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Syphilis is back: presentation of three cases at the ENT department

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Abstract. *Syphilis is back: presentation of three cases at the ENT department. Problem*: Syphilis is a sexually-transmitted disease caused by the spirochete Treponema pallidum, and is transmitted either through sexual contact or vertically across the placenta. Rates of infection were at a low point in the early 1990s. Since then, increasing numbers of new cases of infections have been observed in all Western countries.
Aim: Presentation of three patients with syphilis who presented within a short period of time in an ENT outpatient clinic.
Conclusions: One must be aware of the increasing incidence of syphilis, even in head and neck disciplines. Typical symptoms of an early infection are an ulcerous lesion in the mouth, with or without cervical lymphadenopathy. The main therapy is high doses of penicillin G administered intramuscularly. Other simultaneous sexually-transmitted diseases, especially HIV infection, must be excluded. Unnoticed and untreated patients may develop late and life-threatening complications.

Introduction

Syphilis is a sexually-transmitted disease (STD) caused by the spirochete Treponema pallidum (TP). TP is transmitted by either sexual contact (oral, vaginal, or anal), or vertically across the placenta. The clinical course of the disease is classically divided into four stages; primary, secondary, tertiary, and a latent stage where the patient is clinically asymptomatic. Identification of the stage is important because it affects the duration of treatment.[1] TP is transmitted through small abrasions in the skin through direct contact with an open lesion of an infected individual. The primary stage is accompanied by clinical manifestations called *chancre*, which are painless skin ulcerations with a diameter of 0.3 to 3 cm at the site of exposure. The average time from exposure to clinical manifestation is usually three weeks. The chancre persists for four to six weeks and heals spontaneously, even without medical treatment. The secondary stage is the result of haematogenous dissemination of TP and typically occurs six to eight weeks after primary infection. The dissemination may cause systemic symptoms, such as generalized rash, fever, myalgia, malaise, non-scarring alopecia, and generalized lymphadenopathy. The tertiary (late) stage occurs three to 20 years after primary exposure, and can present as mucocutaneous, cardiac, ophthalmologic, and neurological abnormalities. Latent syphilis is defined as having serologic evidence of infection without clinical signs of disease.

Whereas rates of syphilis infection were at a minimum in the early 1990s, a continuous increase has been observed since then. We report three cases of syphilis with manifestation in the head and neck region.

Case reports

Case 1

The first patient was a 30-year-old Caucasian homosexual male who was referred to the outpatient clinic because of persisting unilateral cervical lymphadenopathy. Besides one superficially-located, enlarged lymph node, no pathologic findings were noted. An ultrasound re-examination was performed three weeks later, when the patient complained about a painless ulcerous lesion at the free edge of his tongue (Figure 1). Furthermore, he had exanthema all over his body (Figure 2) and several perianal papillomatous lesions (Condyloma acuminata). His neurologic status was without pathological findings, and the patient reported no auditory impairment. A blood draw was taken and the serology was negative for HIV, but positive for syphilis (VDLR 1:64, TTPA >1:1280). The patient's immunological status was completely unremarkable. He received 2.4 million units penicillin G intramuscularly, which was well tolerated and led to a decline of symptoms as well as of syphilis serology.

Figure 1
Painless chancre at the free edge of the tongue in patient 1

Figure 3
Ulcerous lesion of the tongue in patient 3

Figure 2
Syphilis-specific exanthema on the back of patient 1

Case 2

Patient 2 was a 25-year-old Caucasian homosexual male prostitute who was referred to our outpatient clinic because of swallowing problems with consecutive loss of weight in the past two months. He noticed a painful ulcerous lesion on his penis four months previously, which disappeared spontaneously. His tonsils were bilaterally enlarged, and the base of his tongue was hyperplastic. No enlarged lymph nodes in the head and neck region were seen with ultrasonography, and he was HIV negative. Biopsies from the affected regions were taken and showed signs of acute infection. Syphilis serology was done, which was strongly positive (VDLR 1:16, TPPA > 1:1280). Because he was allergic to penicillin, the patient was treated with doxycyclin 100 mg twice daily for 2 weeks. One month later, the patient was free of symptoms, but still had bilaterally enlarged tonsils. Three months later, he presented with an ulcerous lesion on the left tonsil, and therapy with doxycyclin was restarted. Two years later, he complained of another painful mucosal lesion in his mouth without any other symptoms. His neurologic status was unremarkable. Antibiotic treatment was restarted again.

