HIV-Positive Women With Breast Cancer May Have a Higher Risk of Death

A study in Botswana showed that women with HIV had shorter survival than HIV-negative women with breast cancer.

March 6, 2019 By Liz Highleyman

HIV-positive women with breast cancer appear to have decreased survival compared with HIV-negative women, according to a presentation at the Conference on Retroviruses and Opportunistic Infections (CROI 2019) taking place this week in Seattle.

Although HIV was associated with an almost twofold reduction in survival, both HIV-positive and HIV-negative women had high five-year mortality, in most cases attributable to cancer, said Katrin Sadigh, MD, of Brigham and Women's Hospital in Boston.

Katrin Sadigh, MD, speaks at CROI 2019Liz HIghleyman

As people with HIV live longer thanks to effective antiretroviral therapy, AIDS-related mortality has dropped and noncommunicable diseases, such as cancer and cardiovascular disease, account for a growing proportion of deaths. Breast cancer is the leading cause of cancer-related death for HIV-positive women who have access to effective antiretrovirals, as it is for HIV-negative women, Sadigh noted.

The researchers conducted a prospective study to look at the impact of HIV on overall survival among women with breast cancer in a resource-limited setting. The study drew from the Thabatse Cancer Cohort, which includes nearly 4,000 people with cancer who receive care at four major oncology centers in Botswana.

The breast cancer cohort included 510 women who sought cancer care at public or private facilities between October 2010 and September 2018. Of these, 151 were HIV positive and 327 were HIV negative. The HIV-positive women were younger, on average, than the HIV-negative group (median 47 versus 56 years).

Both HIV and cancer care are provided free by the Botswana government, according to Sadigh. Most women with HIV (85 percent) were on antiretroviral therapy at the time of their cancer diagnosis and 70 percent had a suppressed viral load (below 1,000 copies per milliliter). The most common regimens, each used by about a third of participants, were AZT (zidovudine)/3TC (lamivudine or Epivir)/Sustiva (efavirenz) and tenofovir disoproxil fumarate/emtricitabine/efavirenz

(the drugs in Atripla).

In both the HIV-positive and HIV-negative groups, about 5 percent had Stage I early breast cancer at the time of diagnosis; about 25 percent and 40 percent, respectively, had Stage II or Stage III cancer that had spread to lymph nodes or nearby tissues; and 15 percent had Stage IV metastatic cancer that had spread elsewhere in the body.

About a third of women in both groups had estrogen-receptor-positive tumors that grow when exposed to this hormone. About 15 percent had triple-negative breast cancer that has no receptors for estrogen, progesterone or the HER2 protein, meaning it does not respond to commonly used treatments including hormone therapy or HER2 inhibitors such as Herceptin (trastuzumab). About 40 percent were not tested for treatment responsiveness.

Breast cancer treatment did not differ by HIV status. In both groups, about 70 percent of women underwent mastectomy, or complete breast removal, and about 10 percent received lumpectomies to remove tumors. About 60 percent were treated with some type of chemotherapy, and just under half received radiation therapy.

Seventy HIV-positive women (46 percent) and 101 HIV-negative women (31 percent) died during the five years of follow-up. In both groups, cancer was by far the leading cause of mortality, accounting for around 90 percent of all deaths; in addition, around 3 percent of deaths were attributed to adverse effects of cancer treatment. None of the women with HIV died of AIDS-related causes.

In an analysis controlling for other factors, women with HIV were found to have an 82 percent reduction in survival compared with HIV-negative women.

There was little difference in mortality among women with Stage IV cancer, who had a high death rate regardless of HIV status. However, HIV appeared to have a greater negative effect on survival in women with early-stage breast cancer and those with hormone-receptor-negative tumors. Unexpectedly, the impact of HIV was also greater for women with higher CD4 counts (above 350), Sadigh reported, but she was unable to explain this finding.

“HIV infection was associated with nearly twofold reduction in breast cancer survival despite good access to antiretroviral therapy,” the researchers concluded. “Differences in cancer stage, cancer subtype or access to cancer treatment does not explain the disparity.”

Importantly, overall survival was poor for both HIV-positive and HIV-negative women in this study, Sadigh said, and better approaches are needed to speed up diagnosis and improve care.

Click here to read the study abstract.

Click here to learn more about breast cancer.