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CASE REPORT

Ocular syphilis acquired through oral sex in two HIV-infected patients

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ABSTRACT

Two cases of ocular syphilis are described in HIV-infected individuals after unprotected oral sex. The primary syphilitic lesion remained unnoticed and lues was therefore only diagnosed after visual symptoms developed.

INTRODUCTION

The risk of acquiring human immunodeficiency virus (HIV) infection through unprotected genito-oral sex is considered low but this may not be the case for other sexually transmitted diseases (STDs), such as syphilis. Furthermore, a primary syphilitic lesion in the oral cavity may be missed and as a consequence, the patient may present at a later stage of the disease with organ manifestations. We describe two cases in which syphilis infection was acquired by HIV-infected individuals after unprotected oral sex and only noticed after visual symptoms developed.

CASE REPORT 1

A 43-year-old man of Indonesian descent presented to us with visual loss in his left eye. He was a homosexual who regularly visited our infectious diseases outpatients' clinic since he had been diagnosed with HIV three years previously, following an oral gonococcal infection. Highly active antiretroviral therapy (HAART) had been started soon after diagnosis at a CD4 count of 230 x 10^6/ml and a viral load of 100,000 copies/ml. At that time, serological testing for hepatitis B and syphilis were negative. After initiation of HAART, the viral load became undetectable and CD4+ T cells rose to 390 x 10^6/ml. No opportunistic infections had been noticed in the follow-up.

The patient now presented with hazy vision and flashes in his left eye for several days. Ophthalmological examination revealed visual acuity of 4/5 in the right eye and 1/60 in the left. Vasculitis was found in the left eye for which the ophthalmologist initially prescribed oral prednisone 40 mg daily. Opportunistic cytomegalovirus (CMV), herpes simplex virus (HSV), herpes zoster virus (HZV) and Epstein-Barr virus (EBV) infections could not be established but tests for syphilis were strongly reactive: venereal disease research laboratory (VDRL) 1/128, *Treponema pallidum* haemaglutination assay (TPHA) 1/20480, and TPA-Abs positive.

A lumber puncture revealed a leucocyte count of 190 cells/ml, a VDRL titre of 1/4 and a TPHA of 1/2048, confirming the diagnosis of neurosyphilis. The patient was admitted to our infectious diseases ward and treated with intravenous penicillin 18 x 10^6 units/day for two weeks. Following treatment, the ocular manifestations disappeared and the vision in his left eye improved to 2/5.

The patient's sexual history revealed multiple male partners. He claimed always to have used condoms when performing anal sex since being diagnosed with HIV. He had, however, performed oral sex on others without the use of a condom. He had not noticed any oral, genital or anal ulcers.

CASE REPORT 2

A 37-year-old man was admitted to the infectious diseases ward with inflamed eyes. He was a homosexual and had been diagnosed with HIV a year previously after a routine

check. He had also been suffering from idiopathic epilepsy for more than ten years, for which he took valproic acid. HAART had not yet been started, since CD4 counts were still 570 x 10^6/l and viral load stable between 10^4-10^5 copies/ml. The patient had had no major complaints or opportunistic infections since the diagnosis.
He now presented with inflammation, pain and visual loss in both eyes, starting a week before admission; he volunteered no other symptoms. On admission he had vision of 0.4 in the left and 0.05 in the right eye. Ophthalmological examination revealed panuveitis in both eyes and the peripheral retina of the left eye had a necrotic aspect. The central retina of the left eye and the entire retina of the right eye were no longer visible due to vitreal opacities. His visual acuity further decreased to 1/300 in the right eye and 2/60 in the left eye. Further ocular examination revealed an optic neuritis, with the right eye affected more than the left. Further physical examination revealed only a small, eroded, nontender ulcer on the palate and cervical lymphadenopathy.
Initially, an opportunistic herpes virus or toxoplasma infection was suspected, until a PCR on ocular aspirate proved negative for CMV, HSV, EBV, VZV and toxoplasmosis. However, serological examination revealed a VDRL of >1/250, a TPHA of >1/20,000 and a positive fluorescent *Treponema* antibody absorption (FTA-Abs). CSF analysis showed 53 leucocytes/µl and 747 mg/ml protein; liquor VDRL was negative, but the TPHA titre was 1/128.
He was treated with intravenous penicillin 18 x 106 units/day for 14 days, followed by intramuscular benzathine penicillin G 2.4 x 10^6 units/week for a further three weeks. In addition, he was prescribed oral prednisone 60 mg/day for six weeks. His vision has improved considerably.
Our patient had recently started a monogamous relationship with a HIV-negative partner. He claimed to always use condoms for anal sex in order to protect his partner from HIV, but denied oral sex. He said that he had not noticed the oral ulcer.