Case 3

The third patient was a 27-year-old homosexual male who had immigrated from the Middle East. One and a half years ago, he was treated for chronic scrotal dermatitis, when positive syphilis and HIV parameters were identified. Intramuscular treatment with penicillin was started, and patient recovered quickly. At the time of his first presentation to our outpatient clinic, he suffered from several ulcerous lesions of the mouth (Figure 3). At that time, the patient said he was seronegative for syphilis. However, a blood draw was taken and showed positive markers (VDLR 1:32, TPPA > 1:1280). Also, a marginally low lymphocyte count, but no further immunologic disturbance was detected. His cervical lymph nodes were bilaterally enlarged but painless. His neurologic status was inconspicuous. Therapy with intramuscular penicillin was started, and the oral symptoms responded quickly. The patient is still undergoing a 3-month follow-

up control. In cases with concomitant HIV infection, a lumbar puncture is recommended, but this was rejected by the patient.

Discussion

Rates of new syphilis infections have recently increased. Additionally, the epidemiology of syphilis has shifted in recent years as a result of increasing modifications in sex practices. The male to female ratio increased from 1.5 in 2000 to 5.3 in 2003.[2] In the US, the most recent epidemic occurred in 1990, whereas reported cases reached their lowest level in 2000. However, since then rates of infection permanently increased in the US as well as in most European countries. In Germany, 1701 cases were registered in 2001, with a rapid increase to 3343 in 2004.[3] Similar rates were recorded in Austria, with 384 new infections reported in 2003.[4] Some authors claim an ongoing epidemic of primary and secondary syphilis among men who have sex with men (MSM). It is estimated that about 15-50% of patients with syphilis also have HIV infection, so the latest studies emphasize the importance of screening and recognizing the early clinical manifestations of syphilis in HIV-infected MSM.[1,5-8] Treponema pallidum cannot be cultured in vitro, and microscopic testing is difficult. Nowadays, serologic testing is the gold standard for diagnosing syphilis. However, serologic testing might exceptionally be negative in the first two weeks after the appearance of the chancre and the clinical diagnosis, often combined with dark field microscopy, is performed.[1] The primary affect is usually located in the genital region. In 10% of cases, it can be found extra-genitally, most often in the mouth, perianally, or in the area around the nipple.[9] The recommended treatment for primary, secondary, and early latent syphilis is a single intramuscular dose of benzathine penicillin G 2.4 million units.[10] Alternatively, oral doxycyclin can be prescribed for patients with penicillin allergy. Within the first hours after beginning antibiotic therapy for syphilis, the Jarisch-Herxheimer reaction, manifesting as fever, chills, and rigors, may develop. This is hypothesized to be an endotoxin release as treponemal organisms are killed, and is often mistaken for an allergic reaction. The reaction is self-limiting, and treatment is symptomatic with antipyretic and anti-inflammatory drugs, and antibiotic treatment should be continued. With careful treatment of early syphilis, most patients will become seronegative (only VDRl and IgM, not TMPA or TPPA) within one year. In cases of neurosyphilis, follow-up should include lumbar puncture. Oral manifestations of syphilis can occur at every stage of the disease with the main symptom being a painless chancre on the lips, oral cavity, or the pharyngeal mucosa in the primary stage. Up to 22% of patients with secondary syphilis have oral involvement.[11] In most cases, this is a plaque which presents clinically with superficial ulceration. Usually, the patient has other symptoms of secondary syphilis such as a rash and generalized lymphadenopathy. Differential diagnosis of cervical lymphadenopathy includes bacterial and viral infections, autoimmune diseases, lymphoproliferative disease, and primary and secondary malignancies.[6,12] Our cases show that, especially in young homosexual men, syphilis should be included in the differential diagnosis for isolated cervical lymphadenopathy. If symptoms of syphilis are missed, 15-40% of patients could develop late and potentially life-threatening cardiovascular or neurological complications called tertiary syphilis.[13]

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