

Results. The proportion of AIDS-related deaths decreased markedly between 1995 and 2017, while the proportion of deaths from non-AIDS cancers has increased (figure). Patients with non-AIDS cancers were older, had a higher CD4 count and greater proportion with undetectable viral load, and were more likely to be male; over 80% were current or prior smokers (table). Among all deaths from 2013 to 2017, 44% of eligible patients received colon cancer screening, 66% received cervical cancer screening, and 29% received breast cancer screening. Of patients who died from HCC, one out of six had imaging for HCC within 1 year and none within 6 months of diagnosis.

Conclusion. Improvements in cancer screening and preventative health measures including smoking cessation and lifestyle improvement education may help to reduce the increasing proportion of non-AIDS cancer-related deaths among PLWH.

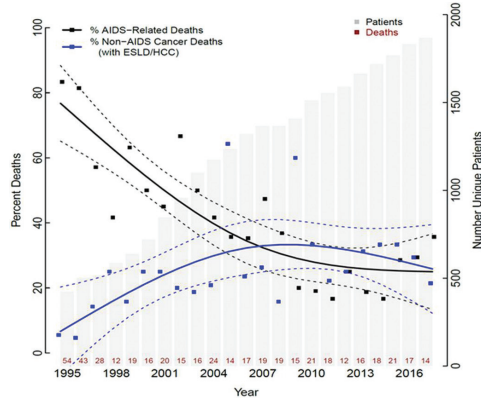


Figure: Proportion of deaths from AIDS-related causes (black line) compared to non-AIDS related cancer deaths (blue line), including end stage liver disease (ESLD). Total clinic population in gray bars; total deaths/year in red font.

Characteristics by Cause of Death (2013–2017)

	HIV-Related	Cancer †	P-value
N	22	24	
Age at death	50 (44, 56)	56 (53, 61)	0.03
Last available CD4	72(15, 249)	207(94, 301.5)	0.02
Last available viral load < 50 copies	5 (23)	16 (67)	0.004
CD4 Nadir	18(7, 110)	77(35, 126)	0.2
Male	14 (64)	23 (96)	0.009
Smoking within 1 year of death	9 (41)	13 (54)	0.8
Smoking, quit 1-15 years prior to death	5 (23)	6 (25)	
Smoking, quit > 15 years prior to death	1 (5)	1 (4)	
Never smoked	7 (32)	4 (17)	

*Median (IQR) or n (%).

† Most common: HCC (6), head/neck (4), prostate (3).

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2245. Primary Central Nervous System Lymphoma in Patients with HIV and Non-HIV: Should We Treat Them Differently?

Dima Dandachi, MD¹; Quinn Ostrom, M.P.H, PhD²; Insun Chong, MD²; Melissa Bondy, PhD²; Jose Serpa, MD, MS³; Rivka Colen, MD⁴ and Fanny Morón, MD⁵; ¹Department of Medicine, Section of Infectious Diseases, Baylor College of Medicine, Houston, Texas, ²Baylor College of Medicine, Houston, Texas, ³Section of Infectious Diseases, Department of Medicine, Baylor College of Medicine, Houston, Texas, ⁴Department of Diagnostic Radiology, Division of Diagnostic Imaging, The University of Texas, MD Anderson Cancer Center, Houston, Texas, ⁵Department of Radiology, Baylor College of Medicine, Houston, Texas

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Background. Primary central nervous system lymphoma (PCNSL) is a rare type of non-Hodgkin lymphoma, mostly diffuse large B-cell type. In patients living with HIV (PLWH), PCNSL is associated with Epstein-Barr virus. The optimal diagnostic and prognostic tools, and treatment are yet to be defined. PLWH are typically excluded from prospective studies. The management of PCNSL is adopted from immunocompetent patients.

Methods. We retrospectively reviewed 122 PCNSL cases presenting to MD Anderson Cancer Center from 2000 to 2016 (n = 84) and Ben-Taub Hospital from 2012 to 2016 (n = 38) to evaluate and compare the clinical characteristics, management, and clinical outcomes in patients with or without HIV infection.

Results. Among 122 PCNSL cases, 21% had positive HIV test, of those, 89% had CD4 < 200 and 77% were not on antiretrovirals and not virally suppressed. PLWH were significantly younger (37 vs. 62 years, P < 0.01), and more likely to be African-Americans (61% vs. 7%; P < 0.01) and males (73% vs. 50%; P = 0.04) than non-HIV patients. There

were no differences in presenting symptoms, ocular involvement, B-symptoms, and deep brain involvement. PLWH were more likely to have multiple brain lesions (69% vs. 44%, P = 0.02). Immunohistochemistry prognostic markers and the International Extranodal Lymphoma Study Group (IELSG) prognostic score were not different between HIV and non-HIV patients. Nevertheless, treatment strategies varied significantly. PLWH were more likely to receive whole brain radiation therapy as sole treatment (65% vs. 4%) and palliative care (12% vs. 2%), and less likely to receive chemotherapy (23% vs. 94%) (P < 0.01). Also, 13% of the patients (all non-HIV) underwent autologous stem cell transplant. Most PLWH (88%) started antiretroviral therapy after diagnosis. Higher IELSG score was an independent predictor of mortality in multivariate regression analysis. The 2-year survival did not differ between PLWH and non-HIV patients [46% (30–72%) vs. 61% (52–72%) (P = 0.12)].

