Received: 21 August 2023 | Revised: 8 September 2023 | Accepted: 12 September 2023

DOI: 10.1002/ccr3.7959

CASE REPORT

Clinical Case Reports Open Access WILEY

Acquired syphilis with flat condyloma in a 3 year-old girl: A case report

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Key Clinical Message

The incidence of syphilis in young children is very low, with acquired syphilis exceptionally rare. A 3 year-old girl presented to our service with a reddish-brown rash on the external genitals and perianal area. The rash had been apparent for a period of 1 week. The girl was asymptomatic and had no history of sexual contact. Syphilis was suspected and the *Treponema pallidum* particle agglutination test (TPPA) was found to be positive, as well as the rapid plasma regin ring card test (RPR), with a titer of 1:64. The girl was diagnosed with toddler acquired secondary syphilis. The girl was cured after three treatments with penicillin. This report points out the need for clinicians to be aware of nonsexually transmitted syphilis, acquired in daily life by children without a history of sexual contact.

KEYWORDS

acquired syphilis, flat condyloma, nonsexual transmission, RPR, TPPA, young child

1 | INTRODUCTION

At present, the global prevalence of syphilis is a serious medical issue. It is estimated that there are more than 10 million new cases of syphilis each year, with more than 90% of the cases within developing countries.[1] The incidence of syphilis in China has also been increasing year by year. Fujian is a province with a high incidence of syphilis. The incidence of syphilis in young children is less than 0.5/100,000 individuals, with the incidence of acquired syphilis in young children much less common.[2]

2 | CLINICAL REPORT

A 3 year-old girl was found a week ago by her mother to have a scattered pink rash on her perianal area and her vulva. The mother consulted a local clinician for diagnosis and treatment for eczema. With treatment, the rash did not subside and gradually increased in size.

The child was the mother's first and had no history of sexual contact, and also was healthy, without hereditary disease, history of surgery, or blood transfusion, and was not sexually assaulted. Her parents denied extramarital sexual contact and had no family history of similar or other infectious diseases. Physical examination: The girl's perianal and external genital areas exhibited scattered round or round-like reddish-brown papules with a round or round-like, red or pink, moist surface, and clear boundaries (Figure 1). No skin lesions were found on her trunk, limbs, or in her mouth. The virgin membrane was present. The TPPA was positive, with a value of 22.56 s/co. The RPR was positive, with a titer of 1:64. Syphilis serological analysis of her parents and grandparents. Except for her grandfather, everyone in her family tested negative. Both TPPA and RPR were positive for her grandfather, RPR with a titer of 1:16.

FIGURE 1 Flat papules are visible on the perianal area and vulva. The size of the papules was similar to a bean or walnut. The surface of the area was moist, red or pink, and well defined.

FIGURE 2 Skin lesions subsided 3 weeks after penicillin treatment.

Based on typical clinical manifestations and laboratory findings the child was diagnosed with secondary syphilis. Based on the guidelines for the diagnosis and treatment of syphilis in China,[3] the infectious disease was reported according to regulations and the child administered benzathine penicillin 750, 000 U, intramuscularly once a week for 3 weeks.

After treatment, the rash completely disappeared in the third week (Figure 2). 1 month, 3 months, and 6 months posttreatment, RPR titers were 1:8, 1:4, and 1:2, respectively. In addition, her grandfather was treated at a local hospital, and after three courses of penicillin treatment, RPR turned negative.

3 | DISCUSSION

Humans are the only source for syphilis, with most infections due to sexual intercourse. However, acquired syphilis with flat condyloma in childhood is uncommon. It has been reported that close contact with children infected with syphilis, especially in overcrowded or poor family situations, increases the risk of the illness. Children are especially vulnerable when family members or caregivers are infected.[4] Furthermore, some easily ignored nonsexual transmission ways, such as kissing, breastfeeding, carrying, eating pre-chewed food, or sharing contaminated tableware, may be routes of sexually transmitted syphilis transmission in children.[5]

The child reported herein was healthy, with no hereditary disease, no history of surgery, and no blood transfusion. Except for her grandfather, everyone in her family tested negative. The family members of the child denied that the child was sexually assaulted. But in daily life, the grandfather of the child had close contact with the child through kissing, sharing tableware to feed the child, and using a common toilet. Based on this information, it can be inferred that this case of syphilis was due to close contact with children infected during daily life. This case also serves as a reminder regarding public health. In recent years, for example, China has advised public chopsticks to decrease the spread of hepatitis B in China. Traditional practices such as mouth feeding and other behaviors likely to transmit infections can be changed by teaching or promoting public facilities. To minimize the spread of linked diseases, government management decision-makers and the general public require a longer time of science education.

By this case report, we remind clinicians to be aware of nonsexually transmitted acquired syphilis in children without a history of sexual contact. Furthermore, children with syphilis and her family members should be educated regarding the sexual and nonsexual modes of disease transmission in order to prevent further occurrences.

AUTHOR CONTRIBUTIONS

Qing-fu Hu: Writing – original draft. **Kun-jie Li:** Supervision; writing – review and editing.

FUNDING INFORMATION

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no competing interests.

DATA AVAILABILITY STATEMENT

The authors confirm that the data supporting the findings of this study are available within the article.

CONSENT

Published with the written consent of the patient.

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REFERENCES

1. World Health Organization. *WHO Guidelines for the Treatment of Treponema Pallidum (Syphilis)*. WHO; 2016.
2. Yue X, Gong X, Li J, et al. Trends and characteristics of syphilis epidemic in China from 2014 to 2019. *Chin J Dermatol*. 2021;54(8):668-672.
3. National Center for STD Control, Chinese Center for Disease Control and Prevention; Venereology Group, Chinese Society of Dermatology; Subcommittee on Venereology, China Dermatologist Association. Guidelines for the diagnosis and treatment of syphilis, gonorrhea and genital chlamydia trachomatis infection. *Chin J Dermatol*. 2020;03:168-179.
4. Hu HH, Xu TH, Li JH, Guo H. Non-sexually transmitted acquired syphilis in a three-year-old boy. *Indian J Dermatol Venereol Leprol*. 2022;88(3):389-391.
5. Yang WJ, Hu HH, Yang Y, Li JH, Guo H. Unusual erythematous plaque with white scales, a case of acquired syphilis in a child and literature review. *BMC Infect Dis*. 2021;21:528.

How to cite this article: Hu Q-f, Li K-j. Acquired syphilis with flat condyloma in a 3 year-old girl: A case report. *Clin Case Rep*. 2023;11:e7959. doi:10.1002/ccr3.7959