Cancer Survival Differences Persist Across Cancer Treatment Modalities Among People With HIV

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BACKGROUND

- The presence of HIV infection at the time of cancer diagnosis is associated with an increase in cancer-related mortality compared to cancer patients without HIV (PWoH).
- A direct immune-modulatory impact of HIV on tumorigenesis may enhance disease progression in cancer patients with HIV.
- We hypothesized that despite receiving comparable treatments, cancer survival differences would persist in people with HIV (PWH), even for patients diagnosed with better prognosis tumors.
- We aimed to compare survival differences between cancer patients with versus without HIV across specific cancer treatment modalities administered to earlier stage (Stages I-II) disease.

METHODS

- We used the National Cancer Database (NCDB) 2004-2020 to identify PWH and PWoH with an incident diagnosis of stage I-II cancers of the lung, prostate, anus, or breast.
- Survival was described as the percentage of patients alive at five years after cancer diagnosis within cancer treatment modality (surgery, radiation, systemic therapy, or combinations of these therapies) and compared using log-rank tests.

People living with HIV were less likely to be alive five years after diagnosis with early-stage lung, prostate or breast cancer than people without HIV even when they received similar cancer treatments.

RESULTS

- Compared to PWoH (n = 2,749,178), PWH (n = 7,022) had lower-5-year survival rates across most treatment modalities for each cancer site included (Figure 1).
- At five years, the proportion of cancer patients who remained alive was lower among PWH compared to PWoH for lung (29.6% vs. 39.9%), prostate (72.0% vs. 76.9%), and breast cancer (57.6% vs. 74.2%), with no difference for anal cancer (59.4% vs. 59.5%).
- This difference in five-year survival comparing PWH and PWoH reached statistical significance for multiple treatment approaches within each cancer site (Figure 1).

CONCLUSIONS

- HIV-associated survival differences are evident in cancer patients with newly diagnosed early-stage tumors receiving comparable treatments.
- Within this cohort of people with early-stage tumors, there were significant differences in survival within several treatment modalities for the same primary tumor site.
- Non-HIV medical comorbidities, performance status, and health-related social needs are important confounders to consider in future analyses of this dataset.

Survival differences were noted across equivalent treatment modalities.

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Figure 1: Percent survival at 5 years for lung (a), anal (b), prostate (c), and breast (d) cancer patients with and without HIV compared across treatment modalities.

