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Secondary syphilis in oral cavity: Case report and literature review

Thayná Melo de Lima Morais, Dárcio Kitakawa, Felipe da Silva Peralta, Sabrina Gonzales, Luis Felipe das Chagas e Silva de Carvalho

ABSTRACT

Introduction: Syphilis is the most common sexually transmitted infection and may have heterogeneous clinical features. There are several studies that report the incidence and clinical features of secondary syphilis, but little emphasis is placed on unusual clinical patterns. Here, we report a case of secondary intraoral syphilis with the appearance of whitish plaques.

Case Report: A 30-year-old woman complained of multiple plaques in the oral cavity that had not healed for 15 days. An incisional biopsy was performed and revealed histological features consistent with syphilis. Serological test of venereal disease research laboratory (VDRL) and fluorescent treponemal antibody absorption (FTA-ABS) were reactive. Diagnosis of secondary syphilis was closed. The patient underwent penicillin therapy.

Conclusion: In conclusion, secondary syphilis can become a potential diagnostic challenge due to the distinct clinical spectrum.

Keywords: Infection, Oral, Sexually transmitted infection, Syphilis

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INTRODUCTION

Syphilis is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*, first described in the 15th century [1]. It is considered one of the most affected STIs in the world among adolescents and adults [2]. Syphilis can be acquired or congenital. The first occurs through sexual contact or blood transfusion, and the clinical features are classified as primary syphilis, secondary syphilis, and tertiary syphilis, while congenital syphilis is transmitted from mother to child [3].

Since 2000, the incidence of sexually acquired syphilis has increased substantially [3]. This increase can be explained by an increase in the use of intravenous drugs, a decrease in the practice of safer sex and a greater number of sexual partners [4]. Among all the clinical presentations of syphilis, oral manifestations can be frequent and distinct and, often, the dentist is the first professional that the patient seeks for the correct diagnosis. Therefore, the knowledge about the lesions of the oral mucosa is due to this essential infectious disease [5].

Thus, the present study aimed to report a case of secondary syphilis infection in the oral cavity of a 30-year-old woman, in addition to making a brief review of the literature.

CASE REPORT

A 30-year-old woman was to the private service of oral diagnosis clinic, Jacareí, São Paulo, Brazil complained of lesions that were not healed for 15 days. Oral examinations revealed multiple whitish plaques on the mucosa that did not shed the scraping. Clinically, the lesions had a velvety appearance located on the lateral border of the right tongue and hard palate, without painful symptoms. In addition, the patient reported unprotected sexual intercourse during the anamnesis. Thus, the diagnostic hypothesis was secondary syphilis. With the hypothesis of secondary syphilis, an incisional biopsy was performed and complementary test such as VDLR and FTA-ABS were requested (Figure 1).

Histologically, a hyperplasic lining epithelium was observed. The lamina propria showed an intense chronic inflammatory infiltrate composed predominantly of lymphocytes and plasma cells with a perivascular pattern. Significant spongiosis and exocytosis were observed. The VDRL and FTA-ABS were reactive. So, the diagnosis of secondary syphilis was closed.

After histological and serological diagnoses, the patient was treated for three weeks with benzathine penicillin 1:200,000 IU, six vials, two vials per week. Complete remission was observed after treatment (Figure 2).

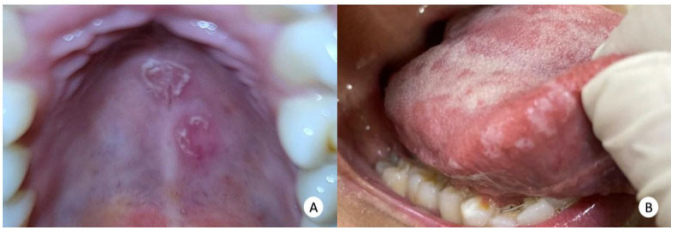

Figure 1: Clinical features of the oral manifestations of secondary syphilis. (A) Ulcered, circular lesions on hard palate. (B) White plates not removable by scraping on the side of the tongue.

