**LEFT VENTRICULAR DYSFUNCTION PREDICTS SUDDEN CARDIAC DEATH IN A LARGE HIV-POSITIVE COHORT**

ACC Moderated Poster Contributions
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**Background:** Cardiovascular disease has become an increasingly important health concern for HIV-infected individuals as survival improves. We have previously characterized all deaths over a 10-year period in a large urban HIV-positive cohort and determined that sudden cardiac death (SCD) comprises a surprisingly large proportion of all deaths. The risk factors and mechanisms for this phenomenon have yet to be ascertained. We therefore sought to evaluate the potential association between left ventricular (LV) function and SCD in this population.

**Methods:** We previously identified 230 deaths after evaluating records of 2860 consecutive patients followed at a public HIV clinic in San Francisco, CA between April 2000 and August 2009. These deaths were classified as SCD, AIDS-related, or due to natural causes by standardized published criteria. We then searched all deaths for any echocardiographic evaluation prior to death. LV systolic function, diastolic function, pulmonary artery systolic pressure, and LV mass were analyzed. LV function was dichotomized as normal or mildly reduced versus moderately or severely reduced. LV diastolic function was dichotomized as normal (normal or impaired relaxation) or abnormal (pseudonormal or restrictive).

**Results:** 13 of 30 (43%) SCDs and 52 of 131 (39%) AIDS deaths had pre-mortem echocardiographic evaluation, a mean of 566.2 days and 365.2 days prior to death, respectively. All subjects had evaluation of systolic function and 8 of 13 (62%) SCDs and 35 of 52 (67%) AIDS deaths had evaluation of diastology. Compared to AIDS deaths, SCDs were 6-fold more likely to have moderate or severe left ventricular systolic dysfunction (OR 5.95, 95% CI 1.5 - 23.5, p=0.004) and diastolic dysfunction (OR 32.5, 95% CI 2.39 - 423.91, p<0.0001). We found no between group differences in mean pulmonary artery systolic pressure (p=0.77) or presence of left ventricular hypertrophy (p= 0.23).

**Conclusions:** In this large urban cohort of HIV infected individuals, pre-mortem LV systolic and diastolic dysfunction and predicted sudden cardiac as opposed to AIDS death. Further investigation is needed to thoroughly characterize risk factors for SCD in this high-risk population.