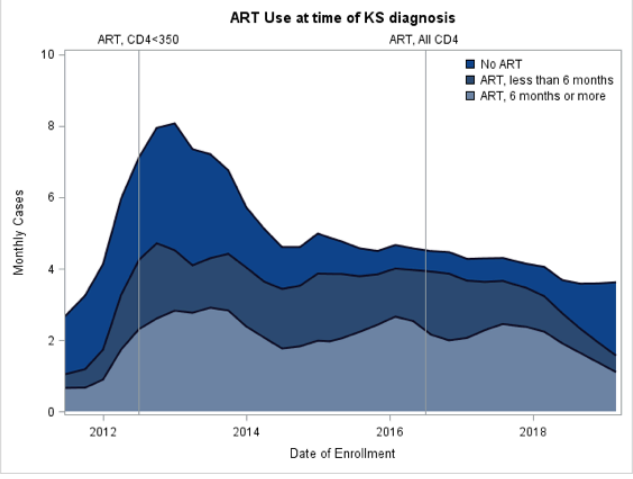
Table 1: Patient Characteristics at time of KS diagnosis

	N= 396
Median Age (IQR)	40.1 (34.1, 46.7)
Male	247 (62%)
Female	149 (38%)
ECOG Performance Status	
Good	290 (73%)
Poor	106 (27%)
Never smoker	227 (57%)
Past/present tobacco use	169 (43%)
Employed	118 (33%)
Other/student	53 (14%)
Unemployed	190 (52%)
Unknown	8 (2%)
Personal income < $50/month	215 (54%)
Personal income > $50/month	180 (46%)
Self-described ethnicity	
Tswana	264 (67%)
Kalanga	61 (15%)
San	25 (6%)
Other	46 (12%)
ACTG Stage	
1 (poor risk)	307 (78%)
0 (good risk)	54 (14%)
Unknown	35 (8%)
On ART	279 (73%)
ART <6 months	109 (39%)
ART >6 months	170 (61%)
Not on ART	108 (31%)
Median duration in months on ART (IQR)	11.9 (2.7, 46.7)
ART Regimen	
TDF/FTC/EFV	161 (42%)
ZDV/3TC/EFV	46 (12%)
TDF/FTC/DTF	32 (8%)
PI-based	10 (3%)
Other or Unknown	30 (8%)
Median CD4 count in cells/μL (IQR)	253 (134, 364).
CD4 <350 cells/μL	223 (56%)
CD4 >350 cells/μL	86 (22%)
Unknown	87 (22%)
HIV VL <1000 copies/ml	225 (57%)
HIV VL >1000 copies/ml	23 (6%)
Unknown	148 (37%)

Figure 1: Incidence of monthly new KS cases over time and ART status



Disclosures. **All authors:** No reported disclosures.

329. Health Disparities Among HIV-Positive Patients with Kaposi's Sarcoma

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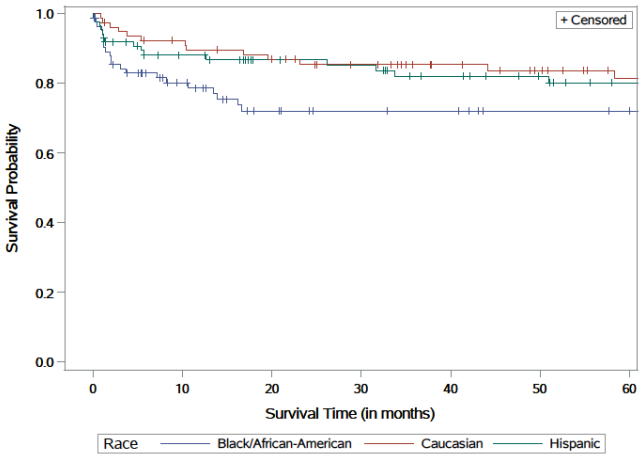
Background. Kaposi's sarcoma (KS) is an AIDS-related condition that is mediated by HHV-8. Although incidence and mortality of KS in the United States have decreased over time since the advent of HAART, there may be disparities in mortality based on geographic location and race/ethnicity, particularly African-American men in the South.

Methods. A retrospective electronic medical record review was conducted using integrated inpatient and outpatient data in EPIC from PHHS. We included all 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. 24% of patients were confirmed to have died by the end of the study time 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=3.61, P = 0.0009), 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 lost to follow-up rates, so we suspect overall mortality in our cohort is higher than currently reported.



Disclosures. Ank E. Nijhawan, MD, MPH, Gilead Sciences, Inc.: Research Grant.

