

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Oral Medicine and Pathology Quiz – Case 18

A 51-year-old male was referred to our clinic for investigation of multiple symptomatic oral mucosal lesions of several weeks duration. The patient reported chronic hepatitis C infection and was a heavy smoker; he had been recently tested negative for HIV. On clinical examination, multiple irregular lesions of various sizes were noticed on the labial mucosa, the palate and the dorsal surface of the tongue (figures 1–3). The lesions appeared as whitish plaques, focally assuming a snail track pattern, with partial sloughing and surrounding erythema. The patient had used topical antifungal medication (miconazole oral gel) for one week without improvement. On careful questioning, the patient admitted recurrent skin rash, as well as ulcers in the genital mucosa for the past two months. On the basis of the clinical diagnosis, specific serologic tests were ordered.

#### Comment

*Syphilis is a chronic infection caused by Treponema pallidum. The microorganism is primarily transmitted by sexual intercourse and from mother to fetus (congenital syphilis). Although the incidence of syphilis had steadily decreased from the 1940s to 2000, a significant worldwide increase has been documented during the last decade. The main reasons for the recent rise include the decreasing use of barrier protection (i.e. condoms), the false sense of security that sexually transmitted diseases are curable and the widespread use of alternative oral practices such as oral sex, which is falsely considered to be safer than vaginal or anal sex. Today, the majority of the new cases of syphilis occur in men who have sex with men (MSM) and are strongly associated with HIV coinfection.*

*Syphilis proceeds through three clinical stages (primary, secondary and tertiary); a latent stage of several years duration intervenes*

*between the secondary and tertiary stages. The patients are highly infectious during the first two stages. Nevertheless, pregnant women can also transmit the disease to the fetus during the latent stage. Oral lesions are uncommon but may occur at any stage.*

*Primary syphilis is characterized by the development of a chancre, an ulcer located at the site of inoculation, 3–90 days after the exposure. The lesion is commonly solitary but multiple lesions may be also observed. The majority of extragenital chancres occur in the mouth (40–75%), usually located in the lips, presenting as painless, clean-based ulceration. Regional lymphadenopathy, which may be bilateral, occurs in up to 80% of cases about 7–10 days following the development of the chancre. If left untreated, the initial lesion heals within 3 to 8 weeks.*

*The secondary stage develops 1–6 months after the first contact with the organism. This stage results from the hematogenous dissemination of T. pallidum giving systemic and mucocutaneous manifestations. Lesions of primary and secondary syphilis may also coexist. The most common signs and symptoms of the secondary stage are painless lymphadenopathy, diffuse maculopapular cutaneous rash, malaise, fever, headache, weight loss and musculoskeletal pain. About 5–6% of patients may develop patchy hair loss of the beard and eyebrows and scalp-localized alopecia. Approximately 30% of the patients develop oral mucous patches, in the form of whitish plaques with partial sloughing, occurring at any oral site. Papillary lesions also appear (condyloma lata) mainly in the genital*

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Figure 1



Figure 2



Figure 3

or anal area in 5–22% of patients. Oral condyloma lata, as well as oral snail track lesions, are also occasionally observed. Atypical and more aggressive necrotic lesions of secondary syphilis may be seen in HIV positive patients. The lesions of secondary syphilis typically resolve within 1–2 months.

After the secondary stage, there is a latent period (1–30 years) during which the patient does not show any clinical sign of infection. Tertiary syphilis develops in 30% of patients, with serious complications in the cardiovascular and central nervous system (CNS). Scattered foci of granulomatous inflammation are observed in the skin, CNS, liver, spleen, bones and other organs. These lesions, known as gummas, range in size from tiny deposits to large masses. Intraorally, they usually affect the tongue, which appears large, lobulated or even atrophic, and the palate, which may even be perforated through to the nasal cavity. The premalignant nature of syphilitic atrophic (leucic) glossitis, a lesion rarely observed nowadays, is contradictory.

As for congenital syphilis, infection of the fetus may result in abortion, stillbirth, neonatal death or disease, depending on the time of infection and the severity of mother's disease. The clinical features involve the classic Hutchinson's triad (Hutchinson's teeth, ocular interstitial keratitis, eighth nerve deafness), as well as other signs such as growth retardation, anemia, hepatosplenomegaly, skin diseases, bone alterations and CNS problems.

Syphilis' diagnosis is based on laboratory tests. The presence of *T. pallidum* can be confirmed by dark-field examination of a smear of the exudate of an active lesion. False positive results may occur from oral lesions due to other spirochetal microorganisms which are part of the microflora. The serologic investigation involves nontreponemal screening tests (such as VDRL), which are nonspecific and are positive 3 weeks after the infection and throughout the primary and secondary syphilis, and treponemal tests (such as FTA-ABS), which are specific and highly sensitive and remain positive

for life. The histopathologic features of oral primary or secondary syphilis are nonspecific and involve intense deep, perivascular chronic, mainly plasmacytic, inflammation. The presence of *T. pallidum* may be confirmed by the use of special stains such as Warthin-Starry silver stain. On the other hand, in tertiary syphilis, granulomatous inflammation is evident and the microorganisms are hard to demonstrate even with special stains.

The oral lesions are expected to heal completely in a few weeks. Treatment usually involves penicillin administration. The medication's dose and schedule depend on the stage, neurologic involvement and immune status of the patient. It should be stressed that patients diagnosed with syphilis should be tested for HIV as well. In the case presented here, specific serologic tests confirmed the diagnosis of syphilis and the patient was placed on IV penicillin treatment with prompt resolution of the oral lesions.

## References

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