328. Kaposi Sarcoma in High Population ART Utilization Setting: An Observational Study in Botswana

Kristen Hysell, MD1; Zola Musimar, Oncology registrar2; Shekinah N C. Elmore, MD, MPH3; Mukendi K. A. Kayembe, MD4; Gita Suneja, MD5; Jason Efstathiou, MD1; Carrie Kovarik, MD6; Karolyn Wanat, MD9; Christa Slaught, MD8; Virginia A. Triant, MD9; Shahin Lockman, MD3; and Scott Dryden-Peterson, MD, MSc10; 

1Massachusetts General Hospital, Boston, Massachusetts; 2Nil, Boston, Massachusetts; 3Harvard Radiation Oncology Program, Dedham, Massachusetts; 4National Health Laboratory, Laval, QC, Canada; 5Duke University, Durham, North Carolina; 6Perelman School of Medicine at the University of Pennsylvania, Philadelphia, Pennsylvania; 7Medical College of Wisconsin, Milwaukee, Wisconsin; 8David Geffen School of Medicine at UCLA, Los Angeles, California; 9Brigham and Women's Hospital, Harvard T.H. Chan School of Public Health, Boston, Massachusetts; 10Brigham and Women's Hospital, Harvard T.H. Chan School of Public Health, Botswana Harvard AIDS Institute, Boston, Massachusetts

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**Background.** Despite population antiretroviral treatment (ART) utilization exceeding UNAIDS 90-90-90 targets, Kaposi sarcoma (KS) remains one of the most prevalent malignancies in Botswana. We sought to examine the characteristics and outcomes of KS in the context of high ART utilization.

**Methods.** Consenting patients at one of four oncology centers for KS treatment were enrolled prospectively (October 2010 to March 2019) and followed quarterly for 5 years. Survival was estimated using Kaplan–Meier estimator and predictors assessed with Cox proportional hazards modeling.

**Results.** A total of 408 KS patients were enrolled and of those, 396 (97%) were HIV-positive and included in analyses. Median age at diagnosis was 40 years (IQR: 34.1, 46.7) and 247 patients (62%) were male. The median CD4 cell count at the time of KS diagnosis was 253 cells/mL (IQR: 134, 364) and 279 (73%) were receiving ART at the time of KS diagnosis. Among those on ART, the median duration of ART prior to KS diagnosis was 11.9 months (IQR: 2.7, 46.7). The proportion receiving ART prior to KS increased during the surveillance period from 58% to 80% ($P < 0.001$). Of the 248 (62.6%) patients with recent measurement, 91% had HIV-1 RNA < 1000 copies/mL. Five-year overall survival was 73% (95% CI 68–78%). In multivariable analysis, Female sex and higher income were associated with improved survival, but not age or CD4 cell count. The duration of ART was significantly associated with survival ($P = 0.02$), with improved survival for individuals on ART < 6 months compared with longer ART (HR 0.54; 95% CI 0.29–0.98). The incidence of KS cases declined by nearly 50%, but has remained relatively stable since 2015.

**Conclusion.** Survival rates in this cohort were comparable to other KS cohorts. While KS treatment initially declined with ART expansion, KS remains a significant disease burden in Botswana with 80% of cases occurring among individuals receiving ART.
individuals with a diagnosis of HIV and Kaposi’s sarcoma between January 1, 2009 and December 31, 2018 based on ICD-9/10 codes. We collected demographic information, HIV history, variables related to HIV and KS diagnosis, treatment and outcomes data for each patient. We calculated hazard ratios using Cox proportional hazards modeling.

Results. We identified 252 patients with KS. 95% of patients were male, and the majority were MSM (men who have sex with men); 77% of all patients). 35% of patients were Hispanic, 34% were African-American and 31% were Caucasian. Over half (56%) of patients were funded through Ryan White or were uninsured. The median CD4 count and viral load at the time of cancer diagnosis were 44 and 73,450, respectively. Twenty-four percent of patients were confirmed to have died by the end of the study frame. However, due to loss to follow-up, 35% of the cohort had an unknown vital status at the time of the final chart review. Variables most strongly associated with mortality were ≥2 hospitalizations in the first 6 months of cancer diagnosis (aHR=4.93, P = 0.0003), IV drug use (aHR=3.64, P = 0.0099), and T1 stage of KS (aHR=2.13, P = 0.0264). African American patients had lower survival than Caucasian or Hispanic patients, with a 5-year survival of 69%, 81% and 80% respectively, although this did not reach statistical significance (aHR 1.77, P = 0.1396).

Conclusion. We describe a large cohort of patients with HIV and HHV-8-related disease, who are predominantly of minority race/ethnicity, uninsured, and have advanced HIV disease. Factors associated with mortality include Black/African-American ethnicity, number of hospitalizations, IV drug use and T1 stage of KS. Our mortality analysis is limited due to high loss to follow-up rates, so we suspect overall mortality in our cohort is higher than currently reported.