Cohort Highlights Factors Linked to Lower Risk of Cancer Death in HIV

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Keeping CD4 cell counts high and viral load undetectable, while also being vigilant when it comes to detecting cancers in their earliest and most treatable stages, are the keys to prolonged survival for people living with HIV and a life-threatening tumor, according to a new paper authored by a team of U.S. researchers published online ahead of print by the journal AIDS.

The findings, reported by Chad Achenbach, MD, of the Feinberg School of Medicine of Northwestern University in Chicago and his colleagues, are encouraging in light of the growing number of published papers finding higher rates of fatal non-AIDS-related cancers among people living with HIV.

Though trends in incidence rates of these and other cancers have been well characterized, little is known about survival after a diagnosis of cancer for those living with HIV. Previous studies have been limited to analyzing survival rates with AIDS in the years before combination antiretroviral (ARV) therapy or have lacked information regarding important risk factors associated with death.

This prompted Achenbach and his colleagues to evaluated data collected from a large cohort of people living with HIV engaged in routine care between 1996 and 2009 at eight clinical sites across the United States. Their goal was to define the factors associated with death—and, by extension, survival—and mortality rates after a diagnosis of cancer in today's day and age of ARV treatment.

Out of 20,677 patients in the cohort, 650 ARV-treated individuals developed invasive cancer. The average age at cancer diagnosis was 44. In addition, 52 percent were white, 86 percent were male, 18 percent reported intravenous drug use as their HIV risk factor, 21 percent were coinfected with a hepatitis virus, and 38 percent were current smokers.

CD4 counts, before starting ARV treatment, were low among those who developed invasive cancer—the average was 45 cells. Most (92 percent) patients were on ARV therapy at the time of their cancer diagnosis, with CD4s averaging 204 cells and viral loads averaging 400 copies.

Among the 650 patients diagnosed with invasive cancer while on ARV treatment, 305 died. The overall two-year survival rate was 58 percent.

Not surprisingly, the largest numbers of deaths were among those with central nervous system lymphoma, liver cancer and lung cancer, which claimed the lives of 90 percent, 84 percent and 68 percent, respectively, of those diagnosed with these often fatal cancers.

The risk of death was lowest among those who had higher CD4 counts at cancer diagnosis and viral loads less than or equal to 400. The risk was also lowest among those who actually received treatment for their cancer(s), and those who had infection-related cancers--such as human papillomavirus-associated anal cancer and Epstein-Barr virus-related lymphoma—compared with cancers not associated with an infection (such as lung cancer).

Some findings of the study—notably the associations between death and older age and the stage of cancer at the time of diagnosis—were to be expected, the authors write. “We also found key factors associated with mortality that are specific to HIV-infected patients and have not been previously reported, including failure to suppress [viral load], low CD4 cell count at cancer diagnosis and cancers unrelated to a viral coinfection.”

One of the more sobering, yet manageable, findings of the study was that more than 50 percent of the people living with HIV diagnosed with cancer in the cohort had stage IV disease at the time of diagnosis. In addition, at least 25 percent of patients received no treatment.

“This is surprising,” Achenbach and his colleagues write, “as individuals in this study were receiving [ARV treatment] in specialized HIV clinics and routinely engaged in care with quarterly monitoring on average. Although it is possible that HIV infection and associated immune system dysfunction accelerate the rate of cancer progression to advanced and untreatable states, our findings could be explained by poor cancer awareness, inadequate screening practices, or lack of prompt therapy.

“HIV-infected individuals may require novel cancer prevention and treatment strategies that incorporate key prognostic factors such as those found in our study, including suppression of HIV, prevention of CD4 cell count decline, and cancer screening initiated at a younger age than in the general population.

“Further research is needed to define the optimal timing and modalities for cancer screening and treatment among HIV-infected populations,” the authors conclude.

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