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

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Session: 64. HIV: Cancer and Dysplasia

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; 46.5 vs. 22/HPF, P < 0.001) whereas the CD4+ subset was similar between groups (24.5 vs. 25/HPF, 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. 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 those lesions.

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

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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 prospective (2/2010–10/2016) cohort study following PSA levels and biopsies of African-American (AA) men ≥45 years and non-AA men ≥50 years. Screening was done at the discretion of the provider.

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 prostatic 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).

Case

| Case | Age | Race | PSA Value (ng/mL) | Stage/Glisson Score | Risk Factors | Treatment |
|------|-----|------|-------------------|---------------------|-------------|-----------|
| 1    | 68  | AA   | 13                | 3 + 3 = 6           | Transplant recipient | Radiation |
| 2    | 58  | AA   | 6.2               | 3 + 3 = 6           | None         | None      |
| 3    | 64  | AA   | 14                | 3 + 5 = 8           | Patent history | None      |
| 4    | 58  | Caucasian | 76          | 4 + 3 = 7           | None         | Radical prostatectomy |
| 5    | 60  | Caucasian | 9.9          | 3 + 3 = 6           | None         | Transferred care |

All specimens positive for PC.

Conclusion. PSA screening is controversial and not universally recommended. Other retrospective studies of PLWH have shown equally high rates of PC. Compared with the general population (1/2000 non-AA and 1/7000 AA), men in our cohort had a 3.5 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 cohort 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

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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 cancer after NADCS diagnosis. Demographic and clinical data were collected for all HIV patients with NADCS.

Results. Over 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/mm² at that time of NADCS, 81 of them (56.3%) had a CD4 count >200 cell/mm², 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%) germinal tumors males, and two lung cancers, and in females: 11 (7.7%) vulvo-vaginal, seven (4.9%) breast cancer, four (2.8%) thyroid cancer and one case of Hodgkin’s 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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