Women With HIV Are at Greater Risk for Cervical Cancer

Study suggests HIV-positive women could start cervical cancer screening at age 21.

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Women living with HIV, both in the United States and worldwide, have a greater likelihood of developing cervical cancer than their HIV-negative peers. A recent U.S. study found that although the risk of invasive cervical cancer is elevated across most age groups, it is rare among young women.

“Essentially, this study supports starting cervical cancer screening at age 21 in women living with HIV,” lead author Elizabeth Stier, MD, of Boston Medical Center, told POZ.

Cervical cancer is caused by human papillomavirus (HPV), which can act as an opportunistic infection in people with compromised immunity. Regular Pap screening and HPV testing reduce the risk of developing invasive cervical cancer by catching precancerous cell changes at an early, treatable stage. HPV vaccination—which the Centers for Disease Control and Prevention recommends for girls and boys at ages 11 or 12—can prevent cervical cancer as well as other HPV-related malignancies, including anal cancer and oral cancer.

As described in the journal AIDS, Stier and her colleagues compared age-specific invasive cervical cancer rates among women living with HIV and women in the general population in the United States using data from the HIV/AIDS Cancer Match Study, which links HIV and cancer registries in 13 regions.

Cervical cancer was designated as an AIDS-defining condition in 1993, given that women with HIV are more likely to be diagnosed with cervical cancer at a younger age and at more advanced stages. Women with uncontrolled HIV and low CD4 counts progress more rapidly from precancerous changes (cervical dysplasia and neoplasia) to invasive cancer, but HIV-positive women continue to have an increased incidence of cervical cancer and other HPV-related malignancies despite advances in antiretroviral treatment.

Most people contract HPV soon after they become sexually active, and experts previously recommended that all women should begin cervical cancer screening at that time. By 2009, recognizing the lack of benefit from screening young women in their teens (even those who are

sexually active), guidelines were revised to start screening for women in the general population at age 21, the researchers noted as background. But recommendations for screening women with HIV haven't changed since 1995.

Stier's team compared the incidence of invasive cervical cancer among HIV-positive women and women in the general population, adjusting for age and race/ethnicity. If cervical cancer is rare among young women with HIV, as it is among young HIV-negative women, that would support raising the screening age to 21 for them as well.

The researchers looked at data from 2002 through 2016 for a study population of 164,000 women living with HIV. Nearly two thirds (64%) were Black, 22% were Latina and 13% were white. Heterosexual transmission was the most common risk factor (45%) followed by injection drug use (21%).

During the study period, 552 cases of invasive cervical cancer were reported among women with HIV, or 47.7 per 100,000 people. The highest incidence occurred in the 40 to 44 and 35 to 39 age groups (66.1 and 64.5 per 100,000, respectively). However, no cases were reported among HIV-positive women under 25.

Stier's team found that cervical cancer rates were significantly elevated among women with HIV across all age groups between 25 and 54. Using a measure known as the standardized incidence ratio (SIR), HIV-positive women ages 25 to 54 were nearly four times more likely to develop cervical cancer compared with those in the general population (SIR=3.80). The SIR was 2.55 for HIV-positive women ages 60 to 65, rising to 5.34 for those ages 25 to 29.

"The absence of invasive cervical cancer among women living with HIV [younger than] 25 years supports initiating cervical cancer screening at age 21, rather than adolescence, to prevent cancers in women living with HIV at ages with higher risk of invasive cervical cancer," the study authors concluded.

Screening initiation at age 21 "will spare adolescents living with HIV from cervical procedures that may be associated with adverse pregnancy outcomes and emotional duress," they wrote. "Most importantly, all children (regardless of immune status) should receive the prophylactic HPV vaccine."

Thanks to routine screening, precancerous cervical changes are often caught early, and the prevalence of invasive cervical cancer among women with HIV in the United States is not high.

Globally, however, it's a different story. In countries where women do not receive regular screening and where those living with HIV may not be on antiretroviral treatment, cervical cancer rates are higher. A meta-analysis published in The Lancet Global Health found that worldwide, women with HIV are six times more likely to have cervical cancer than HIV-negative women.

Dominik Stelzle, MD, of the Technical University of Munich, and colleagues conducted a systematic

literature search of five databases to identify studies analyzing the association between HIV and cervical cancer; 24 studies with a combined total population of 236,127 women met the inclusion criteria.

Nearly 6% of new cervical cancer cases in 2018 occurred among women living with HIV, or around 33,000 new cases. But this varied widely by region, reaching as high as 64% in southern Africa and 27% in eastern Africa. The researchers estimated that 5% of all cervical cancer cases are attributable to HIV. Of the 10 countries with the highest cervical cancer burden, only four had ongoing screening programs.

“Women living with HIV have a significantly increased risk of cervical cancer. HPV vaccination and cervical cancer screening for women living with HIV are especially important for countries in southern Africa and eastern Africa, where a substantial HIV-attributable cervical cancer burden has added to the existing cervical cancer burden,” the study authors concluded. “Increasing HPV vaccination coverage in countries with a high burden of cervical cancer attributable to HIV is a critical priority.”

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