

The HIV & Eng/aging Project: How HIV Impacts Recurrent Cardiovascular Events in a Population-Based Cohort in British Columbia

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Background

- Cardiovascular Disease (CVD): leading cause of mortality & **notable cause of death among People Living with HIV (PLWH)** over the age of 55 in Canada.¹
- Recurrent CVD events are underexplored, especially among PLWH, which is a population that **may face an elevated risk of repeated events.**^{1,2,3}
- Current studies do not consider the **impact of social structural characteristics.**^{2,4}

Objective

- We used a collaborative, community-led approach to examine **how HIV status affects the likelihood of remaining free from a subsequent CVD event** among PLWH and people without HIV (PWoH) who have had an initial (index) CVD event in British Columbia (BC).

Methods

Study population & data

- From April 1st, 1992, to March 31st, 2020, PLWH and a 10% random sample of all PWoH in BC aged ≥19 years were followed using linked administrative health data from the COAST study at the BC Centre for Excellence in HIV/AIDS Drug Treatment Program and other databases through Population Data BC.
- We restricted the study sample to those who experienced at least one CVD event.

Definitions

- CVD outcomes were identified using ICD diagnostic codes from emergency department visits or inpatient hospitalizations (with a CVD-related diagnostic code classified as the 'most responsible diagnosis').
- Recurrence-free time:** the time between an acute index CVD event and a recurrent event, or until the end of follow-up for those that did not experience a recurrent event.

Statistical analysis

- Multivariable Cox proportional hazards models were used to assess the impact of HIV status on recurrence-free time after the index CVD event.

Additional Information

References:

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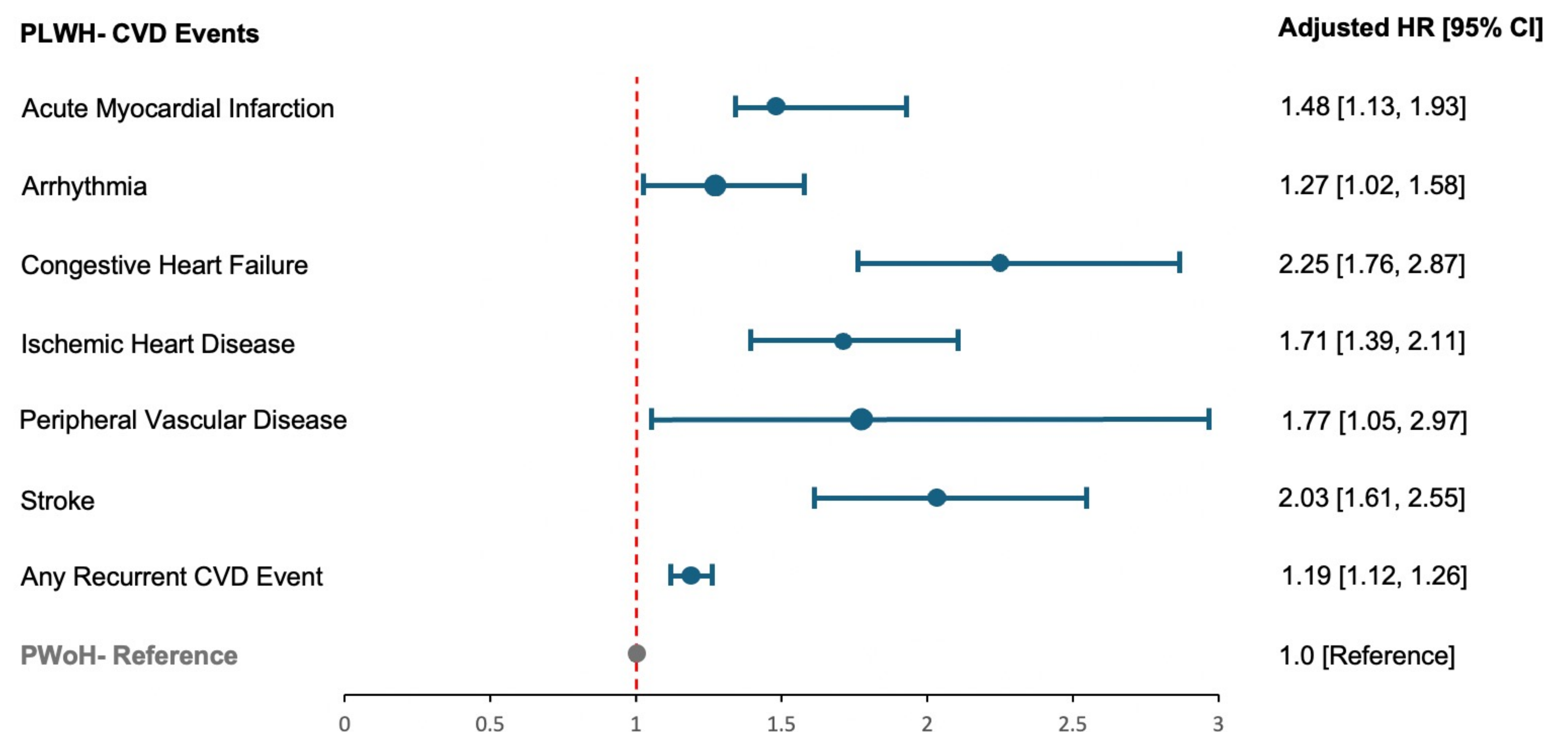
Disclaimer: Further information on the data sets used for this project is at: (https://my.popdata.bc.ca/project_listings/18-223/collection_approval_dates). All inferences, opinions, and conclusions drawn in this material are those of the author(s), and do not reflect the opinions or policies of the Data Steward(s)

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Results

Figure 1: Adjusted hazard ratios for recurrent cardiovascular events among People Living with HIV (PLWH) compared to people without HIV (PWoH)



*Adjusted for age, sex, regional health authority, income assistance, depression, diabetes, hypertension, and hyperlipidemia.

- During follow-up, **1,239 PLWH** and **59,891 PWoH** experienced an index CVD event, and among them, **447 (36%) PLWH** and **29,068 (49%) PWoH** went on to have a recurrent CVD event.
- The proportion of males among PLWH was higher (82%) compared to PWoH (53%), and **PLWH were younger** (median age = 54 years [Q1,Q3: 47-62] compared to 69 years for PWoH [Q1,Q3: 57-79]; $p < 0.001$).
- PLWH had a shorter time between index and recurrent CVD events**, with a median time of 1.00 year (Q1,Q3: 0.22-3.30) compared to 1.68 years (Q1,Q3: 0.31-5.05) for PWoH.
- PLWH are **more likely to have any type of recurrent CVD event** compared to PWoH (see figure 1).

Conclusion

- PLWH are more likely to have any type of recurrent CVD event** compared to PWoH after accounting for sociostructural factors and have **shorter periods of recurrence-free time.**
- This demonstrates the need for targeted secondary prevention efforts that address both medical and social determinants of cardiovascular health among PLWH.
- Our peer researchers highlight the importance of holistic cardiovascular research for PLWH to improve recurrence-free survival in this population.