

Case Report

Lingual Mucosal Lesions for Starting the Secondary Stage of Syphilis: A Case Report

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Abstract

Background: Recent years syphilis has the increased case rates among men who have sex with men and remains a continuing public health challenge globally. Owing to its varied manifestations of oral mucosa in syphilis that can mimic other infections, it should be distinguished from oral ulcer, candidiasis, oral lichen planus, oral leukoplakia and so on.

Case Presentation: This case report describes the patient with white plaques of the lingual mucosa for the secondary stage of syphilis in a 23-year-old male. It was a rare case that

oral mucosal lesions as the only manifestations of secondary syphilis. And the differential diagnosis, treatment, follow-up visits and attentions were discussed.

Conclusions: The clinicians need to distinguish the oral clinical presentations of syphilis from other oral diseases for suspected syphilis patients and to achieve early diagnosis and treatment. As well do a good job in relevant self-protection, instrument disinfection and management of nosocomial infection.

Keywords: Syphilis; Oral diseases; Case Report

Abbreviations: T. pallidum: Treponema pallidum; MSM: men who have sex with men; CBC: complete blood count; CRP: C-reactive protein; RPR: Rapid plasma reactive ring card test; TPPA: Treponema Pallidum particle agglutination assay

1. Background

Syphilis is a chronic sexually transmitted or vertical transmitted during pregnancy disease caused by Treponema pallidum (T. pallidum). Human is the only source of infection of syphilis. Acquired syphilis is mainly transmitted through sexual contact. Recent years syphilis has the increased case rates among men who have sex with men (MSM) and remains a continuing public health challenge globally [1]. Infected individuals typically follow a disease course divided into primary, secondary, latent and tertiary stages over a period of ≥ 10 years and can be accompanied by oral mucosal lesions [1]. Owing to its varied manifestations of oral mucosa in syphilis that can mimic other infections, it should be distinguished from oral ulcer, candidiasis, oral lichen planus, oral leukoplakia and so on. This case report describes a rare case that the patient with lingual mucosal lesions as the only manifestations for the secondary stage of syphilis in a 23-year-old male. Combined the clinical features, laboratory tests and medical history, the patient was

diagnosed as the secondary stage of syphilis. The differential diagnosis, treatment and follow-up visits were discussed.

2. Case Presentation

A 23-year-old man presented the stomatology department with about 3 months history of pain in tongue. The patient described he felt the pain of his tongue about 3 months ago and was diagnosed with the glossitis and pharyngolaryngitis at the local clinic. He was treated with some herbs and there was no obvious curative effect and no significant improvement of his pain in tongue. The patient had history of men who has sex with men. The patient denied history of diabetes, tuberculosis, drug allergy history and family cancer. And the patient denied history of erythema, papule and other abnormal features of skin among the three months. Oral examination showed that white plaques on the both lateral edge of tongue, medium texture, slightly higher than the surrounding mucosa, bright surface, clear boundary, without obvious ulcers and erosions. There were no abnormal findings in the skin of limbs, trunk and genitals. Figure 1 and 2 showed the manifestations of the tongue. Laboratory examination revealed complete blood count (CBC) was normal. C-reactive protein (CRP) was elevated to 14.2mg/L (normal 0-5mg/L). Rapid plasma reactive ring card test (RPR) and Treponema Pallidum particle agglutination assay (TPPA) were positive. The RPR titer was 1:16. HIV testing were negative. The fungal smear of the oral mucosa and the lesions tested negative.



Figure 1: white plaques of left lingual mucosa.



Figure 2: white plaques of right lingual mucosa.

3. Diagnosis

The diagnosis was made according to the clinical manifestation and serological test results that RPR and TPPA were positive. It has oral clinical manifestations related to secondary stage of syphilis.

4. Treatment

The patient was allergic to penicillin and was treated with oral doxycycline (twice daily with doses of 100mg per time for 14 days).

5. Follow-up and outcomes

The lesions of the tongue were vanished completely after the 14 days treatment. After 3 months of the treatment the RPR

titer decreased to 1:4, and the follow-up was continued. Figure 3 and 4 showed the manifestations of the tongue after 3 months of treatment.