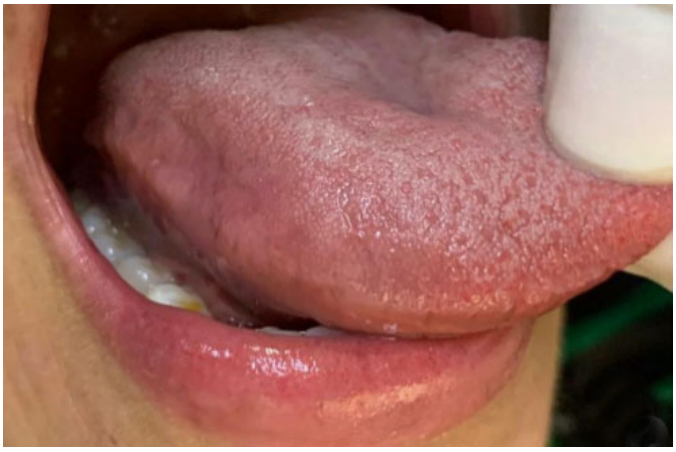

Figure 2: Clinical aspect after treatment. Total remission of lesions after treatment.

DISCUSSION

Syphilis is the sexually transmitted disease that most affects adolescents and adults [2]. Syphilis can be congenital when it is transmitted from mother to child or it can be acquired, being classified as primary, secondary, and tertiary syphilis [3]. Each stage of syphilis has distinct clinical characteristics. Primary syphilis is characterized by syphilitic chancre, ulceration, or single ulcer, which most often affects the lips and tongue. Meanwhile, secondary syphilis is typically painful and multiple and may be accompanied by a rash. In addition, white or grayish-white, pearly patches associated with reddish macules can be observed [5–7].

Tertiary syphilis is not that common; thus, complications and morbidity are to be expected at this stage [8]. In our case, the patient presented multiple whitish plaques on the mucosa that were not removable by scraping, which corroborates the literature [5, 6]. As for the age group, studies have observed that most cases of syphilis infection occur between 20 and 40 years old, which is justified by the fact that it corresponds to the age group with the highest sexual activity [5, 9].

Often, the oral manifestations of syphilis can be nonspecific and mimic a variety of other diseases. In our case, as mentioned above, we observed multiple white plaques that were not removable by scraping the lateral edge of the tongue and ulcerated lesions on the palate. However, previous literature recommends that lesions presenting as ulcerations with firm edges or multifocal ulcerations with pseudo-membranes enter the differential diagnosis of syphilis [10]. Thus, traumatic ulceration, major aphthous ulcerations, geographic tongue, histoplasmosis, blastomycosis, tuberculosis, squamous cell carcinoma, Crohn's disease, erosive lichen planus, and ulcers related to drug use are included in the scope of the differential diagnosis. Syphilitic lesions can also show similarities with leukoplakia, but few cases have been reported in the literature [10, 11].

Histological analysis of primary and secondary syphilis often demonstrates a dense infiltrate of lymphocytes and plasma cells 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 [10, 12]. Incisional biopsy may be useful to rule out other diagnostic hypotheses.

In addition, due to the great variability in test results, the diagnosis of syphilis is made after a combined assessment of past clinical history, clinical features, histological features, and serological tests, as in the present case. Among the most common serological tests are the non-treponema test (VDRL) and the Treponema test—fluorescent absorption of treponema antibodies (FTA-ABS).

Regarding treatment, the patient underwent the standard treatment used by the Centers for Disease Control & Prevention (2015), which states that the mainstay of syphilis treatment is parenteral penicillin G. However, a difficulty encountered in therapy with penicillin is that the drug is very effective at the onset of syphilis and less effective at advanced stages [13]. Thus, previous studies suggest that routine testing for STI prevention and treatment be performed [6, 14].

As an STI, syphilis is a public health problem. The increase in syphilis in recent times is associated with different factors, but unprotected sex, multiple sexual partners, and HIV coinfection remain determining factors [3, 6, 15]. Thus, public policies against STIs should be encouraged, especially in low-income countries where there is a greater number of records of syphilis infection.

CONCLUSION

In summary, our case emphasized that the oral manifestations of syphilis may have distinct clinical spectra. Therefore, in some cases, secondary syphilis can become a potential diagnostic challenge and knowledge of the diversity of clinical and histological characteristics of this infection is essential to reach an accurate diagnosis.

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Author Contributions

Thayná Melo de Lima Morais – Conception of the work, Design of the work, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Dárcio Kitakawa – Design of the work, Analysis of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Felipe da Silva Peralta – Design of the work, Analysis of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Sabrina Gonzales – Acquisition of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Luis Felipe das Chagas e Silva de Carvalho – Analysis of data, Interpretation of data, Revising the work critically for important intellectual content, Final approval of the

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Conflict of Interest
Authors declare no conflict of interest.

Data Availability
All relevant data are within the paper and its Supporting Information files.