330. Survival of HIV-Positive Patients with Hemophagocytic Lymphohistiocytosis

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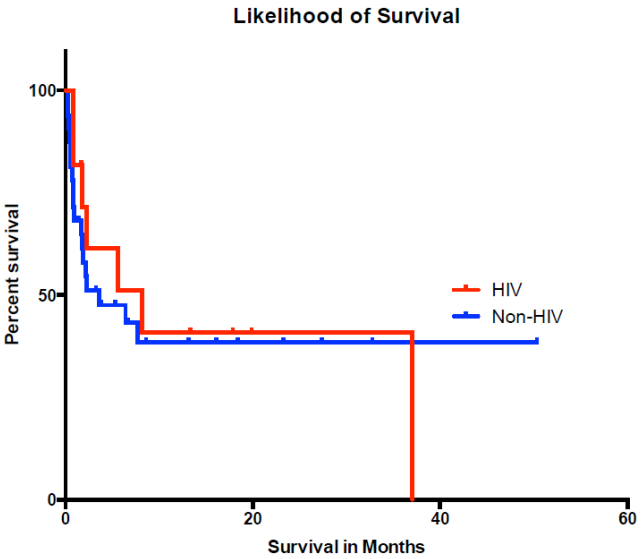
Background. Hemophagocytic lymphohistiocytosis (HLH) is a rare but life-threatening disorder resulting from dysregulated cytokine production. The diagnosis of HLH requires five of eight abnormalities: fever, splenomegaly, bicytopenia, hypertriglyceridemia and/or hypofibrinogenemia, hyperferritinemia, hemophagocytosis on biopsy, low or absent NK cell activity, or elevated soluble CD25. The link between Human Immunodeficiency Virus (HIV) and HLH is incompletely understood; we sought to further define the characteristics and outcomes of this patient population.

Methods. We performed a retrospective study on HLH patients with and without concurrent HIV infection treated at our institution from January 2008 to July 2018. At the time of HLH diagnosis, we extracted data on the HIV status and associated malignancies. The primary outcome was overall survival from time of diagnosis of HLH in patients with HIV vs. those without HIV. Secondary analysis was performed with survival by HIV and malignancy status. Survival was analyzed by Kaplan–Meier curves with hazard ratios calculated using the log-rank test with significance set at $P \leq 0.05$.

Results. Forty-three patients were included; 11 had HIV at the time of diagnosis of HLH and all met criteria for AIDS at time of inclusion. Patients with HIV who were diagnosed with HLH had similar survival compared with patients without HIV (Hazard ratio for death (HR) 0.87 [95% confidence interval (CI) 0.37–2.904]). All patients with malignancy had a worse survival (HR for death 3.648 [95% CI 1.804–9.169] P = 0.0009), regardless of HIV status. HLH in HIV patients with malignancy resulted in a trend toward worse survival (HR = 3.86 95% CI 1.09–22.60, P = 0.0578) compared with those without malignancy, although the limited number of patients prohibits a definitive conclusion. In HIV-negative patients, the presence of malignancy is associated with worse survival (HR 3.56 [95% CI 1.475–10.11] P = 0.0063).

Conclusion. In this retrospective, single-institution review of HLH patients, HIV was not associated with worse overall survival compared with patients without HIV. The presence of malignancy resulted in worse survival in the overall population. Further investigation is needed to optimize the care of these patients.



Disclosures. **All authors:** No reported disclosures.

331. Five Cases of Hemophagocytic Lymphohistiocytosis in Patients with HIV: A Fulminant and Lethal Combination

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Background. Hemophagocytic lymphohistiocytosis (HLH) is a rare disorder that can be either primary (genetic) or secondary (reactive) in etiology. Diagnosis can be elusive, especially in patients with HIV infection.

Methods. Medical records were reviewed for 5 patients with HIV infection and the diagnosis of HLH. Standard and alternative criteria were utilized to establish the diagnosis.

Results. Five patients with HIV infection had clinical criteria for the diagnosis of HLH. Ages ranged from 33–70 years and 4 were males. All five presented with fevers, cytopenias, and markedly elevated ferritin levels (table). All of the patients had CD4 levels of < 200 cells/μL. Evidence of hemophagocytosis was found on bone marrow examination in 3 patients. Inciting conditions included *Pneumocystis jiroveci* infection, EBV infection, lymphoma, and multiple myeloma. All patients received broad-spectrum antimicrobial as well as immunosuppressive therapy. Despite aggressive treatments, all patients died within one month of presentation.

Conclusion. In patients with underlying HIV infection, HLH can be a difficult diagnosis to establish. Mortality rates can be high, even with prompt recognition and therapy. The finding of fever and cytopenia in a patient with HIV infection should prompt the clinician to determine a ferritin level. If markedly elevated, the diagnosis of HLH should be aggressively pursued.

	Case 1	Case 2	Case 3	Case 4	Case 5
Fever (°C)	39.3	39.7	38.4	38.4	39.4
Splenomegaly	Absent	Yes	No	No	Yes
Cytopenias (≥ 2 cell lines)	Yes	Yes	Yes	Yes	Yes
Triglycerides (mg/dL)	288	146	Not done	222	286
Ferritin (ng/mL)	13,214	>16,500	8,356	12,964	5,891
Hemophagocytosis	Yes	Yes	No	Yes	No
Aminotransferase (U/L)	110	51	44	476	2728
CD4 (cells/μL)	100	11	5	75	117
HIV level (copies/mL)	<50	63	Not done	$>10^6$	<50

Disclosures. **All authors:** No reported disclosures.