Conclusion. Variation in the treatment of PCNSL between HIV and non-HIV patients is not fully explained by baseline characteristics and prognostic factors. More efforts are needed to identify causes underlying these disparities and ways to alleviate them.

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2246. Assessment of Factors Impacting Cervical Cancer Screening Rates Among Urban Women Living with HIV/AIDS

Nicole Reynoso-Vasquez, Medical Student¹; Pooja Kothari, Medical Student¹; Anna Haywood, RN²; Baljinder Singh, MA³; Shoba Swaminathan, MD³ and Michelle DallaPiazza, MD³; ¹Rutgers New Jersey Medical School, Newark, New Jersey, ²Infectious Diseases Practices, Rutgers New Jersey Medical School, Newark, New Jersey, ³Department of Medicine, Division of Infectious Diseases, Rutgers New Jersey Medical School, Newark, New Jersey

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Background. Although cervical cancer disproportionately affects women living with HIV, achieving high cervical cancer screening rates for this population continues to be a challenge. In our urban HIV clinic caring for ~700 women, the baseline annual on-site screening rate was only 68% in 2017. The goal of this study was to identify factors related to low rates of screening in order to inform quality improvement efforts.

Methods. Over the time period of January 1, 2015 and June 30, 2017, we conducted a retrospective chart review of 185 randomly selected women with HIV. We collected data on cervical cancer screening adherence according to the screening guidelines provided by the Department of Health and Human Services. Correlations between clinical and demographic factors and patterns of cervical cancer screening were analyzed using chi square and logistic regression.

Results. During the review period, 68 (37%) patients completed two annual cervical cancer screenings, 96 (52%) completed 1, and 21 (11%) completed none. Of those completed, 22% were abnormal. When follow-up colposcopy was indicated, 18 of 42 (42%) women completed colposcopy within 6 months. Patients with screening rates lower than recommended were more likely to have substance use disorders and be uninsured (P < 0.05). Factors significantly associated with adherence to screening guidelines included history of an abnormal pap test, current antiretroviral therapy, and more than four HIV-related primary care visits per year. Age and HIV viral load between the groups were not significantly different.

Conclusion. In this urban HIV clinic cohort, a high proportion of women completed at least one cervical cancer screening test over a 2-year period, a promising result in the setting of a recent change in cervical cancer screening guidelines recommending less frequent testing. However, a smaller proportion completed colposcopy when indicated. The strongest predictors of low adherence to the guidelines were substance use disorder and lack of insurance. The next phase of this project will include a review of cervical and anal cancer screening rates among women, as well as patient surveys to determine quality improvement strategies that may further enhance acceptability and access to cervical and anal cancer screening and prevention.

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2247. Antiretrovirals Perturb Cholesterol Biosynthesis in PBMCs of HIV-Infected Individuals

Anuoluwapo Sopeyin, BA; Min Li, PhD and Elijah Paintsil, MD; Pediatric Infectious Disease, Yale University School of Medicine, New Haven, Connecticut

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Background. Although antiretroviral therapy (ART) has resulted in a marked decrease in AIDS-related morbidity and mortality, the therapeutic benefit is often limited by side effects such as metabolic derangement, lipodystrophy, hyperlipidemia and cardiovascular diseases. The underlying mechanisms of these toxicities are not well understood. With a high prevalence of metabolic syndrome, we investigated the effect of ART on cholesterol biosynthesis.

Methods. A case-control study of ART-induced toxicity was conducted. Cases comprised HIV-infected individuals (N = 16) on ART with viral loads averaging 20 copies/mL. Cases were matched to HIV-uninfected controls (N = 16) by age, sex, and race/ethnicity. RNA was isolated from PBMCs after which qRT-PCR was performed. Wilcoxon Rank Test was used to evaluate significance (P < 0.05). The cholesterol regulation genes that were studied include: sterol regulatory element-binding protein 2 (SREBP2, sensory control), HMG CoA reductase (HMGCR, de novo synthesis), low density lipoprotein receptor (LDLR, uptake) and ATP-binding cassette transporter member 1 (ABCA1, efflux), AMP-activated protein kinase A1 and B2 (AMPKA1 and AMPKB2, markers of cellular energy status) as well as NR1H3 (also known as LXRA-liver x receptor alpha, a precursor to ABCA1).

Results. The age of participants ranged from 33 to 66 years; 69% males and 31% females. The ethnicity comprised of 25% Non Hispanic whites, 6% Hispanic white and