DISCUSSION

It is a sad fact that in most of the world at the beginning of the 21st century, the incidence of both HIV and STDs is once again on the rise. In the Netherlands, for example, the infection rate for syphilis in men attending STD clinics in Amsterdam rose by 60% in the period 1994 to 1999. Much of this trend is probably due to the increase in risky sexual behaviour since the arrival of HAART.[1]
When safe-sex practices are used, this is often confined to genital and anal contact; it is widely believed that oral sex is 'safe'. For example, current public health advice in the Netherlands regarding oral sex states that the risk of genito-oral transmission of HIV is limited as long as there is no intra-oral ejaculation. The risk of oro-genital transmission is assumed to be negligible.[2] It is often forgotten, however, that genito-oral transmission of other STDs through unprotected oral sex occurs much more easily.[3] It is likely that both our patients acquired their syphilis through genito-oral transmission.

Much has been written on the interaction between HIV and syphilis.[4] The two diseases share a common mode of infection and STDs are known to increase the risk of HIV transmission. Furthermore, syphilis infection appears to follow a more fulminant course in HIV patients, with sometimes rapid progression to second and third stage disease, in particular neurosyphilis.[5] Presentation as secondary disease can occur and signs or history of a chancre may be absent.[6]
Ocular manifestations of syphilis are more common than sometimes assumed and may be the first presenting symptom of the disease[7] or even of underlying HIV.[8] (Pan)uveitis is the most common presentation, although statistics differ on the relative incidence of anterior and posterior uveitic involvement.[9] Syphilis, 'the great imitator', can mimic almost any form of ophthalmological pathology, however, including retinitis, vitreitis, optic neuritis and scleroconjunctivitis,[10] and ocular involvement has been described in all stages of syphilis.[11] In HIV patients, ocular involvement should always be considered as a manifestation of neurosyphilis (see below).
Syphilis serology can be divided into nontreponemal tests (VDRL and rapid plasma reagin (RPR)), which actually measure anticardiolipin antibodies, and treponemal-specific tests (microhaemagglutination assay-*Treponema pallidum* (MHA-Tp), TPHA and FTA-Abs). The reliability of these tests in HIV-infected subjects may be compromised: false-positive results may occur in nontreponemal tests, which are known to be less specific,[12] and false-negative results have been described for both nontreponemal[13] and the FTA-Abs tests.[14] One explanation for this is that the 'prozone' phenomenon,[15] whereby high antibody titres lead to false-negative tests in undiluted specimens, is more common in HIV infection, possibly because of B-cell dysregulation. Confirmation of neurosyphilis can be particularly difficult, with the sensitivity of nontreponemal serology in liquor as low as 20 to 50%.[16,17] In HIV-positive individuals, syphilis serology should therefore be repeated at regular intervals, in order not to miss initially false-negative infections as well as to screen for *de novo* acquisition.
Consensus has existed for several years to treat all ocular manifestations according to neurosyphilis regimens of intravenous penicillin 12-24 x 10^6 units/day for 10 to 14 days, even when overt neurosyphilis cannot be demonstrated.[11] Simple primary or secondary syphilis regimens have been shown insufficient to prevent relapses, particularly in HIV patients.[18] There have been sporadic reports of failure

of neurosyphilis treatment in HIV patients.[19,20] although it is unclear whether such cases represent true recrudescence or simply re-infection. This has led some authors to recommend ocular syphilis in HIV patients be treated with benzathine penicillin G intramuscularly 2.4 x 10^6 units/ week for a further three weeks following the intravenous course.[20-22] Follow-up with quantitative serological tests should be carried out to confirm successful treatment.

CONCLUSION

Syphilis may follow a more fulminant course in HIV-positive individuals, with in particular a more rapid progression to neurosyphilis. We therefore wish to reiterate that unexplained ocular symptoms such as uveitis in HIV-positive patients should always raise the suspicion of syphilis, especially now the incidence of this STD is once again on the rise.
Diagnosis may be delayed if the patient has not previously noticed a primary chancre; this can be the case if this STD is acquired through unprotected oral sex.

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