CATIE News

CATIE’s bite-sized HIV and hepatitis C news bulletins.

Boston study underscores need for anal cancer screening in HIV-positive women

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HIV infection weakens the immune system and makes people susceptible to life-threatening infections and certain cancers. Fortunately, the widespread availability of potent combination anti-HIV therapy, commonly called ART or HAART, can tremendously improve the health of HIV-positive people. ART works by suppressing production of HIV and allowing the immune system to partially repair itself.

However, some HIV-induced defects in the functioning of the immune system persist despite the use of ART. For instance, continuous immune system activation and inflammation occur even under treatment. Another issue is that HIV-positive people are often co-infected with other viruses that have the ability to cause abnormal development of cells, in some cases triggering affected cells to transform into pre-cancers and cancers. Some of these co-infections include the following:

- EBV (Epstein-Barr Virus) – a member of the herpes virus family that has been linked to an increased risk for non-Hodgkin’s lymphoma
- HHV-8 (human herpes virus-8) – a member of the herpes virus family that can cause Kaposi’s sarcoma. HHV-8 is also linked to a cancer-like condition called multicentric Castleman disease
- HPV (human papilloma virus) – some strains of this virus can cause ano-genital warts, others can cause cancer of the anus, cervix, penis and mouth/throat
- hepatitis B and hepatitis C viruses (HBV and HCV) – these viruses infect and damage the liver and greatly increase the risk for liver cancer

The combination of persistent activation and ongoing inflammation and the presence of viruses associated with tumours and perhaps other unknown factors may place some HIV-positive people at heightened risk for cancer. Therefore, regular medical monitoring, cancer screening and vaccination against some of these viruses (vaccines are only available against some of them) should be a regular part of care for HIV-positive people.

Into the anus

A research team in Boston has performed a detailed investigation of the impact of HPV infection in the anus among HIV-positive women. Abnormal cells in the anus were relatively common, occurring in about 33% of women. In 12% of these women (in whom abnormal anal growths were discovered), researchers subsequently identified highly abnormal and, in some cases, pre-cancerous lesions. Women who had abnormal growths on their cervix were also likely to have abnormal growths in their anus. Based on these findings, the study team recommends that HIV-positive women undergo annual screening for anal cancer and pre-cancer, particularly women with the following issues:

- having less than 200 CD4+ cells
- detectable anal or cervical HPV
- abnormal cervical Pap test result
- a history of other sexually transmitted infections (STIs)

Study details

Nurses at Boston University School of Medicine recruited 99 HIV-positive women between October 2006 and May
2007 and monitored them until May 2010.

Researchers had hoped to assess the women every six months for a total of three study visits. However, not all the women were able to visit the study clinic for all three visits. In total, 87 women had at least two clinic visits, and 71 women had all three visits.

At each study visit women were interviewed and underwent gynecological examinations and Pap tests. The cervix was gently scraped, as is normally done during a Pap test, and a polyester swab was gently inserted and rotated in the anus. These procedures allowed researchers to check for the presence of abnormal growths and strains of HPV associated with cancer.

Women who had any degree of abnormal cells detected from cervical samples later had a more detailed cervical exam performed whereby tiny samples from the cervix were removed for further analysis.

Women who had abnormal cells detected on an anal Pap test or who had HPV detected in their anus were referred for a more detailed examination called high-resolution anoscopy (HRA). For an HRA, the research team used a “lubricated plastic disposable anoscope (somewhat similar to a microscope) and applied 5% acetic acid solution to the anal mucosa.” This technique helped to make abnormal growths visible. In cases where abnormal growths were detected, local anesthetic was applied and a tiny sample of tissue was removed for analysis.

In all cases where researchers discovered pre-cancers or cancers of the anus, cervix, vagina or vulva, women were referred to specialists for treatment.

Upon entering the study, women had the following average profile

- age – 40 years
- 79% were taking ART
- 62% of women had an undetectable HIV viral load
- only 11 women had less than 200 CD4+ cells (the average CD4+ cell count was not provided by the researchers)
- 22% of women disclosed that they engaged in anal intercourse
- 10% of women had a history of abnormal growths on their vulva
- 27% of women had previously been treated for abnormal growths on their cervix
- 23% of women currently smoked tobacco

**Results**

There were 70 women who had no anal abnormalities detected when they first entered the study.

Researchers subsequently found abnormal anal growths in 23% of these women.

Thirty-three percent of the women in the study had been diagnosed at least once with an abnormal growth on their anus. Among these women, two-thirds had anal HPV detected during the study.

A total of 48 women had HPV detected in their cervical samples. Thirty of these women had abnormal growths detected on their cervix.

**A closer look**

Thirty-six women who had abnormal anal growths on Pap tests or detectable anal HPV underwent HRA. Twelve of these women were then diagnosed with highly abnormal cells in their anus and in some cases, anal pre-cancer.

In cases where anal Pap testing found only mild abnormalities, subsequent examination with HRA and biopsy tended to find more abnormal growths and cases of pre-cancer.

Based on its findings, the study team recommends that HIV-positive women undergo annual screening for anal cancer and pre-cancer, particularly women with the following issues:

- having less than 200 CD4+ cells
Planning vs. reality

As mentioned earlier in this report, the research team had hoped that women participating in the study would return every six months for at least three clinic visits. However, many participants delayed or missed clinic visits.

According to the researchers, “It appears from our anecdotal experience that HIV-positive women are more likely to delay or avoid HRA compared with [HIV-positive men].” The researchers added that HIV-positive women “generally express more discomfort with undergoing anoscopy.”

HRA examinations did not take place in the study clinic and the researchers said that this separate location “may have been an additional barrier for women who were already uncomfortable about having the procedure.”

According to data from another study (which is unpublished), the Boston researchers stated that HIV-positive women “cited fear of pain or sexual assault flashbacks, embarrassment, and lack of social support as reasons for avoidance of HRA.”

Researchers planning future studies of anal cancer and pre-cancer screening in HIV-positive women need to discuss with women possible barriers to participation in such studies as well as acceptable ways to overcome such barriers.

For the future

Important research issues that need to be asked in future studies include the following:

- What is the role of HPV testing?
- What is the best tool or combination of tools that should be used when screening for anal cancer and pre-cancer?
- How often should such screening take place?
- What role can the HPV vaccine play in reducing the risk for anal HPV-related complications among sexually active HIV-positive men and women?

Such questions are important because HIV-positive women (and men) are living longer and will continue to be at risk for complications of HPV infection.

More about cancer and HIV

For more information about some cancers to which HIV-positive people are susceptible, see the following CATIE publications:

CATIE-News - California study underscores the need to reduce cancer risk

CATIE-News - Massive North American study strengthens case for HPV screening

TreatmentUpdate 190

REFERENCES:


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