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Paper Poster Session II

Urogenital and sexually transmitted infections

Identification of *Treponema pallidum* in the oral cavity of patients with early syphilis who reported unprotected oral sex practices: prevalence and associated factors

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Objectives: Chancres of the oral cavity are increasingly reported among the individuals who practice unprotected oral sex. We aimed to investigate the prevalence of and associated factors with identification of *Treponema pallidum* using polymerase-chain reaction assays in the oral cavity of patients who presented with syphilis.

Methods: Between 2009 and 2014, we obtained swab specimens from the oral cavity of patients who reported unprotected oral sex practices when a diagnosis of syphilis was made. The swab specimens were subjected to PCR assays to detect *Treponemal* DNA, which subsequently underwent genotyping that examined the number of 60-bp repeats in the acidic repeat protein (*arp*) gene, *T. pallidum* repeat (*tpr*) polymorphism, and *tp0548* gene and detection of A2058G and A2059G point mutations with the use of restriction fragment-length polymorphism. Clinical information of the patients were collected using a standardized case record form.

Results: During the 5-year study period, 243 patients with 268 episodes of syphilis who presented with primary syphilis of the genital region (n=38, 14.8%), secondary syphilis (n=76, 28.4%), primary and secondary syphilis (n=21, 7.8%), early latent syphilis (n=126, 78%), and other stages of syphilis (n=7, 2.6%) were enrolled, in whom 22 (8.2%) presented with oral lesions. 267 (99.6%) of the 268 episodes occurred in men who have sex with men and 243 (90.7%) in HIV-infected patients. At the diagnosis of syphilis, 197 HIV-infected patients (73.5%) were receiving combination antiretroviral therapy, with a mean CD4 count of 520 cells/mm^3 (standard deviation [SD], 254) and plasma HIV RNA load 2.21 log_{10} (SD, 1.39) copies/ml. The median rapid plasma reagin titer was 64 (interquartile range [IQR], 32-128). *T. pallidum* DNA was identified from the swab specimens of 113 patients (42.2%), including 15 patients with oral chancres. 14f/f was the most common genotype. Presence of oral chancres was associated with identification of *T. pallidum* in the swab specimens (15/22 [68.2%] vs 98/246 [39.8%]) (*P*=0.01). In multivariate analysis, presentation with secondary syphilis was statistically significantly associated with identification of *T. pallidum* in the oral cavity in the patients who did not present with oral lesions.

Conclusions: Isolation of *T. pallidum* from the oral cavity using PCR assays is not uncommon in men who have sex with men who practice unprotected oral sex. While presence of oral lesions is significantly associated with isolation of *T. pallidum*, *T. pallidum* is more likely to be identified in the patients with secondary syphilis who have no evident oral lesions.