569. Immune Microenvironments of Anal Cancer Precursors Differ by HIV-Serostatus and are Associated with Ablation Outcomes

Michael Gansa, MD, PhD1; Yuxin Liu, MD, PhD2; Yotam Arens, MD3 and Keith Sigel, MD, MPH1;3; Dept. of Medicine, Division of Infectious Disease, Icahn School of Medicine at Mount Sinai, New York, New York; 1Pathology, Icahn School of Medicine at Mount Sinai, New York, New York; 2Icahn School of Medicine at Mount Sinai, New York, New York

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Background. HPV-associated anal cancer precursors (high-grade squamous intraepithelial lesions, HSIL) follow a more virulent course in HIV+ patients than in their HIV− counterparts. This study aims to characterize the subpopulations of mucosa-infiltrating T lymphocytes in HSIL microenvironments, correlating them with HIV−serostatus and electrocautery ablation (EA) outcomes.

Methods. Using immunohistochemistry, we quantified mucosa-infiltrating CD4+ and CD8+ T lymphocytes in 115 HSIL (from 70 HIV+ and 45 HIV− patients) and 20 benign anal mucosa samples (from 10 HIV+ and 10 HIV− patients). Clinopathological parameters were collected and compared by HIV status.

Results. Patients' age, cytology diagnoses, and HPV types were comparable between HIV+ and HIV− groups. In benign controls, T lymphocytes were sparse in both HIV+ and HIV− anal mucosa. The number of total mucosa-infiltrating T lymphocytes and the CD8+ subset were significantly higher in anal HSIL from HIV− subjects than in those from HIV+ subjects (mean 71 vs. 47; 66.5 vs. 22 HPI, P < 0.001) whereas the CD4+ subset was similar between groups (24.5 vs. 25 HPI, P = 0.4). Among patients who underwent EA, subsequent anocopy and biopsy detected persistent anal HSIL in 21/51 (41%) HIV+ and 5/27 (19%) HIV− patients (P = 0.04, mean 12 month follow-up, range 3-36). Unadjusted analysis showed a trend towards EA failures associated with HIV seropositivity (OR 2.0; 95% CI 0.80–4.9) and increased number of mucosa-infiltrating CD8+ T cells (OR 2.3; 95% CI 0.9-5.3).

Conclusion. Anal HSIL immune microenvironments differ significantly by HIV serostatus. HSIL in HIV+ subjects with increased mucosa-infiltrating CD8+ T cells tended to persist after EA. Therapies that target mucosal immunity may improve treatment outcomes of these lesions.

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570. Alarmingingly High Rate of Prostate Cancer Detected by Routine Prostate-Specific Antigen Screening in a County HIV Clinic

Amy Baça, MD1; David Zoeter, BA2; Howard Eidelson, MD3; Lance Smith, CPT online 1 and Alison Somberedo, MD3; 1Internal Medicine, Highland Hospital, Oakland, California; 2Highland Hospital, Oakland, California; 3Adult Immunology, Highland Hospital, Oakland, California

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Background. Routine prostate-specific antigen (PSA) screening in the general population and in HIV-infected men is controversial. The aim of this study is to determine the prevalence of prostate cancer (PC) among patients living with HIV (PLWH).

Methods. After an index case of PC was detected by sporadic PSA screening, we performed a retrospective study of 1126 patients attending the HIV/AIDS Clinic at Instituto Nacional de Cancerología in Mexico City, Mexico. Of the 124 men (82 AA, 17 Hispanic, 16 Caucasian, 7 Asian), 20 (16.6%) had a prostatectomy pending radical prostatectomy; 3 had atypical hyperplasia, and 17 had no evidence of disease.

Results. Of the 124 men (82 AA, 17 Hispanic, 16 Caucasian, 7 Asian, 2 other) who received PSA screening, 7 (5.6%) had a PSA > 5 and underwent prostate biopsy. Five patients (4%) were found to have PC, all of whom had a history of good long-term HIV virologic control. Mean age of PC patients was 60 years vs. non-PC patients (55 years) (P = 0.031). Mean years of HIV in PC patients was 18 years vs. non-PC patients (14 years) (P = 0.068).

Conclusion. Routine PSA screening in PLWH is controversial and not universally recommended. Other retrospective studies of PLWH have shown equally high rates of PC. Compared with the general population (1/1,000 non-AA and 1/71,000 AA), men in our cohort had a 25 times higher rate (4%) of PC. All patients had aggressive tumors and required surgery, including one patient with metastasis to regional nodes. As expected, age was a significant risk factor for PC. We recommend implementing routine PSA screening in PLWH.

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571. Clinical Characteristics and Outcomes of HIV-Infected Patients with Non-AIDS Defining Cancers in a National Institute Cancer in Mexico

Denise Cavil jednocześnie, MD1; Patricia Volkow, MD2; and Patricia Cornejo Juárez, MD, Infectious Diseases, Instituto Nacional de Cancerología de México, Mexico city, Mexico, 1Infectious Diseases Department, Instituto Nacional de Cancerología, Mexico City, Mexico; 2Infectious Diseases, Instituto Nacional de Cancerología, Mexico City, Mexico

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Background. Non-AIDS Defining Cancers (NADCs) have been recognized as an increasing cause of morbidity and mortality in HIV patients, related mainly to co-infections and/or lifestyle risks. There is no data of NADCs prevalence in Mexico. We describe type of NADCs, clinical characteristics and outcomes of HIV-infected individuals with NADCs.

