Oral injuries as syphilis diagnosis: case report

Lesão oral como diagnóstico de sífilis: relato de caso

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ABSTRACT
Syphilis can present a variety of clinical manifestations as a consequence of the tropism that *Treponema pallidum* causes to various organs and body tissues. The oral cavity can be affected in all stages of the disease, therefore diagnosis requires knowledge of multidisciplinary health professionals. Even with the introduction of penicillin in the last century and initiatives of sexually transmitted diseases prevention, an increase in the incidence of syphilis has been observed, which indicates a public health issue. This paper presented the case of a patient with syphilitic chancre in the oral cavity, whose dental surgeon diagnosed an injury and referred her to the city sexually transmitted diseases ambulatory for treatment.
Keywords: syphilis; *Treponema pallidum*; sexually transmitted diseases.

RESUMO
A sífilis pode apresentar uma variedade de manifestações clínicas, justificada pelo tropismo que o *Treponema pallidum* tem para vários órgãos e tecidos do corpo. A cavidade oral pode ser acometida em todas as fases da doença; portanto, seu diagnóstico exige conhecimento de diferentes profissionais de saúde. Mesmo com a introdução da penicilina no século passado e com as iniciativas de prevenção das doenças sexualmente transmissíveis, observa-se aumento na incidência de sífilis, o que representa um problema para a saúde pública. Neste trabalho, apresentou-se o caso de uma paciente com cancro sifilítico em cavidade oral que fora diagnosticada e encaminhada por um cirurgião-dentista ao ambulatório de doenças sexualmente transmissíveis do município para tratamento da lesão.
Palavras-chave: sífilis; *Treponema pallidum*; doenças sexualmente transmissíveis.

INTRODUCTION

Syphilis is a sexually transmitted disease (STD), which could also manifest as congenital and, if untreated, can be potentially chronic or even fatal[1]. It is caused by a spirochete bacterium, *Treponema pallidum*, exclusive of human beings, which presents tropism for various organs and body tissues.

There is no cell membrane in *T. pallidum*; it is protected by an outer envelope with three layers of *N*-acetyl muramic acid and *N*-acetyl glucosamine. It has flagella that aid in its body rotation and can invade intact mucous membranes or broken skin facilitated by hyaluronidase. This bacterium also affects the regional lymphatic system and, through hematogenous dissemination, other body parts. It has the ability to divide transversely every 30 hours. It resists around 26 hours out of its environment, being destroyed by the heat and lack of humidity. It reddens lightly, hence the name pale, from the Latin word *pallidum*[2,3].

The penetration of the Treponema is carried out by small abrasions resulting from sexual intercourse. The response of the local defense results in erosion and ulceration, while the systemic dissemination causes the production of circulating immune complexes that can deposit themselves in any organ. The humoral immunity does not have a protection capacity, and the cell-mediated immunity comes later, which gives the *T. pallidum* multiplication and survival for long periods. In the histopathology, the most characteristic alterations are inflammatory infiltrate of plasma cells and perivascular lymphocytes, in which the endothelium presents proliferation and edema[2,4].

Owing to the wide variety of clinical manifestations, syphilis is divided into phases, with specific characteristics according to the clinical stage. However, patients infected with human immunodeficiency virus (HIV) may have atypical and exuberant symptomatology[5,6].

The early syphilis is defined by the manifestations of the disease within less than a year of evolution. After an average of 21 days of incubation, a papule, normally painless, appears at the inoculation site, evolving to the form of an ulcer with an elevated and a hardened edge. This alteration is called a hard chancre, characterized by the clinical period most typical of the disease, making the diagnosis and treatment easier. However, this fact is not routine in the care for patients with syphilis. The explanations by the patients to not seek a doctor in this stage are that the lesion is painless and goes unnoticed in most cases[7,8].

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The oral lesions are more frequent and varied in early syphilis and are described as syphilitic stains, syphilitic papules, and mucous patches. The oral chancres are found in 4 to 12% of the patients with early syphilis, and the most affected places are the tongue, the gums, the soft palate, and the lips[9,10].

Because of the diversity of manifestations that syphilis can present, its diagnosis acquires a multidisciplinary nature, involving various health-care professionals[8,11].

Despite the introduction of penicillin in the mid-20th century it has been impossible to eradicate this disease. Its incidence has increased in many parts of the world, and its resurgence is associated with, among other factors, the oral sex without protection, which seems to be potentially linked to the increase in the transmission and incidence of the disease[12-14].

The objectives of this study were to report a case of syphilitic chancre in the oral cavity and the importance of early diagnosis.

CASE REPORT

A 32-year-old female patient of mixed race was sent to the Public Health House, which operates the STD/AIDS program in the city of Valença, Rio de Janeiro, Brazil, by a dental surgeon. She reported menarche at the age of 12 years, first sexual intercourse at 16 years (she could not inform the number of sexual partners), being married, but having other partners. She had a pregnancy with vaginal delivery. The patient reported using oral contraceptives as a contraceptive method.

She mentioned the appearance of lesions that had been progressing for around a month, painless, in the palate region, and that she had undergone a biopsy by the dental surgeon. She reported the results of histopathological analysis of plasma cell inflammatory infiltrate and VDRL of 1/64, which was requested at the time of the pathological result by the same dental surgeon. The woman declared that she rarely made use of condoms, including in the practice of oral sex, and denied the presence of lesions in the vulva and/or vaginal discharge.

