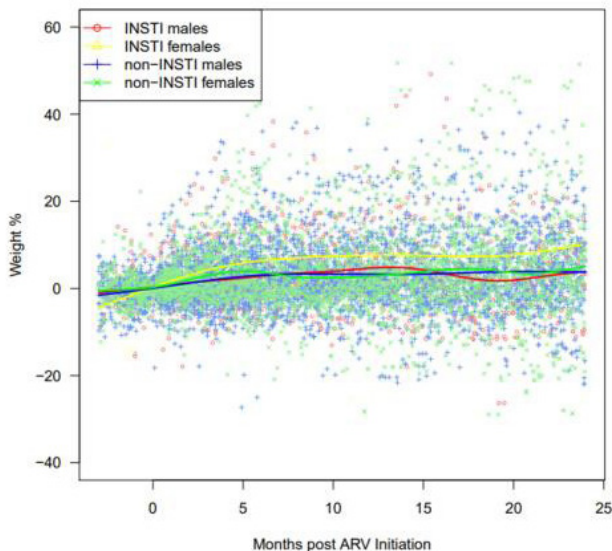


Figure 1: Percentage weight change from baseline at ART initiation between InSTI and non-InSTI regimens



Conclusion. Females have higher InSTI-associated weight gain which suggests they may be more susceptible to adverse metabolic issues. InSTI use appears to be associated with an increased incidence of DM diagnoses following ART initiation. Further prospective and controlled studies will be necessary to describe the mechanism of this effect and refine HIV management strategies.

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947. Stroke demographics and risk factor profile in HIV infected individuals in Florida

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Session: P-44. HIV: Complications and Special Populations

Background. The risk of ischemic stroke (IS) is known to be higher in people living with HIV (PLWH) than uninfected controls. However, information about the demographics and risk factors for hemorrhagic stroke (HS) in PLWH is scant. Specifically, very little is known about the differences in the stroke risk factors between HS and IS in PLWH. The goal of this study was to determine the demographics and risk factor differences between HS and IS in PLWH.

Methods. We retrospectively analyzed the demographic and clinical data of PLWH in OneFlorida (1FL) Clinical Research Consortium from October 2015 to December 2018. 1FL is a large statewide clinical research network and database which contains health information of over 15 million patients, 1240 clinical practices, and 22 hospitals. We compared HS and IS based on documented ICD 9 and 10 diagnostic codes and extracted information about sociodemographic data, traditional stroke risk factors, Charlson comorbidity scores, habits, HIV factors, diagnostic modalities and medications. Statistical significance was determined using 2-sample T-test for continuous variables and adjusted Pearson chi square for categorical variables. Odds ratio (OR) and 95% confidence intervals (CI) between groups were compared.

Results. Overall, from 1FL sample of 13986 people living with HIV, 574 subjects had strokes during the study period. The rate of any stroke was 18.2/1000 person-years (PYRS). The rate of IS was 10.8/1000 PYRS while the rate of HS was 3.7/1000 PYRS, corresponding to 25.4% HS of all strokes in the study. Table 1 summarizes the pertinent demographic and risk factors for HS and IS in PLWH in the study.

Table 1: Summary of pertinent demographic and risk factors for hemorrhagic and ischemic strokes in people living with HIV from One Florida database

	HS	IS	P-value	OR
Age(yrs.) mean(CI)	51.3 (48.5- 54.1)	57.3(55.9-58.6)	<0.001	
Gender (Male) % (CI)	65 (55.2-73.2)	62 (57.1-67.6)	NS	
Race (Blacks) % (CI)	57.7 (48.2-66.8)	65.7 (60.4-70.7)	NS	
BMI(kg/m ²) mean (CI)	25.5 (24.2-26.7)	26.6 (25.8-27.4)	NS	
ARV usage (% (CI)	19 (12.5-27.5)	29 (24.3- 34.2)	NS	
HTN (%) (CI)	62.1 (52.5-70.8)	82.7 (78.2-86.5)	< 0.001	0.34 (0.21-0.55)
CAD (%) (CI)	20.7 (13.9-29.4)	35.8 (30.7-41.2)	0.0038	0.47 (0.28-0.77)
HLP (%) (CI)	30.2 (22.2-39.5)	61.6 (56.2-66.7)	<0.001	0.27 (0.17-0.42)

Legend: HS (Hemorrhagic stroke); IS (Ischemic stroke); BMI (Body mass index); ARV (Anti-retroviral drugs); HTN (Hypertension); CAD (Coronary artery disease); HLP (Hyperlipidemia); CI (95% Confidence interval); OR (Odds ratio); NS – No difference between groups.

Conclusion. In this large Floridian health database, demographics and risk factor profile differs between HS and IS in PLWH. Younger age group is associated with HS than IS. However, hypertension, hyperlipidemia and coronary artery disease are more likely to contribute to IS than HS in PLWH. Further research is needed to better understand the interplay between known and yet unidentified risk factors that may be contributing to HS and IS in PLWH.

