complications in HIV+ patients included nausea (25%), anemia (11%), neutropenia (11%), diarrhea (11%), and thrombocytopenia (8%; all p>0.05 for comparisons with uninfected).

Conclusion. In our cohort from the recent ART-era we found some lung cancer treatment disparities in HIV+ patients. We found no major differences in chemotherapy toxicity associated with HIV status. Future research should further evaluate barriers to optimal lung cancer care within the HIV+ population.

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2241. Outcomes of Program Cell Death Protein 1 (PD-1) and Programmed Death-Ligand 1(PD-L1) Inhibitor Therapy in HIV Patients with Advanced Cancer

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Background. Due to HAART and consequent decline in mortality from infectious complications, HIV patients have an increasing burden of non-AIDS defining cancers. Immunotherapy, consisting of PD1/PDL1 inhibitors, has revolutionized the treatment of cancers but data on their safety and efficacy is unknown in HIV patients, as they were excluded from clinical trials due to concern for unforeseen side effects.

Methods. This is the largest retrospective study, involving 17 patients with HIV, treated with one of the 4 PD-1/PD-L1 inhibitors (Nivolumab, Pembrolizumab, Atezolizumab, Durvalumab or Avelumab) for cancer.The objective of our study was to evaluate the efficacy and safety profile of PD-1 and PD-L1 inhibitors in Cancer patients with HIV and also to assess the impact of these drugs on HIV infection control, specifically CD4 count and HIV viral load.

Results. Ten out of 17 patients responded to therapy. Of the 10 patients who responded to therapy, seven were alive and four were still on therapy. Ten patients including all seven non-responders died; nine died from cancer progression and one from sepsis after discontinuing HAART. The minimum duration of response was 15 weeks with one ongoing response at 34 weeks (similar to non HIV patients). Adverse events (Grade 1 or 2) were noted in seven patients while one stopped therapy due to pneumonitis. CD4 count was stable on treatment and HIV RNA was undetectable (became undetectable in one patient with initial low HIV viremia) (Table1).

Conclusion. PD-1 and PD-L1 inhibitors have transformed cancer treatment. Our data shows that they have equal efficacy, tolerable side effects with no effect on HIV markers when used in HIV patients with cancer. We strongly advocate inclusion of HIV cancer patients in clinical trials and support the use of PD1/PDL1 inhibitors in them.

Table 1: HIV Markers While on PD-1 or PD-L1 Inhibitor Therapy

Patient	CD4 Count at Initiation of T	Viral Load at Initiation of Therapy	CD4 Count at 12 Weeks of Therapy	Viral Load at 12 Weeks of Therapy
1	573	0	NA*	NA*
2	624	500	NA*	NA*
3	242	<400	NA*	NA*
4	795	<400	552	0
5	264	0	370	<400
6	424	0	460	0
7	427	0	402	<400
8	461	<400	376	<400
9	326	0	431	0
10	626	0	517	0
11	163	89	285	<20
12	150	<20	120	<20
13	607	<20	597	<20
14	305	<20	NA	NA
15	250	<20	262	<20
16	NA	NA	NA	NA
17	469	<20	NA*	NA*

NA, ddata not available. *, died before response could be assessed.
Viral load, copies/ml.
CD4, cells/µl.

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2242. Clinical Characteristics and Treatment Patterns of Prostate Cancer in HIV-Infected Veterans: A 10-Year Experience

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Background. The detection of prostate cancer in HIV individuals has grown in recent years and it has become the second leading neoplasm in the elderly with HIV after lung cancer. Despite this notable prevalence, there is little literature about the clinical characteristics and treatment modalities in the setting of HIV.

Methods. We conducted a retrospective review of HIV patients with prostate cancer seen at the Veterans Affairs Medical Center in Miami, Florida from 2007 to 2016. Our aim was to determine the clinical characteristics and treatment patterns of prostate cancer in HIV patients. Data were analyzed in SPSS 22, New York, USA.

