

Mucous Patch as a Sole Presentation of Secondary Syphilis: A Case Report

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ABSTRACT

Secondary syphilis is a multisystem sexually transmitted infection that can present with oral manifestations, occurring in approximately 30% of patients. Varied mucosal presentations include slightly elevated plaques or ulcerated lesions covered with grey to white pseudomembrane or snail track ulcers can mimic other oral disorders and present a clinical challenge. Here, we report a case of a 36-year-old male who presented with asymptomatic erythematous oral patches and erosions for one month. History revealed recent unprotected sexual contact with multiple partners. Rapid plasma reagin test and Treponema Pallidum Haemagglutination Assay (TPHA) were positive and confirmed the diagnosis of secondary syphilis. Treatment with intramuscular benzathine penicillin resulted in resolution of lesions. Correlation of the patient's sexual history, incubation period, clinical appearance, serological tests facilitates prompt identification and appropriate management. Serological testing remains the mainstay for diagnosis of syphilis. The present report highlights that syphilis can present solely with mucosal lesions and should be considered as a differential when evaluating oral mucosal disorders.

Keywords: Oral manifestations, Sexually transmitted infection, Snail track ulcer, Treponema pallidum

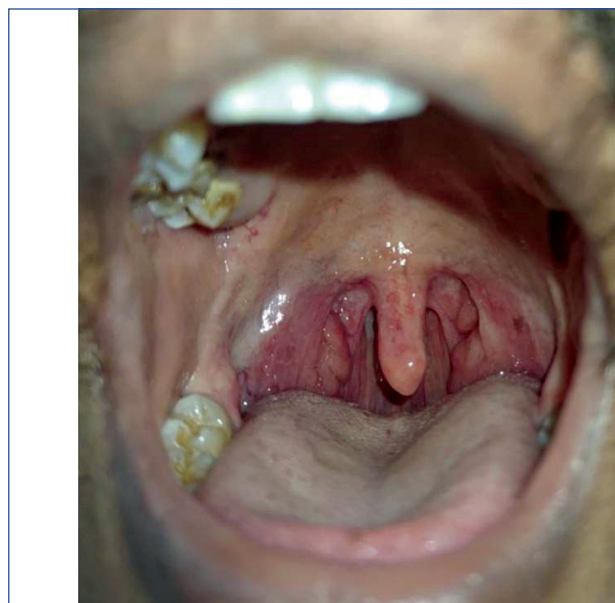
CASE REPORT

A 36-year-old male presented to Dermatology and Venereology Outpatient Department with asymptomatic red mucosal patches in the oral cavity for the past one month. The lesions remained persistent without significant change in size and number over the past one month. There were no complaints of fever, malaise, headache, sore throat, joint pain, lymphadenopathy, alopecia. His past history was unremarkable, with no significant pre-existing medical illness. He was not on any regular medications and had no known allergies. Family history was non significant. History of high-risk sexual behaviour was present. The last unprotected sexual contact was three months prior to presentation which was insertive anal and receptive oral intercourse. The patient had no history of genital ulcers or other mucocutaneous manifestations. On oral examination, an erythematous patch measuring 3.5×3 cm with erosions and greyish-white membrane was present over bilateral palatoglossal arch and uvula [Table/Fig-1].

No tenderness or induration was present. Based on clinical presentation, differential diagnoses considered include oral candidiasis, oral lichen planus, leukoplakia and secondary syphilis. Baseline quantitative rapid plasma reagin testing was positive with a titre of 1:16 and confirmatory treponemal test, Treponema Pallidum Haemagglutination Assay (TPHA) test was reactive with a titre of 1:640. Serological tests for Hepatitis B, Hepatitis C, Human Immunodeficiency Virus (HIV) were negative. A diagnosis of secondary syphilis was made and patient was given single dose of intramuscular benzathine penicillin G 2.4 million units. Complete resolution of oral lesions was observed two weeks after treatment [Table/Fig-2].



[Table/Fig-1]: Clinical picture showing erythematous patch with erosions (green arrow) and greyish-white membrane (red arrow) present over palatoglossal arch and uvula.



[Table/Fig-2]: Clinical picture showing resolution of lesions two weeks post-treatment with injection benzathine penicillin.

