

Four cases of ocular syphilis have been diagnosed in King County residents in the four week period since mid-December, 2014, and two additional cases have occurred elsewhere in the state. This relatively large number of cases – including two cases that led to blindness – should prompt medical providers to be particularly vigilant in ensuring that patients presenting with ocular complaints undergo testing for syphilis; that patients with syphilis are routinely asked about changes in their vision and, as needed, referred for ophthalmologic evaluation; and that persons at high risk for syphilis who present with ocular findings consistent with syphilitic disease receive prompt therapy effective against central nervous system (CNS) syphilis.

All four of the recent King County cases occurred in men, three of whom identified as men who have sex with men (MSM), the group most affected by syphilis in King County. Three of the cases were HIV-infected, though two were not receiving HIV medical care. Two of the cases were sex partners and presumed to be epidemiologically linked. All of the patients presented primarily with visual complaints, a combination of loss of vision, floaters, a blue tinge in vision, flashing lights and blurring of vision. All four patients had positive serum RPR tests with titers between 1:256 and 1:4096. Ophthalmologic examinations revealed uveitis with variable retinal involvement. Three patients underwent lumbar puncture, all of whom had CSF pleocytosis and two of whom had a positive CSF VDRL. Three of the patients were admitted to a hospital for intravenous penicillin. One patient has so far refused treatment; Public Health and medical providers continue to encourage this man to accept therapy.

At present, syphilitic eye disease is typically a complication of early syphilis (i.e. primary or secondary syphilis). Although the infection can affect any part of the eye, uveitis is the most common manifestation of disease. Initial symptoms can be subtle, including floaters, flashing lights (photopsia), blurring of vision and ocular pain. If untreated, these symptoms can progress to loss of vision. Early treatment usually leads to resolution of symptoms without vision loss, while delayed treatment can result in permanent blindness.

Syphilis is common in MSM in King County, particularly among HIV infected MSM in whom approximately 3% acquire syphilis each year. While rates of syphilis are extremely high among MSM in King County, we have not observed a recent increase in syphilis rates. The cause for this cluster of cases of ocular syphilis is uncertain. Some evidence suggests that some strains of *Treponema pallidum*, the bacterium that causes syphilis, may be more likely to cause CNS disease. It is not known whether some strains of *T. pallidum* have a greater likelihood of causing ocular infections, but the current cluster of cases raises this concerning possibility.

Public Health recommends that medical providers take the following steps in response to the recent series of syphilis cases:

- Providers should have a low threshold for testing patients for syphilis presenting with genital, oral or rectal ulcers; rash or visual complaints.

### Key Points

- Six cases of ocular syphilis diagnosed in WA state in the last month
- All patients diagnosed with syphilis should be evaluated for ocular, otologic and neuro symptoms
- Therapy consisting of penicillin G IV or procaine penicillin IM with probenecid should be initiated for suspected CNS syphilis without awaiting laboratory confirmation.
- Please call the Public Health STD/HIV Program for assistance with management of CNS syphilis (206.744.4376).
- All persons diagnosed with syphilis should be tested for HIV unless they are already known to be HIV infected.
- Offer HIV-negative MSM with syphilis or rectal gonorrhea HIV pre-exposure prophylaxis (PrEP)

- Clinicians should ask patients presenting with genital, oral or rectal ulcers, rash or visual complaints if they have sex with men, women or both men and women.
- Clinicians should routinely ask patients with possible or diagnosed syphilis about changes in their vision or hearing (including hearing loss or tinnitus) in order to identify persons at high risk for complicated syphilis. (A form to help providers identify patients with ocular, otologic or CNS syphilis is attached.)
- Patients with signs or symptoms consistent with syphilis and ocular complaints should be referred for immediate ophthalmologic evaluation.
- All patients being evaluated for syphilis should be tested for HIV infection unless they have a prior HIV diagnosis.
- Medical providers should initiate penicillin therapy in all patients in whom syphilis is suspected without waiting for laboratory confirmation of the diagnosis.
- In patients with ocular findings consistent with syphilis, therapy should be consistent with current recommendations for the treatment of CNS syphilis (i.e. penicillin G IV or procaine penicillin IM in conjunction with oral probenidol). (CDC STD Treatment Guidelines are available at <http://www.cdc.gov/std/treatment/2010/default.htm>).
- All patients with suspected complicated syphilis should be offered lumbar puncture. A study of CSF abnormalities in persons with syphilis is ongoing at Harborview Medical Center. Patients can be referred for LP and possible study enrollment by calling (206) 540-1500.
- Public Health recommends that patients thought to have CNS, ocular or otologic syphilis be managed in collaboration with Public Health physicians in the HIV/STD program or infectious disease specialists.
- All patients diagnosed with ocular syphilis or suspected to have possible ocular syphilis should be immediately reported to Public Health. Public health is investigating all cases of ocular syphilis to better understand what appears to be an increase in this manifestation of syphilis. As part of that investigation, we are collecting CSF, vitreous and serum specimens from patients with untreated syphilis for *T. pallidum* typing. Providers can report cases of ocular syphilis and arrange to send residual serum, CSF or vitreous specimens to Public Health by calling Rolf Pederson at (206) 744-4376.

Our community continues to experience high rates of HIV and STD among MSM. With that reality in mind, Public Health recommends that medical providers use the following STD screening guidelines in MSM.

- All MSM who have had anal or oral sex in the prior year and who are not part of a long-term, mutually monogamous sexual relationship should be tested for syphilis, gonorrhea, chlamydial infection and HIV at least annually. Gonorrhea and chlamydial testing should include testing of the pharynx and rectum if those sites have been potentially exposed to infection. Medical providers should not assume that patients in long-term relationships are mutually monogamous and should ask patients about their number of sex partners and the gender of those partners.
- MSM with any of the following risk factors should be tested for STD (as above) every 3 months: history of bacterial STD in the prior year; methamphetamine or popper use in the last year;  $\geq 10$  sex partners in the prior year; sex with partners of unknown or different HIV status.
- Providers caring for HIV-infected MSM should order syphilis testing for all sexually active MSM patients at each medical visit if the patient is not in a long-term, mutually monogamous relationship.
- Providers should offer HIV pre-exposure prophylaxis (PrEP) to all HIV uninfected men with rectal gonorrhea or syphilis. Providers can refer men with syphilis or rectal gonorrhea who are interested in PrEP to the PHSKC STD clinic at Harborview. Information on additional medical providers offering PrEP can be found at: <http://www.kingcounty.gov/healthservices/health/communicable/hiv/prevention/prep.aspx>.