

## **CROI 2019 PRESS CONFERENCE ABSTRACTS**

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#### **SUDDEN CARDIAC DEATH AMONG HIV-INFECTED AND -UNINFECTED VETERANS**

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#### **Background:**

We have reported HIV infection as a risk factor for sudden cardiac death (SCD) in San Francisco County, but to date this association has not been examined in larger populations using chart-reviewed events. Here we examine the association between HIV infection and SCD in a large, national, cohort of HIV infected (HIV+) and uninfected veterans

#### **Methods:**

We analyzed data on 144,362 Veterans (30% HIV+) from the Veterans Aging Cohort Study, a prospective study of HIV+ veterans and age, sex, race/ethnicity and clinical site matched uninfected veterans. We followed veterans from their first clinical encounter on or after 4/1/2003 until SCD, non-SCD death, or censoring on 12/31/2014. Sudden cardiac death was determined using death certificates and manual review of the VA electronic health record (EHR). To meet our SCD definition, participants had to have cardiac cause of death on their death certificate. SCD was excluded for deaths in a hospital, hospice, or nursing home, or due to accidents, overdose, suicide, or homicide. SCD was also ruled out if in the year prior to death, EHR review revealed metastatic cancer or active treatment for cancer, use of high flow oxygen or dialysis, an AIDS defining illness, CD4<50 cells/mm<sup>3</sup> within 6 months before death, DNR/DNI, a new significant health condition one month before death, or a life altering event within one year if this event resulted in an end stage disease or severe disability. We calculated rates of SCD by HIV status and used Cox proportional hazards regression to model the association between HIV infection and SCD, adjusting for demographics, prevalent cardiovascular disease, SCD risk factors, and possible confounders. In secondary analyses we compared SCD incidence in HIV+ subgroups defined by time-updated viral load and CD4 cell count to HIV uninfected veterans.

#### **Results:**

Participants had a mean age of (50 ±10.7 years), were mostly male (97.2%) and African American (47.3%) and were followed for a median of 9.0 years. After adjustment for demographics, prevalent cardiovascular disease, SCD risk factors, and other possible confounders, HIV+ veterans had a 14% higher risk of SCD (hazard ratio=1.14, 95% confidence interval 1.04-1.25) compared to uninfected veterans. The risk was highest among those with sustained high HIV viral loads or low CD4 cell counts (Table).

#### **Conclusion:**

HIV infected people have an increased risk of sudden cardiac death compared to uninfected people when they have sustained unsuppressed HIV viremia or low CD4 cell counts.