DISCUSSION

Syphilis is a sexually transmitted disease caused by *spirochaete bacterium*, *Treponema pallidum*. This disease is most commonly acquired sexually, rarely transmitted from mother to child as congenital

form [1]. Acquired syphilis is classified into early and late stages, with secondary syphilis representing a manifestation of early stage [2].

Although oral manifestations are seen in all stages of syphilis, it is most commonly associated with secondary syphilis [3]. Patients can present with diverse mucosal manifestations like oval reddish maculae, maculopapular eruptions (syphilitic rosette), mucosal patches or *Condyloma latum*. Approximately, 30% of secondary syphilis cases can have oral lesions as a part of the mucocutaneous findings but only 7% of the cases can present with isolated mucosal lesions [3]. Mucosal patches are among the most frequently encountered oral manifestations and may appear as slightly elevated ulcerated plaques covered with greyish-white pseudomembrane or multiple mucosal patches [4]. These multiple mucosal patches may become confluent and form serpiginous erosions or ulcerations called as 'snail track ulcers', although no such lesions were observed in present case. Less common manifestations include condyloma lata and labial commissural fissures [4]. Most affected sites in oral cavity include tongue, gingiva, soft palate, hard palate, labial commissure [4]. Consistent with these reported sites, in the present case, the patient had an isolated erythematous patch with erosions and greyish-white membrane involving palatoglossal arch and uvula, representing soft palatal involvement without associated cutaneous or genital lesions.

The present case shares several features with previously reported cases of secondary syphilis presenting exclusively with oral lesions. A case report of a 40-year-old bisexual male who presented with an asymptomatic whitish serpiginous lesion over soft palate, accompanied by a history of a spontaneously healed genital ulcer and positive syphilis serology was ultimately diagnosed as secondary syphilis [5].

A similar case was reported by de Lima Morais TM et al., where a 30-year-old woman presented with asymptomatic whitish plaques involving the hard palate and lateral border of the tongue for 15 days, serological tests confirmed secondary syphilis, and complete resolution was seen post treatment with benzathine penicillin therapy [6].

Apart from clinical history and physical examination, serological and microbiological assays are essential for diagnosing syphilis. Microbiological assays such as direct detection methods and molecular assays such as Polymerase Chain Reaction (PCR) can provide definitive evidence of *Treponema pallidum* infection and are particularly useful in early disease; however their use is limited by the need for specialised equipment and technical expertise. In contrast, serological assays remain the cornerstone of syphilis diagnosis because of its accessibility and high diagnostic accuracy. Non treponemal tests are primarily used for screening and monitoring treatment response, whereas treponemal tests, such as the TPHA test, *Treponema Pallidum* Particle Agglutination assay (TPPA), Fluorescent *Treponema* Antibody Absorption (FTA-ABS) assay and Enzyme-linked Immunosorbent Assay (ELISA), offer high sensitivity and specificity, and help confirming the diagnosis [7]. In the present

case, microbiological assay was not done because the diagnosis was supported by characteristic clinical findings and confirmatory serological assays, also due to restricted availability, technical expertise of the tests. The above case helps in understanding the importance of serological assays in diagnosis of secondary syphilis in patients presenting with isolated oral mucosal lesions without systemic features.

Biopsy can be done in situations of diagnostic uncertainty or when the lesions do not subside completely following treatment [7]. Histological analysis of primary and secondary syphilis demonstrates a dense infiltrate of plasma cells and lymphocytes in the superficial lamina propria and, occasionally, in the deeper stroma. The infiltrate may involve blood vessels and nerves. Epithelial hyperplasia may also be present. Ulceration with fibrinopurulent exudate and extensive areas of neutrophilic exocytosis and abscesses are seen in some cases [6].

Parenteral penicillin remains the mainstay of syphilis treatment. Current treatment guidelines are single dose of intramuscular Benzathine Penicillin G 2.4 million units for primary, secondary and early latent syphilis whereas three doses of the same at weekly intervals in late latent syphilis and tertiary syphilis [8].

CONCLUSION(S)

The present case illustrates how syphilis can manifest solely with mucosal lesions in the absence of any other mucocutaneous manifestations. Patient's clinical history can give a clue to the diagnosis in such cases. In this current era of global surge of sexually transmitted infections, clinicians should have a high index of suspicion for syphilis in patients presenting with only mucosal lesions for early diagnosis and prompt treatment.

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