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948. The Changing Dynamics of Hospitalizations Among People Living with HIV Over Time

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Session: P-44. HIV: Complications and Special Populations

Background. As antiretroviral therapy for HIV has become more successful, people living with HIV (PLWH) are aging. Nearly half (48%) of all PLWH in the U.S. are now ≥ 50 years old, and this proportion is expected to continue to grow. The aging population of PLWH offers new challenges to the healthcare system beyond HIV management, with increased risks for chronic comorbidities and other complications of aging. Few studies have examined the causes and outcomes of hospitalizations among PLWH or how these diagnoses have changed over time.

Methods. Using U.S. hospitalization data from 1993 to 2014 from the National Inpatient Sample, we compared the primary diagnosis at admission among PLWH to HIV-negative hospitalizations and how this changed over time. We also compared the mean age at admission, hospital length of stay, total charges, and hospital disposition.

Results. There were 654,783,064 hospitalizations recorded from 1993 - 2014, with 5,370,749 among PLWH (0.8%) and 649,412,315 among HIV-negative patients (99.2%). The mean age of PLWH on admission increased from 37.4 years in 1993 to 48.1 years in 2014 and was lower than HIV-negative patients every year (Figure 1). There was a significant decrease in the proportion of admissions with HIV as the primary diagnosis for PLWH between 1993 - 2014 (53.1% to 24.2%) with a corresponding increase in non-HIV diagnoses over that time (Figure 2). The proportions of primary admission diagnoses for HIV-Negative patients were largely unchanged over the period. Although mean hospital lengths of stay for PLWH decreased over time, they were consistently longer than HIV-negative patients (Figure 3). Similarly, mean total charges for PLWH increased over time but were consistently higher than those for HIV-negative patients (Figure 3). The proportion of PLWH who died during hospitalization declined from a peak of 8.8% in 1993 to 2.4% in 2014 while inpatient mortality among HIV-negative patients declined from 3.2% to 2.2% over the same time.

Figure 1. Trends of Mean Age for PLWH and HIV-Negative Admissions from 1993 - 2014

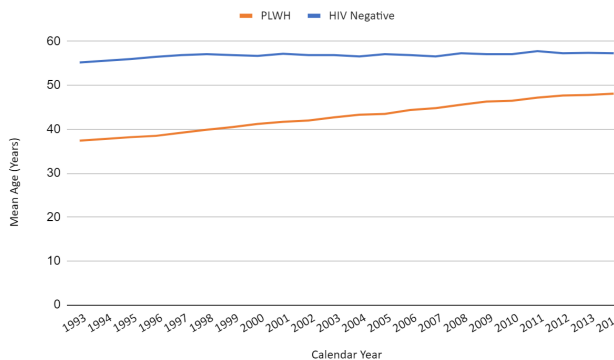


Figure 2. Trends of HIV vs. non-HIV as the Primary Admission Diagnoses for PLWH from 1993 - 2014

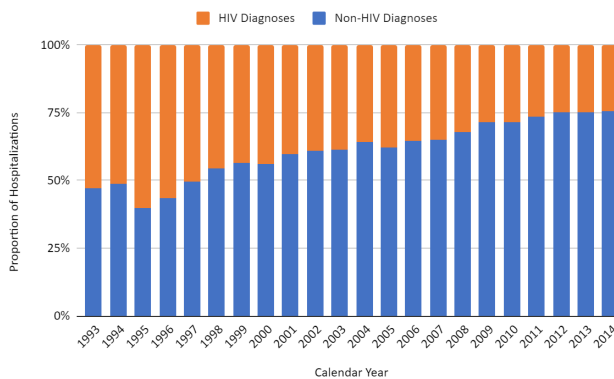
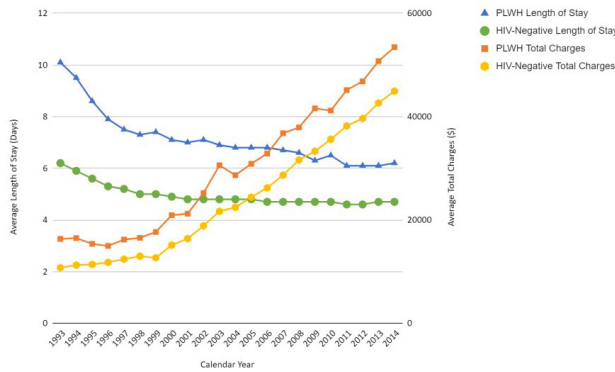


Figure 3. Trends of Length of Hospital Admission and Total Charges for PLWH and HIV-Negative Patients from 1993 – 2014



Conclusion. The primary admission diagnoses for PLWH has shifted from HIV to non-communicable causes as PLWH are living longer. PLWH are typically younger on admission and have longer and more expensive hospitalizations than HIV-negative patients.