Results. There were 1,752 HIV patients treated in our institution. We identified 45 (2.56%) patients with prostate cancer. The mean age was 62.09 (SD ± 5.99) years. Most patients were African American (73.3%). Alcohol consumption, smoking and drug use were reported by 53.3, 51.1 and 31.1% of patients, respectively. The most common comorbidities were hypertension (68.9%) and hyperlipidemia (51.1%). Most patients (80%) had undetectable HIV viral load. The mean CD4 count was 576.84 (SD ± 241.12) cells/uL. The majority of patients (88.89%) were on antiretroviral therapy. Most patients (86.7%) were referred for prostate biopsy after an elevated PSA level. Lower urinary symptoms were reported by 51% of patients. By digital rectal examination, 60% presented prostate enlargement and 13.3% nodules or masses. The mean PSA and Gleason score were 13.96 (SD ± 14.43) and 7.07 (SD ± 1.01) respectively. Most patients were at clinical stage T1c N0 M0 (86.7%). They were treated with surgical prostatectomy in 37.8% of cases (radical prostatectomy in 20% and robotic prostatectomy in 17.8%) and radiation therapy in 55.6% of cases (along with antiandrogen therapy in 33%). Androgen deprivation therapy alone or active surveillance was used in 6.7%. After a mean follow-up of 42.3 (SD ± 35.55) months, most patients were alive (88.9%). There were five deaths, four-related to other malignancies and only one due to metastatic prostate cancer.

Conclusion. Most HIV-infected veterans were diagnosed with prostate cancer at early stages. HIV status does not seem to affect the prognosis of patients with prostate cancer, which was demonstrated by the good outcomes observed in our study.

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2243. Improving HIV Outcomes Among HIV-Infected Patients Diagnosed with Cancer and Followed in an Integrated, Multidisciplinary, Infectious Disease/ Cancer Clinic

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Background. Patients dually diagnosed with HIV and cancer have poorer outcomes compared with general cancer patients. HIV management in the setting of cancer is complicated by multiple specialist involvement, drug–drug interactions, and overlapping drug toxicities. Past studies of HIV-infected patients noted improved virologic suppression, CD4 counts, and adherence with access to multidisciplinary services. A multidisciplinary clinic (HIV specialists (doctors and nurses), pharmacists, social workers, etc.) embedded in the University's Outpatient Cancer Center starting in late 2011 sought to improve virologic suppression and care coordination for dually diagnosed patients.

Methods. HIV outcomes for patients seen in the multidisciplinary clinic (≥2 visits) from 2012 to 2016 ($N = 51$) were compared with a historical cohort seen from 2007 to 2011 ($N = 565$).

Results. In the pre- vs. post-integration cohorts, the median age at cancer diagnosis was 51 vs. 46 years (range 24–76, $P = 0.01$), 78% vs. 72% were male ($P = 0.37$), and 86% vs. 73% were African American ($P = 0.04$). 53% in the post- cohort had stage IV disease vs. 32% in the pre- cohort. In both cohorts, less than half were on HIV therapy at the time of cancer diagnosis (42% pre- and 43% post-, $P = 0.91$). Baseline median CD4 count at cancer diagnosis in the post-cohort was lower (171, IQR 70–310) than the pre- cohort (274, IQR 120–462; $P = 0.20$), and baseline median HIV viral load was higher (post-16,802 vs. pre-1,985). Viral suppression at cancer diagnosis was similar (42% pre- vs. 40% post-), but at study end, 75% of patients in the post-cohort had viral suppression vs. 63% in the pre-cohort ($P = 0.09$). Patients followed in the integrated clinic were 1.41 (95% CI, 0.91, 3.53) times more likely to be virally suppressed at end of follow-up compared with patients from the pre-integration cohort.

Conclusion. HIV-infected patients who received care at the multidisciplinary, integrated HIV clinic were more likely to be virally suppressed at the end of study follow-up compared with patients who received HIV care at the medical center prior to HIV clinic incorporation. Integrating HIV care into Cancer Centers may improve HIV treatment outcomes for these dually diagnosed, medically fragile, and complicated patients.

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2244. Non-AIDS Cancers Contribute to an Increasing Proportion of Deaths in Persons Living with HIV at a Single University-Based Clinic

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Background. Mortality for people living with HIV (PLWH) has drastically decreased since the mid-1990s, and the proportion of deaths due to non-HIV-related conditions has increased.

Methods. Deceased PLWH were identified within a single academic medical center. Cause of death was determined by chart review, clinic providers, and when available autopsy and toxicology data. Chart review of comorbidities, demographics and preventable causes of cancer was conducted for deaths during the period of 2013–2017.