Excess Mortality Among HIV-Infected Cancer Patients in the United States

We recently reported that HIV-infected cancer patients have a higher risk of dying from their cancer than their HIV-uninfected counterparts.

The interaction between HIV and cancer is increasingly relevant as cancer becomes more common in the aging HIV patient population.

The magnitude of the excess mortality burden resulting from this interaction between HIV and cancer in the US remain unclear.

OBJECTIVES:
(1) Determine whether patients diagnosed with both HIV and cancer die at higher rates than expected
(2) Quantify this excess mortality for both AIDS-defining cancers (ADCs) and non-AIDS-defining cancers (NADCs)

METHODS

Data Sources and Comparison Groups:
- We utilized data from 6 states participating in the HIV/AIDS Cancer Match Study (1996-2010) and corresponding general population mortality data from the National Center for Health Statistics (1996-2010).
- We compared mortality rates in 4 groups:
  1. The general population (no HIV/no cancer)
  2. HIV population (HIV/no cancer)
  3. Cancer patients (cancer/no HIV)
  4. HIV-infected cancer patients (HIV/cancer)

Statistical Analyses:
- We assessed mortality using an additive Poisson model with one term each for: (1) HIV, (2) cancer, and (3) interaction for combined effect of HIV and cancer.
- We tested the statistical significance of this interaction term to determine whether patients diagnosed with both diseases experienced significant excess mortality.

No excess indicated by ‘—’; we observed no excess mortality for HIV-infected men diagnosed with prostate cancer across age and race.

KEY FINDINGS

- In the HAART era, US patients diagnosed with both HIV and cancer experienced excess mortality due to this deadly combination of diseases.
- This excess mortality was observed for patients diagnosed with 6 of the 7 cancers evaluated, including both ADCs (e.g., NHL) and NADCs (e.g., lung cancer).
- Excess mortality was particularly acute in younger patients and HIV-infected men with lung cancer.