HPV Greatly Increases HIV Infection in MSM

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Men who have sex with men (MSM) and who are also infected with the human papillomavirus (HPV) have a much higher risk of becoming infected with HIV than men who do not have HPV infection, according to a study published online April 22 in *AIDS* and reported by Medical News Today. If an HPV vaccine currently being studied in MSM protects against HPV infection, however, it might help prevent transmission of HIV as well.

Most sexually transmitted infections have been shown to increase HIV transmission risk. This is especially true for infections that can cause genital ulcers, such as chancroid and syphilis. HPV, which has many different strains, can cause both genital warts and lesions in the vagina, cervix and anus. The strains of HPV that cause lesions have been shown to increase the risk of cervical and anal cancer. Little research has been conducted, however, to determine whether HPV might also increase a person's risk for acquiring HIV.

To determine the increased risk posed by HPV infection in MSM, Peter Chin-Hong, MD, from the University of California in San Francisco (UCSF), and his colleagues analyzed data from a large HIV prevention trial called the EXPLORE study. EXPLORE recruited 1,409 HIV-negative MSM in four U.S. cities. During the course of the study, researchers periodically surveyed the men about their sexual behavior and took blood and anal specimens for laboratory analysis.

Just over half of the men had HPV infection at the start of the study. Over time, an additional 51 men became infected with HIV. When the researchers adjusted the data and accounted for sexual behavior and other risk factors, the men with HPV infection were three and a half times more likely to become infected with HIV than men who did not have HPV.

The authors hypothesize that HPV increases HIV transmission risk in two ways. First, the lesions caused by HPV bring blood vessels closer to the surface in the anus and make the lining of the anus thinner and more fragile. Second, the immune cells most vulnerable to HIV infection, such as macrophages and CD4s, are recruited in high numbers to the site of the lesions.

The HPV vaccine Gardasil has already proved to be effective in reducing cervical lesions in young women and is currently being studied in MSM to determine whether it can prevent anal HPV lesions. Joel Palefsky, MD, a coauthor of the study and head of the Anal Neoplasia Clinic at UCSF, concludes, "Primary prevention of HPV infection through HPV vaccination may potentially reduce

[HIV] risk.”

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