of wrist joint swelling after giving penicillin injection

ductus arteriosus (PDA) in a neonate referred from the Department of Pediatrics, Government General Hospital, Kakinada, East Godavari District of Andhra Pradesh on October 09, 2018. The parents hail from Visakhapatnam district and the mother came here for delivery at her maternal place, Kakinada, East Godavari district. The mother acquired syphilis from her husband by marital contact. Her husband gave a history of multiple extramarital exposures at Visakhapatnam. Both parents are asymptomatic and did not take any treatment. This case is being reported to emphasize that congenital syphilis still exists in the 21st century, and global antenatal screening and perusal to treatment are mandatory to prevent this serious yet largely preventable disease.

CASE REPORT

A 19-year-old female who was venereal disease research laboratory test reactive (VDRL) reactive at antenatal screening in 1:8 dilutions went home without showing the report to the obstetrician and was not referred to sexually transmitted disease clinic for treatment. She presented at the labor room at 34 weeks with premature rupture of membranes and delivered a female child with low birth weight of 1.7 kg and intrauterine growth retardation (IUGR). Immediately after birth, the child presented with respiratory distress and bilateral pedal edema. One week later, the baby was found to be having pansystolic murmur confirmed by ECHO as PDA which closed 4 weeks later by treatment with nonsteroidal anti-inflammatory drugs. At 2 weeks of age, the baby developed generalized maculopapular rash; bulging anterior fontanelle; hepatomegaly; swelling of the wrist, shoulder, knee, and ankle joints [Figures 1 and 2]; and swelling of the medial ends of the clavicle. There was restricted limb movements and cry on touching suggestive of Parrot's pseudoparalysis.

The following are the laboratory investigations:

- Normochromic normocytic anemia, leukocytosis, normal platelet count
- Rapid plasma reagin (RPR) test of the baby was reactive (1:16 on initial visit) and nonreactive (on follow-up visit 1 m after giving penicillin injection)
- RPR test of the mother was reactive (1:16 on initial visit), reactive (1:2 at the first, second, and third months after penicillin injection), and reactive (1:1 at the 4th month after penicillin injection) [Figure 3]
- RPR test of the father was reactive (1:8 on initial visit) and did not turn up for follow-up visits
- Both parents and baby were HIV negative
- Neurosonography showed that no abnormality was detected
- Cerebrospinal fluid analysis showed lymphocytosis and elevated protein.
- Liver function test – elevated.
- Serum Vitamin D, calcium, and phosphorus – normal

X-ray findings

1) Wimberger's sign (cat bite sign) which is focal defect with cortical destruction at lateral aspect of metaphysis at the upper end of the tibia [Figure 4]
2) Periosteal reaction of tibia, humerus and lower end of radius
3) Metaphysitis of lower end of radius
4) Bucket-handle sign(fracture through the degenerating metaphysis with exuberant callus formation resulting in a cap over the metaphysis [Figure 5]). According to modified Kaufman criteria, periosteitis (major criteria), maculopapular rash, hepatomegaly, splenomegaly (minor criteria), and reactive serological test for syphilis (STS), a probable diagnosis of congenital syphilis was made.

According to the revised Centers for Disease Control and Prevention (CDC) criteria, it was labeled as a probable case of congenital syphilis because the mother was untreated at delivery with VDRL reactivity and the baby on examination had maculopapular rash, pedal edema, Parrot's pseudoparalysis, and reactive RPR test.

Treatment and follow-up

Injection benzylpenicillin was given – 50,000 units/kg/dose IV BD for 7 days and TID for next 3 days. Follow-up was advised every month for 3 months and then at 3 monthly intervals in the 1st year and then at 6 monthly intervals until two VDRL test reports become nonreactive. Both parents are treated with single-dose benzathine penicillin 2.4 million units for early syphilis. Clinical improvement was seen during penicillin therapy and the baby became completely asymptomatic with significant reduction of joint swellings [Figures 6 and 7] 1 week after completion of penicillin therapy and was discharged. During follow-up visits, RPR test was nonreactive at 1 month and 2 months after penicillin therapy.

DISCUSSION

The CDC recommends serologic VDRL testing of pregnant women during the first prenatal visit and additional serologic testing and evaluation of sexual history at 28 weeks of gestation and before delivery.[3] If diagnosis is missed, death of the baby may result, despite the fact that syphilis is a disease that has easy and inexpensive treatment.[4] In the present era, congenital syphilis is manifesting as prematurity, IUGR, marasmus, pot belly, difficulty in taking feeds, oral and nasal ulcers, vesiculobullous rash, painful swollen joints, etc., IUGR, a commonly cited feature of congenital syphilis, is thought to reflect inadequate nutrition of the fetus as a result of syphilitic placentitis.[5] This probes us for stringent antenatal screening and treatment of the mother for syphilis. In 2004, the WHO proposed a strategy for the prevention and ultimately the elimination of congenital syphilis worldwide. Specifically, the goal is to prevent mother-to-child transmission of syphilis with early antenatal care for all women, the treatment of all sexual partners of infected women and the treatment of all newborns born to seropositive women.[6] There is a preponderance of evidence that with the appropriate commitment of resources to high-risk populations, the prevention of the morbidity and mortality caused by syphilis in pregnancy is within the grasp of the international health community and that the devastating effects of congenital syphilis can be eliminated.[7]

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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