HIV Treatment May Lower Risk of Precancerous Anal Lesions

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Potential good news for HIV-positive men who have sex with men: Antiretroviral therapy may reduce the prevalence of precancerous anal lesions and infection with the cancer-causing human papillomavirus (HPV), according to a new study published in the July issue of the journal Sexually Transmitted Diseases.

“This association between the prevalence of [anal lesions] and the absence of [antiretroviral therapy] may contribute to the current debate on when to start [antiretroviral therapy] in HIV-infected individuals,” the authors write.

HIV is known to affect HPV-related anal cancer risks in several ways. Compared with HIV-negative men, those living with HIV are more likely to have HPV infection, notably strains of the virus associated with the development of anal cancer. Men coinfected with both viruses are also more likely to have persistent HPV infection and are less likely to see lesions regress on their own.

Whether or not antiretroviral (ARV) therapy reduces the risk of anal cancer remains unclear. Though HIV treatment has been linked repeatedly to a lower risk of some AIDS-related cancers, such as Kaposi’s sarcoma and non-Hodgkin’s lymphoma, data from anal cancer studies have been conflicting. For example, one study reported in 2009 found that ARV therapy doesn’t afford much protection against anal cancer in people living with HIV. Encouragingly, though, a South African study reported in May suggested that antiretroviral therapy reduced the incidence of HPV-related cervical lesions and was linked to the regression of existing lesions.

The most recent study, reported by Eric van der Snoek, MD, PhD, of the University Medical Center in Rotterdam and his colleagues, was too small and limited in duration to examine anal cancer rates among those on ARV treatment compared with those not yet on therapy. However, it was able to compare rates of two anal cancer risk factors: HPV infection prevalence and anal intraepithelial neoplasia (AIN). Often associated with HPV, AIN is the presence of abnormal but non-malignant cells that may progress to cancer.

A total of 250 men (all of whom had sex with other men) were included in the study, 210 without and 40 with AIN. Patients were, on average, 46 years old and had been diagnosed with HIV roughly eight years before enrollment. More than 80 percent were receiving antiretroviral therapy; CD4 cell counts averaged 490; and 67 percent had undetectable viral loads.

The prevalence of laboratory-confirmed AIN was 16 percent.

When van der Snoek and his colleagues compared the characteristics of those with and without AIN, the only factor that made a statistically significant difference was use of ARV therapy. Of the 210 men who did not have AIN, 176 of them (83.8 percent) were receiving HIV treatment, compared with 25 (62.5 percent) of the 40 men diagnosed with AIN. And in multivariate analyses conducted by the researchers—which take into consideration that multiple factors can increase or decrease the risk of AIN—ARV therapy was associated with a more than twofold reduction in the prevalence of precancerous lesions.

The researchers also noted that the absence of any HPV infection was found more often in those receiving ARV treatment (11.5 percent), compared with those not using HIV therapy (0 percent). In addition, multiple infections—the presence of more than one HPV type—were detected more often in those who did not use ARV treatment (81 percent), compared with those who were receiving therapy (64.5 percent).

Though the strength of the study may be limited by its small sample size—it was too small to determine whether ARV treatment had a discernible effect on different AIN types, such as low-grade (AIN 1) and high-grade (AIN 3) lesions—and by its cross-sectional design, which doesn't follow patients over time, the researchers remain encouraged by the results.

"In conclusion," van der Snoek and his colleagues write, "in this cross-sectional study in 250 HIV-positive men who have sex with men, the use of [ARV therapy] was associated with a significantly reduced prevalence of AIN and a significantly lower prevalence of HPV."

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