Figure 3: left lingual mucosa after 3 months treatment.



Figure 4: right lingual mucosa after 3 months treatment.

6. Discussion

Syphilis is a systemic chronic infectious disease caused by *Treponema pallidum* which is an obligate human pathogen [2]. Most acquired syphilis is transmitted through sexual contact. A few patients can be indirectly infected due to contact with underwear, bedding, towels, razors, medical

instruments, breastfeeding and blood transfusion with *Treponema pallidum* [3]. Recently syphilis is re-emerging as a global public health problem, particularly among men who have sex with men (MSM) and there is an alarming increase of syphilis in HIV-infected MSM. Accordingly, more research is needed on the syphilis in MSM. Acquired syphilis

can be divided into primary, secondary, early latent, tertiary stages of infection clinically and can be accompanied by oral lesions in these stages. Primary stage of syphilis is mainly manifested as hard chancre, and oral lesions can appear chancre in lip and tongue. The lesions of oral mucosa in secondary stage of syphilis are mainly mucositis or mucosal plaque [4]. Tertiary syphilis can manifest as destructive cardiac or neurological conditions, severe skin lesions and can also occur in the oral cavity. The common site of tertiary syphilis in the oral cavity is the hard palate, which is characterized by syphilitic gumma [5]. The lesion can cause palatal perforation, and contracture can occur after healing [5]. Literature suggests that tertiary syphilis may be less common today, perhaps owing to wide use of antibiotics [1]. In recent years, the number of patients with secondary syphilis with oral mucosal lesions as the first symptom has increased, but oral mucosal lesions as the only manifestations of secondary syphilis is rare. Oral mucosal plaque of secondary syphilis can occur in any part of oral mucosa, and the most common sites of oral mucosal plaques in secondary syphilis are lips, tongue and lingual margin, palate, pharynx and buccal mucosa. The clinical oral manifestations of secondary syphilis are complex and diverse, it needs to be distinguished from erythema, erosive lesions, papular lesions and ulcerative lesions, such as oral leukoplakia, oral lichen planus, oral candidiasis, recurrent aphthous ulcer and Behcet's disease. Clinicians should patiently ask the medical history of suspicious patients and carry out necessary serological examination. A syphilis diagnosis is often based on a suggestive clinical history and supportive laboratory tests. Serological testing such as the Rapid Plasma Reagin (RPR) test and the T. pallidum passive particle agglutination (TPPA) has become the most common means to diagnose syphilis whether in people with symptoms of syphilis, or in those who have no symptoms but are

detected through screening [3-5]. Long-acting penicillin such as benzathine penicillin G is still the most effective therapy for the treatment of syphilis and T. pallidum resistance to penicillin has never been reported. Patients allergic to penicillin can choose second-line treatments such as doxycycline or ceftriaxone. After treatment, the serological test titre of syphilis patients can decrease slowly. Cure is usually defined as reversion to negative or a fourfold reduction in titre of RPR [1]. The follow-up time with repeat serological test of secondary syphilis is generally 2 years.

7. Conclusions

Recently syphilis is re-emerging as a global public health problem, particularly among MSM. Accordingly, more research is needed on the syphilis in MSM. The clinical oral manifestations of syphilis are complex and diverse, the clinicians need to distinguish the oral clinical presentations of syphilis from other oral diseases, carry out serological detection and multidisciplinary consultation when necessary for suspected syphilis patients so as to achieve early diagnosis and treatment. And do a good job in relevant self-protection, instrument disinfection and management of nosocomial infection as well.

Declarations

Ethical approval and consent to participate

Not applicable

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor of this journal.

Availability of Data and Materials

The datasets used and/or analyzed during the current study available from the corresponding author on reasonable request.

Competing Interests

The author has declared that no competing interest exists.

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Author Contributions

Min Zhao performed the physical examination, oral cavity examination, follow-up visits and multidisciplinary consultation. Min Zhao was the contributor in writing the manuscript.

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