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949. Use of Optical Coherence Tomography Angiography to Assess Microvascular Health Among Persons with HIV: Employing the Retina as a Convenient Window

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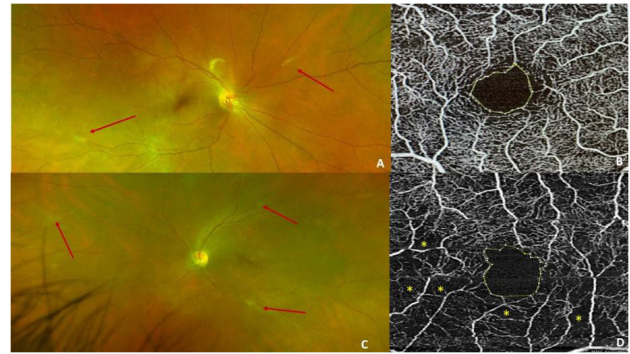
Background. Mechanisms underlying the rising burden of non-AIDS comorbidities (NACM) among persons with HIV (PWH) remain unclear. Microvasculopathy may link HIV-related chronic inflammation and premature multimorbidity, similar to diabetes and other conditions characterized by inflammatory end-organ damage. We used a novel retinovascular imaging tool, optical coherence tomography angiography (OCTA), to evaluate the retina as a convenient assessment of microvascular health among PWH.

Methods. Data from 4 PWH who underwent OCTA (Zeiss CIRRUSTM HD-OCT 5000) at the Emory Eye Center from 2018-2020 were analyzed. Demographics, HIV-specific indices and NACM were summarized at the time of OCTA. Images were reviewed qualitatively and metrics of microvascular health – the foveal avascular zone (FAZ) area and vessel density (VD) from the superficial capillary plexus (SCP) – were calculated by ImageJ.

Results. The median age was 39 years, 100% were male, 100% were black, 25% had ever smoked, and median body mass index was 25.4 kg/m². Median time since HIV diagnosis was 19 years, all patients had a history of clinical AIDS, including 2 with prior cytomegalovirus retinitis. Median current CD4 count was 84 cells/mm³, 100% were prescribed antiretroviral therapy and 50% had HIV viral suppression. Prevalent NACM included (each n=1): hypertension, dyslipidemia, diabetes, chronic kidney disease and asthma.

Qualitatively, all 7 of the eyes evaluated by OCTA had evidence of microvascular pathology: 2 eyes demonstrated diffuse capillary nonperfusion, while the remaining 5 eyes had focal areas of nonperfusion around the FAZ. Mean FAZ area was 0.31 (SD±0.10) mm² and mean VD of the SCP was 43.9% (SD±10.9%). Retinovascular pathology identified by funduscopy and OCTA is shown in the figure.

Figure. Retinal imaging of a PWH with bilateral retinal vasculitis. Fundus photos of the right (A) and left (C) eyes show retinal vasculitis highlighted by the red arrows. OCTA of the right (B) and left (D) maculae (3X3 scan Zeiss AngioplexTM) show the FAZ areas outlined in yellow, both of irregular contour. OCTA of the left macula demonstrates areas of significant flow voids marked by the asterisks and the FAZ area is enlarged.



Conclusion. Among patients with longstanding HIV, OCTA identified microvascular abnormalities in all retinæ examined. Retinovascular evaluation by OCTA is a feasible, non-invasive technique for assessing microvascular health and findings support additional study in a larger, more diverse group of PWH. Screening tools targeting microvasculopathy among PWH may aid in earlier detection of those at greatest risk of NACM and allow for aggressive risk-modification strategies.

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950. Venous Thromboembolism in Persons Living with HIV (PLWH): A Single Center Retrospective Cohort Study

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Session: P-44. HIV: Complications and Special Populations

Background. Data on risk of thromboembolism in PLWH is limited. HIV is often recognized as a chronic inflammatory disease and has been recognized as a pro-thrombotic condition. We aimed to analyze the incidence and demographic of venous thromboembolism such as pulmonary embolism and deep vein thrombosis in PLWH admitted to our hospital.

Methods. We conducted a retrospective hospital cohort study on PLWH ≥ 18 years old who were admitted to our hospital between 09/01/2018 and 09/01/2019. Study individuals were recruited if they had complete laboratory profile and well-defined clinical outcomes. Demographic, clinical and laboratory data were reviewed and retrieved. Descriptive analysis was employed to describe the demographic profile of PLWH with venous thromboembolism.

Results. Out of the 192 hospitalized PLWH during the study period, 15 (8%) patients had documented deep vein thrombosis (DVT) and/or pulmonary embolism (PE). History of DVT/PE was present in 5 (33%) patients while the rest had new onset of DVT/PE. Out of the 15 patients, 4 (27%) had DVT and PE, 4 (27%) had only DVT and 7 (46%) had only PE. The median age was 57 years, ranged from 40 to 74 years; 4 males and 11 females. As for ethnicities, 2 Caucasian, 12 were African American and 1 Hispanic.

The average D-dimer was 4491. The median CD4 count for PLWH with venous thromboembolism was 487 and a median viral load of 900. In contrary, the median CD4 count of PLWH without venous thromboembolism was 420 and median viral load of 140. Though not statistically significance, higher viral load seems to associate with risk of venous thromboembolism. Surprisingly, female gender is an independent risk factor for venous thromboembolism in PLWH (z-score 2.75, p=0.0059; odds ratio [OR], 4.67; 95% confidence interval [CI], 1.56-13.69).