332. Exploring the Prevalence and Characteristics of Weight Gain and other Metabolic Changes in Patients with HIV Infection Switching to Integrase Inhibitor Containing ART

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Session: 44. HIV Complications: Cardiovascular, Metabolic, and Other Complications
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Background. Excessive weight gain in patients living with HIV (PLWH) can have considerable health-related consequences. Recent observational studies suggest that patients initiating or switching to integrase strand transfer inhibitor (INSTI)-based antiretroviral therapy (ART) may experience weight gain. The prevalence and extent of weight gain as well as the presence of other metabolic changes following switches to INSTI-based ART remain unclear.

Methods. This retrospective study evaluated changes in weight, body mass index (BMI), cholesterol and hemoglobin A1C in virologically suppressed PLWH who switched from non-INSTI to INSTI-based ART at a single academic medical center from May 2015 to December 2017. Adult patients on non-INSTI-based ART for ≥1 year before switching to INSTI-based regimens were included. Body weight, BMI, cholesterol and A1C values were collected for the year prior to and 18 months following the switch. The unadjusted distributions of pre- and post-switch values were compared with the Wilcoxon signed-rank test and predictors of weight gain were determined with simple linear regression.

Results. A total of 90 patients met criteria for analysis (Table 1). In unadjusted analyses, there were significant increases in weight and BMI (each $P \leq 0.001$, Table 2), but not cholesterol or A1C values following switches to INSTI-based ART (Table 3). On average, patient weight increased by 2.2 kg after switching, though 26% of patients gained ≥4.5 kg. Patients switching from non-nucleoside reverse transcriptase inhibitors vs. protease inhibitors had numerically greater mean increases in weight (Table 3). A similar trend occurred for those switching to elvitegravir as opposed to dolutegravir. In the linear regression model, neither pre-switch nor post-switch ART components were identified as predictors for weight gain. This was also true for differences in gender, race, and pre-switch BMI. Increasing age was protective against weight gain in the model.

Conclusion. Weight gain in patients switching to INSTI-based ART observed in this analysis did not correspond to changes in cholesterol or glycemic control. Some patients receiving INSTIs in this sample gained substantial amounts of weight. The mechanisms and risk factors for substantial weight gain require further study.

Table 1: Demographic Summary

Characteristic	Total (N=90)
Mean age – years (range)	49.5 (28-75)
Male sex - %	83.3
Race - %	
African American	54.4
Caucasian	33.3
Mean years of HIV infection at switch (range)	12.9 (2-30)
Mean number of previous regimens (range)	1.7 (1-7)
Mean years on previous regimen (range)	7.0 (1-21)
Pre Switch BMI Category - %	
Underweight	2.2
Normal	30.0
Overweight	42.2
Obese	25.6

Table 2: Weight Changes in Kilograms

Group	Pre Switch Weight	Post Switch Weight	Weight Change
Total (N=90)	84.6 (42.6-152.0)	86.8 (41.6-151.5)	2.2* (-7.7-16.8)
Pre-Switch Regimen			
Non-nucleoside reverse transcriptase inhibitor based (N=40)	91.0 (58.1-152.0)	93.7 (61.1-152.0)	2.7 (-7.71-16.8)
Protease inhibitor based (N=47)	80.4 (46.8-112.3)	82.3 (45.9-113.6)	1.8 (-6.94-12.1)
Other (N=3)	64.2 (42.6-81.8)	64.2 (41.6-82.5)	0.1 (-1.09-0.67)
Post-Switch INSTI			
Elvitegravir (N=33)	82.4 (42.6-128.9)	85.1 (41.6-133.4)	2.7 (-5.2-12.1)
Dolutegravir (N=57)	85.9 (46.8-152.0)	87.7 (45.9-151.5)	1.8 (-7.7-16.8)

*P<0.001

Table 3: Metabolic Changes

Characteristic	Pre-Switch	Post-Switch	Change	p-value
Total Cholesterol (n=79)	185.3 (111.5-350.5)	190.1 (115.0-342.0)	5.0 (-118.50-205.5)	0.654
HDL Cholesterol (n=79)	48.4 (26.0-88.0)	49.8 (27.7-111.0)	1.2 (-26.5-32.0)	0.362
LDL Cholesterol (n=78)	107.4 (36.0-385.33)	113.3 (32.0-557.0)	4.9 (-117.5-171.7)	0.499
Triglycerides (n=79)	168.7 (37.0-790.0)	164.0 (42.5-472.0)	-4.9 (-525.9-231.0)	0.876
Hemoglobin A1C (n=25)	6.2 (5-12)	5.9 (4.5-13.3)	0.3 (-2-6)	0.098

Disclosures. **All authors:** No reported disclosures.