

Notes from the Field

A Cluster of Ocular Syphilis Cases — Seattle, Washington, and San Francisco, California, 2014–2015

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From December 1, 2014, to January 30, 2015, in King County, Washington, four cases of ocular syphilis, defined as clinical signs or symptoms consistent with ocular disease (e.g., uveitis or vision loss) in a person with laboratory-confirmed syphilis of any stage, were reported. All four cases occurred in men who have sex with men (MSM), two of whom were sex partners. Median age of the four patients was 39 years (range = 29–52 years). Three of the patients were infected with human immunodeficiency virus (HIV). Among the three HIV-infected patients, the median CD4 count was 111 cells/ml, and the median HIV-RNA was 34,740 copies/ml. All four patients had visual symptoms, including vision loss, flashing lights, and blurry vision. Ophthalmologic examinations were performed and all four were diagnosed with uveitis. All four patients had positive serum from rapid plasma reagin (RPR) testing (titer range = 1:256–1:4096). Based on history, one patient had late latent syphilis, and the remaining three received diagnoses of early latent syphilis. The three patients with early latent syphilis had cerebrospinal fluid (CSF) analysis performed; two had positive CSF in venereal disease research laboratory (VDRL) testing. Three patients received treatment with aqueous crystalline penicillin G for 14 days, and one was treated with 10 days of procaine penicillin and probenecid. All four patients had initial improvement in ocular symptoms after treatment. However, one patient still had a blind spot in one eye 1 month after treatment, and two patients were considered legally blind after 5 months; the fourth patient was lost to follow-up.

Public Health–Seattle & King County has estimated that approximately 6–12 cases of symptomatic ocular syphilis occur annually in the county (1). The occurrence of four cases within 2 months led to a clinical advisory to medical providers and west coast health departments.

Following the clinical advisory from King County, the San Francisco Department of Public Health identified eight cases of ocular syphilis reported from December 15, 2014, to March 25, 2015. Seven cases (88%) were in males; six (75%) were in MSM. No epidemiologic links were identified among the patients. Median age of the patients was 52 years (range = 35–58 years). Seven (88%) were HIV-infected

(six MSM and one female commercial sex worker). Four patients had CD4 and HIV-RNA lab data available; median CD4 count was 291 cells/ml, median HIV-RNA was 84,500 copies/ml. Ophthalmologic examinations were performed on all eight patients, and records were reviewed for five. Diagnoses included ischemic optic neuropathy, uveitis, and retinal detachment. All patients had positive serum RPR (titer range = 1:256–1:8192); two had an initial false negative RPR because of the prozone effect. Three patients had a rash consistent with secondary syphilis, four had early latent syphilis, and one had late latent syphilis. Four cases had CSF analysis, three with a positive CSF VDRL result. All eight patients received aqueous crystalline penicillin G for 14 days. Following treatment, seven patients had improvement in ocular symptoms, and one patient had permanent visual loss in one eye after 3 months.

Ocular syphilis, a clinical manifestation of neurosyphilis, typically occurs during early syphilis; uveitis is the most common presentation (2–4). For sexually active persons, the following steps can reduce the risk for syphilis: 1) being in a long-term mutually monogamous relationship with a partner who has been tested and has not tested positive for early syphilis; 2) using latex condoms correctly every time they have sex; and 3) for MSM, having annual screening for syphilis, and more frequent screening for MSM at greater risk. All patients who receive a diagnosis of syphilis should be asked screening questions to identify visual, hearing, or neurologic symptoms and receive a careful neurologic exam. Patients with ocular symptoms consistent with syphilis should be serologically evaluated for syphilis. An immediate ophthalmologic evaluation and CSF examination is recommended for patients with syphilis and ocular complaints. However, a normal CSF examination can occur with ocular syphilis. Ocular syphilis cases should be managed according to the treatment recommendations for neurosyphilis, regardless of CSF results, and patients should be tested for HIV (5).

Cases of ocular syphilis should be reported to the state or local health department within 24 hours of diagnosis (6). For questions about possible ocular syphilis cases please contact Sara E. Oliver, MD, at 404-639-1204 or at yxo4@cdc.gov.

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References

1. Dombrowski JC, Pedersen R, Marra CM, Kerani RP, Golden MR. Complicated syphilis may be more common than previous estimates suggest. Presented at the 2014 STD Prevention Conference, Atlanta, GA; June 9–12, 2014.
2. Li JZ, Tucker JD, Lobo AM, et al. Ocular syphilis among HIV-infected individuals. *Clin Infect Dis* 2010;51:468–71.
3. Moore JE. Syphilitic iritis. *Am J Ophthalmol* 1931;14:110–26.
4. Morthey LC, Skalicky SE, Gurbaxani A, McCluskey PJ. Syphilitic uveitis and optic neuritis in Sydney, Australia. *Br J Ophthalmol* 2015;99:1215–9.
5. Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep* 2015 (No. RR-3).
6. CDC. Clinical advisory: ocular syphilis in the United States. Atlanta, GA: US Department of Health and Human Services, CDC; 2015. Available at <http://www.cdc.gov/std/syphilis/clinicaladvisoryos2015.htm>.