Methods. We conducted a retrospective study of 1126 patients attending the HIV/AIDS Clinic at Instituto Nacional de Cancerología in Mexico city (a tertiary care center for adult patients with cancer), since 1996 to December 2016, who had confirmed NADCs after HIV diagnosis. Demographic and clinical data were collected for all HIV patients with NADCs.

Results. Of 1126 HIV-positive individuals seen at the INCan, 139 (12.3%) patients developed a NADC, five patients developed two NADCs during their follow-up, 114 (82%) were male. The median age at diagnosis of NADCs was 42.4 ± 10.9 years, the median of CD4 was 354.4 cell/mm at that time of NADCs, 81 of them (56.3%) had a CD4 count ≥200 cell/mm³, 81 (56.3%) had undetectable HIV viral load. In males the distribution of NADCs was 36 (25%) Hodgkin's lymphoma (HL), 42.4 ± 10.9 years, the median of CD4 was 354.4 cell/mm at that time of NADCs, 81 of them (56.3%) had a CD4 count ≥200 cell/mm³, 81 (56.3%) had undetectable HIV viral load. In males the distribution of NADCs was 36 (25%) Hodgkin's lymphoma (HL), 16 (11.1%) anal cancer, 13 (9.9%) germinal tumors males, and two lung cancers, and in females: 11 (7.7%) vulvo-vaginal, seven (4.9%) breast cancer, four (2.8%) thyroid tumors, and 31 (24.8%) non-Hodgkin lymphoma. The median of follow-up of NADCs was 2.5 (IQR 0.4-3.6) years. Nine patients died attributable to NADCs and 51 patients lost of follow-up.

Conclusion. HL was the most frequent NADC on men as it has been described in other reports, followed by anal cancer. In women vulvo-vaginal cancers were the most frequent. These three malignancies are related with viral etiology. Lung cancer was uncommon, different from that described in the US population, smoking is less frequent in the HIV Mexican population. NADCs can occur at any stage of HIV infection, regardless of immune status.

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572. Missed Opportunities for Primary Prevention of Cardiovascular Disease in an HIV Clinic

Michael Kacka, MD, MPH1; Sabra Custer, DNP, MS, FNP-BC2; Erin Gustafson, MS, MPH3; Crystal Hughley, FNP-BC3; Dwyra Ahuja, MD3 and Andrew Jones, MD, MPH3; 1Department of Family and Preventive Medicine, Palmetto Health/University of South Carolina, Columbia, South Carolina; 2Infectious Diseases, Palmetto Health/University of South Carolina, Columbia, South Carolina; 3Public Health Service, Columbia, South Carolina

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Background. Atherosclerotic cardiovascular disease (ASCVD) is a leading cause of death among people living with HIV (PLWH). PLWH have a high prevalence of ASCVD risk factors, including hypertension (HTN), dyslipidemia, diabetes mellitus (DM), elevated BMI, smoking, physical inactivity, and poor diet.

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Methods. Setting—Urban Ryan White funded clinic in Columbia, SC providing care to about 2200 PLWH. A retrospective chart review was performed on a sample of patients ≥40 years old. Patients were eligible if they did not have a known diagnosis of ASCVD, had ≥3 visits in the last 3 years, and at least 1 visit in the past 12 months. Data regarding demographics, comorbidities, lab values, medications, and recent blood pressures were abstracted. Data were collected on assessment and intervention for smoking, weight loss, diet, and exercise. Objectives of this study were to: (1) determine the prevalence of ASCVD risk factors among patients without known ASCVD; (2) estimate the proportion of patients who received appropriate pharmacologic and lifestyle interventions. 

Results. Charts were reviewed in random order until 100 charts had the required variables to calculate the 10-year ASCVD risk (Figure 1). These complete charts were similar in demographic characteristics to the clinic population. Of the complete charts, 66% met BMI criteria for being obese or overweight, but < 30% of these patients had documentation of the diagnosis, or received appropriate intervention for diet, exercise, or weight loss. HTN was diagnosed in 42% of patients, and 52% of these were adequately controlled. An additional 9% met criteria for HTN but did not carry the diagnosis. Documented diagnosis of DM was surprisingly low at < 5%. Nurses assessed smoking in 100% of patients, and the majority of smokers received an intervention. Based on current guidelines, less than 25% of eligible patients were prescribed a statin (Figure 2), but 64% met BMI criteria for being obese or overweight; but < 30% of these patients had evidence of statin therapy.

Conclusion. Although > 85% of clinic patients have an undetectable HIV viral load, there were multiple missed opportunities for primary prevention of cardiovascular disease, including interventions for smoking cessation, diet and exercise, and guideline based anti-HTN and statin therapy.

