

## Case Report

# A case report of secondary syphilis with clinical features that should not be missed

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### ABSTRACT

We present a clinical case of a 22-year-old man who had a sore throat for a month. Further examination and history revealed that he had secondary syphilis, which was confirmed by a positive laboratory test. This case emphasizes the importance of conducting a thorough history and physical examination to avoid missed diagnoses.

**Keywords:** Secondary syphilis, Oral syphilis, Differential diagnosis

### INTRODUCTION

Syphilis is known for having a strong similar capacity due to its many manifestations, which imitate those of other medical illnesses such as atypical dermatological conditions in syphilis.<sup>1</sup> Secondary syphilis can pose a diagnostic challenge due to its distinctive clinical spectrum and may present in an unusual clinical pattern.<sup>2</sup> Secondary syphilis typically manifests as cutaneous lesions affecting the skin and mucous membranes with or without genital involvement.<sup>3</sup>

Both secondary syphilis and the more advanced stages of disease have been associated with additional oral syphilis manifestations, including tonsillar lesions and perioral rash.<sup>3</sup> Among sexually transmitted illnesses (STI) that can cause oral involvement including primary HIV infection, orogenital herpes simplex, pharyngeal gonorrhoea, and chlamydia infection.<sup>3</sup> The differentials of oral syphilis in non STI include pharyngolaryngitis, aphthous ulcer, lichen planus, oral candidiasis, hairy leukoplakia, erythema multiforme, and squamous cell cancer.<sup>4</sup>

Syphilis patients who do not receive treatment put society in danger due to the disease's potential to spread across the population as well as the associated morbidity and

mortality expenses. This report describes a case of secondary syphilis in a patient who presented with a sore throat and rash, and it encourages primary care physicians to investigate risk factors and offer sexually transmitted infection testing.

### CASE REPORT

A 22-year-old Bangladeshi man with no known medical illness presented with a sore throat for a month. He stated that the sore throat was accompanied by an occasional cough and the occurrence of haemoptysis (coughing up blood). The patient denied having fever, night sweats or losing weight. He also complained of lesions on his palms. He was previously from Bangladesh and had been in Qatar for three months.

Examination revealed multiple macular lesions at the soft palate (Figure 1) and multiple psoriasiform keratotic papules over the palms (Figure 2) The history and presentation raised the possibility of secondary syphilis. Sexual history revealed that he had last engaged in protected sexual intercourse with his girlfriend before coming to Qatar. He is a heterosexual and denied of multiple sexual partners. He denied any genitourinary symptoms except a painless rash on his scrotum past few

weeks. Examination of the genitalia revealed annular plaques at the scrotum (Figure 3).



**Figure 1: Multiple macular lesions at the soft palate.**



**Figure 2: Multiple psoriasiform keratotic papules over the palms.**



**Figure 3: Annular plaques at scrotum.**

## Management

Syphilis serology demonstrated a positive *Treponema pallidum* particle agglutination test (TPPA) and rapid plasma reagent (RPR) test result of 1:128. Other STI screening test including HBsAg, HBC antibody and HIV serology were negative. Screening for pulmonary tuberculosis including chest x-ray and the interferon gamma release assay (IGRA) was negative.

The patient received intramuscular benzathine penicillin (2.4 megaunits) treatment for secondary syphilis and was instructed to return in 4 weeks to review the results of a repeat serological test and evaluate the patient's response to the treatment. The system at the centers for disease control (CDC) was updated with notification. He received advice to notify his sexual partner and to refrain from sexual activity for at least two weeks. Besides, safe sex health advice is given.

## DISCUSSION

Syphilis is a *Treponema pallidum* infection that is a significant cause of mortality and morbidity. It is primarily sexually transmitted, although it can also be passed from mother to child during pregnancy. Syphilis is justified of the moniker "the great pretender" because to the wide range of multisystem manifestations it exhibits, despite the fact that there are classic descriptions of its stages and natural history.<sup>3</sup>

Syphilis is classified into three stages with variable presentations. The clinical signs of secondary syphilis include macular, papular, papulosquamous, annular, nodular skin, condylomata lata, and others; there are also mucosal lesions, hair loss, and nail changes.<sup>5</sup> Atypical presentations of syphilis are associated with a high risk of transmission due to their ability to mimic other skin diseases, deviate from classic clinical presentations, and adopt unique forms.<sup>6</sup>

Lesions on the palms of both hands in this case (Figure 2), which were primarily characterized by numerous red spots and scaling, as well as the presence of annular plaques at scrotum (Figure 3), provided strong clinical support for the diagnosis of secondary syphilis. The oral findings, which themselves may have resembled some other potential oral illnesses, supported skin findings.

Oral manifestations are most common in the later stages of the disease and are frequently the only clinical sign. These lesions are distinguished by their high infection rates and unusual clinical characteristics.<sup>7</sup> Lesions of oral syphilis can be observed in common locations such the lips, tongue, gingiva and soft palate. Lesions can also present on the hard palate and labial commissure, which make up fewer than 5% of the syphilis oral symptoms.<sup>8</sup>

Syphilis is diagnosed following a combined evaluation of past clinical history, clinical features, histological

features, and serological tests, as in the present case, due to the high degree of variability in test results. The Treponema pallidum particle agglutination test (TPPA) and the rapid plasma regain (RPR) test are two of the most popular serological tests.

This case highlights the importance of complete history taking, which includes sexual history, and detailed examination because they can give valuable diagnostic clues. When a clinician encounters cases exhibiting erythematous patches or rash, or even for a symptomless isolated ulcer, the serological test for syphilis has frequently become a standard procedure as a precaution to avoid missing a diagnosis of a disease that can go into a latent form if left untreated.<sup>9</sup>

The social and psychological aspects of syphilis treatment are equally as vital as the biomedical aspects.<sup>10</sup> These include screening of other STIs, partner notification, counselling and also overcome sociopsychological difficulties. This seems a straightforward case of a young man presented with a sore throat and rash. However, the patient did not mention about his genital lesion in the beginning and the diagnosis of secondary syphilis might be missed. Therefore, it is crucial to emphasize the value of thorough history taking and physical examination to prevent missed diagnosis.

## CONCLUSION

Knowledge of the diversity of clinical features including oral symptoms of syphilis is crucial for medical practitioners. Concluding the diagnosis and delivering the appropriate care requires the combination of recognizing clinical features, serological tests and in some cases histopathological results.

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