

A Case of Secondary Syphilis on Infant

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Abstract: Secondary syphilis, a stage of sexually transmitted infection caused by *Treponema pallidum*, typically presents with a range of symptoms in adults. However, when this condition affects an infant, it becomes a rare and serious medical concern. This article explores a unique case of secondary syphilis in an infant, highlighting the diagnostic challenges, treatment options, and the importance of early intervention.

Keywords: rare case, secondary syphilis, infant

A 2-month-old infant (the weight 5kg) was presented to our department with a 2-week history of a diffuse pruritic rash, which started on his hands and arms before spreading rapidly over his entire body, presented as white, flat or minimally raised, moist plaques. A hernia body with a size of 2×2×1cm could be found at the navel of the infant and the surface is smooth and can be recovered. There is no hepatosplenomegaly during physical examination. Protruding hernia can be seen on the left scrotal wall, which can be retrieved (Figure 1). The infant felt painful of lower extremity and result in refusal to move it. Radiographic findings showed the multiple bony lesions characteristic were periostitis and epiphysis with lower extremity (Figure 2). Extensive long-strip hyperplasia was seen in both femurs, tibia and fibula, the early calcification zone was widened and the density was increased, and bone destruction was seen in both tibia and proximal medial side (Wimberger sign). Differential diagnosis at that time included secondary syphilis, psoriasis, and acrodermatitis enteropathica.

Further investigations, including routine blood test, hypersensitive c-reactive protein, human immunodeficiency virus (HIV), syphilis, hepatitis B, and C, were conducted. The results confirmed the diagnosis of secondary syphilis, indicating that the infection had been transmitted from the mother during pregnancy. TPPA assay was positive, and the rapid plasma



Figure 1 The diffuse pruritic presented as white, flat or minimally raised, moist plaques. A hernia body could be found at the navel of the infant and the surface is smooth and can be recovered. Protruding hernia can be seen on the left scrotal wall.

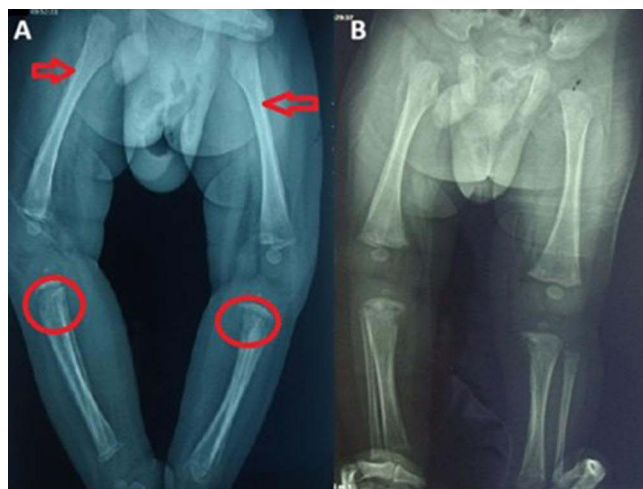


Figure 2 Radiographic findings showed the multiple bony lesions characteristic with lower extremity. (A) The periosteum of the original double femur, tibia and fibula is thickened in different degrees, and the metaphyses are irregular and low in density. (The red arrow represents thickened periosteum and the red circle represents Wimberger sign) (B) Now the periosteum is intact completely, and the metaphyses are increased more smoothly.

reagin titre was 1:64. The result of TPPA was positive for his mother, and the rapid plasma reagin titre was 1:16, but his father was negative. Based on the above findings, a diagnosis of secondary syphilis was made.

After admission, and penicillin 5WU was given to the buttock muscle on the first and the second day and no adverse reactions occurred. On the third day, penicillin 50WU was given intravenously for 1/8 hour. The symptoms of the infant gradually became normal after one week.

Discussion

Syphilis is a bacterial infection that progresses through several stages, each with distinct symptoms.^{1,2} Secondary syphilis, which occurs weeks to months after initial infection, is characterized by a rash, fever, and other systemic symptoms.³ In infants, syphilis is almost always acquired through vertical transmission from an infected mother during pregnancy or delivery.⁴ This condition, known as congenital syphilis, can lead to severe health complications if not diagnosed and treated promptly.

Diagnosis was confirmed through positive serological tests for syphilis, including the TPPA assay. Treatment involved a course of intravenous penicillin, which is the standard therapy for syphilis in infants. Prompt treatment is essential to prevent long-term complications and ensure the best possible outcome for the child.

Diagnosing syphilis in infants can be challenging due to the non-specific nature of early symptoms, which can mimic other conditions. Misdiagnosis can lead to delayed treatment and serious health consequences. Additionally, the emotional toll on the family is significant, as they must navigate the complexities of managing a rare and potentially life-threatening condition.

In conclusion, this rare case of secondary syphilis in an infant underscores the need for heightened awareness among health-care providers about the signs and symptoms of congenital syphilis. Early diagnosis and treatment are crucial for preventing long-term health complications and ensuring the best possible outcomes for affected infants and their families.

Data Sharing Statement

The data that support the findings of this study are openly available.

Consent Statement

Signed informed consent was obtained from patient's parents for the publication of the case details including publication of the images.

Institutional Approval

No institutional approval was required to publish the case details.

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Disclosure

All authors report no conflicts of interest in this work.

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