57.3. A Comparative Analysis of Cardiovascular Risk in HIV Sero-positive and Sero-negative Pre-menopausal Women

Srikrishna Varun Malayala, MD, MD; Abhreem Raza, MD, MD; and Srikrishna Varun Malayala, MD MPH FACPM; Infectious Diseases, Cooper University, Camden, New Jersey; Hospital Medicine, Jeanes Hospital/Temple University Health system, Philadelphia, Pennsylvania

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Background. HIV infection has been associated with an increased risk of cardiovascular disease (CVD), stroke, and subclinical atherosclerosis in women. HIV-seropositive pre-menopausal women tend to lose the cardio-protective effect of estrogen and these women should be more vigilant in reducing their risk for developing CVD. Our study intends to assess the cardiovascular risk in the HIV-positive pre-menopausal women over the last 16 years (1999-2014) using a national wide sample.

Methods. This study is a cross-sectional study using the National Health and Nutrition Examination Survey (NHANES) datasets from 1999 to 2014. The 10-year Framingham risk score for developing CVD was calculated for the HIV-positive and HIV-negative pre-menopausal women. The individual risk factors contributing to CAD including blood pressure, hemoglobin A1c, c-reactive protein (CRP), smoking status, cholesterol level, family history of CVD were compared. The populations’ intent to reduce their risk (exercise, diet modification and use of medications) and their doctor’s advice to reduce the risk (counseling on diet, exercise and weight) were also analyzed. SPSS v.19 was used for analysis and p-value < 0.05 was considered significant.

Results. Out of the available sample of 82,091 people, 9,635 women (11.7%) met the inclusion criteria (pre-menopausal women, 18 to 55 year old, no prior history of CAD, no missing data and tested for HIV). Among them, 25 women were HIV seropositive (0.2%). Though there was no significant difference in the systolic and diastolic blood pressure, HbA1c, CRP, HDL, or total cholesterol (HDL-C), mean Framingham risk score in pre-menopausal HIV-positive women (M = 2.12, SD = 2.73) was significantly higher than the HIV-negative women (M = 0.95, SD = 1.94), P < 0.01. Neither did majority of the HIV-positive women intend to decrease their cardiovascular risk nor did their health care providers advise them to do so.

Conclusion. This study shows that the risk of developing CVD in pre-menopausal women seems to be higher from the traditional risk factors itself. While HIV is now independent risk factor for developing CVD in women, more focus should be on reducing the risk from traditional methods like smoking cessation, diet and lifestyle modification, blood pressure, diabetes and cholesterol and management.

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574. Statin Utilization Among Human-Immunodeficiency Virus (HIV)-Infected Individuals Based on the 2013 American College of Cardiology and American Heart Association (ACC/AHA) Blood Cholesterol Guideline

Lemuel Nen, MD, MD; Naureen Ali, MBBS, MD, MD; Rachel Presti, MD, PhD; William Powderly, MD, MD; and Gerome Escoita, MD, MD; Department of Medicine, Division of Infectious Diseases, Washington University School of Medicine, Saint Louis, Missouri; Internal Medicine, UIC/ Advocate Christ Internal Medicine Residency, Oak Lawn, Illinois; Division of Infectious Diseases, Washington University, St. Louis, Missouri; Division of Infectious Diseases, Washington University in St. Louis, St. Louis, Missouri

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Background. There are limited data on statin utilization among HIV+ individuals in real-world settings using the new 2013 ACC/AHA blood cholesterol guideline. We aimed to determine the proportion of appropriate statin use based on this guideline in a large urban outpatient center.

Methods. Chart review of 1087 HIV+ patients 40 years and over from the Washington University Virology Clinic was done from January 1 to December 31, 2015. Patients were classified according to the 4 statin benefit groups from the guide- line: (1) those with clinical atherosclerotic cardiovascular disease (ASCVD); (2) those with primary hyperlipidemia (LDL-C ≥ 190 mg/dL); (3) individuals 40 to 75 years of age with diabetes and an LDL 70 to 189 mg/dL without ASCVD; and (4) those 40 to 75 years of age without ASCVD or diabetes, with LDL 70 to 189 mg/dL, and with a 10-year ASCVD risk of ≥ 7.5%. Factors that may influence receipt of statin were analyzed using the chi-square test, t-test, or the Wilcoxon rank-sum test when applicable.

Results. The median age of patients was 51 years and the majority were male (71%), black (67%), receiving antiretroviral therapy (98%), had HIV RNA < 20 copies/ml (87%) and median CD4 count of 523 cells/µL. Overall, 450 (41%) patients had an indication for statin use, with the majority classified under group 4. However, only 160 (36%) were on statins, of whom 89% were on appropriate doses. The percentages of patients on statins were only 36%, 44%, 49%, and 30% for groups 1, 2, 3, and 4, respectively. There was no significant difference between those who were and were not on statins in terms of CD4 count and pill burden. The rates of ritonavir, cobicistat, and efavirenz use were also similar between the two groups. In group 4, however, those who had viral suppression were more likely to be prescribed a statin compared with those who had no viral suppression (95% vs. 87%, P = 0.031).

Conclusion. Two thirds of our patients were not prescribed statins despite a strong indication for it based on the new guideline. Our finding stresses the critical