On examination of the oral cavity, the presence of a single lesion, of ulcer type, was observed, measuring about 1.5 cm, painless, with an elevated edge and a light background on the palate region **(Figures 1** and **2)**, and no cervical lymphadenopathy.

Therefore, a rectoscopy of the vulva and a speculum examination were performed, and there was an absence of lesions and/or leukorrheas.

On the basis of these conditions, the diagnosis of early syphilis was confirmed, and a treatment with benzathine penicillin (2,400,000 UI) in intramuscular dose was prescribed, and serology for HIV and hepatitis B and C was requested. After a month of treatment, a total remission of the lesion was observed **(Figure 3)**. The patient was monitored with VDRL, whereby the titers were decreasing: VDRL 3 months after the treatment was 1/32; 5 months, 1/16; 6 months, 1/2; and 1 year and 2 months, not reactant. The HBsAg, anti-HCV, and anti-HIV tests revealed nonreactive results.

DISCUSSION

Syphilis is a chronic infectious disease, which was first discovered in Europe in 1940. In the last three decades, there has been a general increase in the number of cases because of the pandemics of HIV virus. According to the World Health

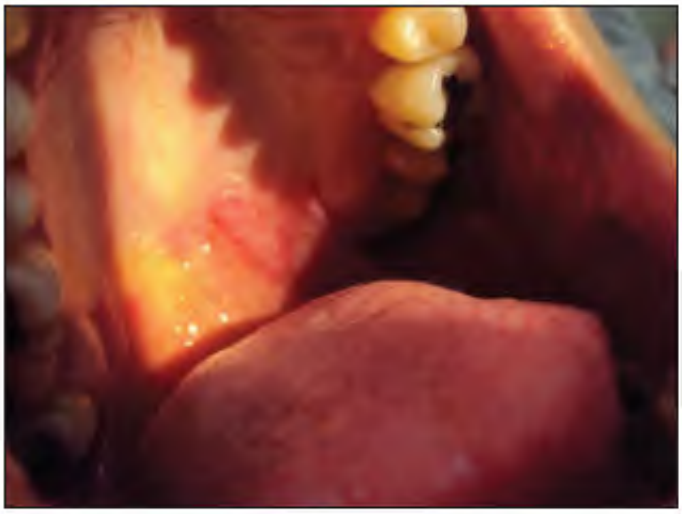

Figure 2 – Syphilitic chancre in oral cavity.

Figure 1 – Syphilitic chancre in oral cavity.

Figure 3 – Absence of lesion after treatment with benzathine penicillin G.

Organization reports, more than 12 million new cases of syphilis occur every year. There are many reasons for the increasing prevalence of the disease. The main causes are the practice of unprotected anogenital sex and the ineffective search of the partner for treatment. Several factors also influence the growth of the number of cases including: patient negligence, absence of professionals in the Basic Family Health Units (UBSF), omission of the UBSF, medical misdiagnosis, delay in the results of VDRL, remote housing resulting in difficulties to access health-care centers, and lack of medicine for the treatment of the disease[15-18].

Given that syphilis can mimic many other clinical entities and that the initial manifestation of syphilis may be in the oral cavity, it is very important to include this disease in the list of differential diagnosis.

The anamnesis constitutes the primary basis, in association with clinical examination, of the search for a correct diagnosis. When one receives a patient with a history of sexual practices involving multiple partners, it is essential to investigate STDs . Furthermore, if the patient's main complaint is an oral lesion, the possibility of syphilis should be assessed, especially if this individual does not use condoms.

The patient in question already showed a risk behavior: background of multiple partners, rare use of condoms, and oral lesions from probable orogenital transmission. In Brazil, 62.45% of the women reported that oral sex is a part of the sexual act[19].

We highlight the role of the dental surgeon who noticed the lesion and made the diagnosis after conducting a biopsy of the lesion. Oral health professionals are the most likely to come across oral manifestations associated with the disease[15].

Finding the etiologic agent in the lesion through the dark field microscopy is the gold standard for the diagnosis of syphilis; however, in oral lesions, it may present a dubious result. The same goes for cytopathology, and this is because of the constant presence of other spiral bacteria morphologically similar to *T. pallidum*. Other diagnostic methods include detecting antitreponemic antibodies through nontreponemic VDRL techniques and through treponemic serology (FTA-ABS)[8,20,21].

The anatomopathologic study is not routinely performed for the diagnosis of syphilis. Because the basic pathologic finding in all the stages is edema, with the proliferation of endothelial cells and perivascular inflammatory infiltrate with lymphocytes and plasma cells being unspecific findings, other methods are necessary to confirm the diagnosis[2].

The sensitivity of the VDRL is 70% in early syphilis with a hard chancre, 99% in early syphilis with cutaneous manifestations, and about 75% in the late form[22]. It shows positive results from the fourth or fifth week after the infection, and it is the method of choice for monitoring patients with treated syphilis, because its result is expressed quantitatively[23-25]. The conversion to negative results occurs in approximately one year[16].

CONCLUSION

The clinical suspicion of syphilis is essential in the case of oral lesions in a patient who has multiple partners and does not use condoms, regardless of the sexual behavior. Syphilis is a disease that can simulate various other entities. The knowledge by health professionals of the oral manifestations in all its stages is of fundamental importance, so that they are able to perform a correct diagnosis and an early treatment.

Conflict of interests

The authors report no conflict of interests.

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