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Implementation of a Lung Cancer Screening Initiative in HIV-infected Subjects

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BACKGROUND

- Low-Dose Computed Tomographic (LDCT) screening has shown to decrease mortality in at-risk individuals.
- While People Living With HIV (PLWH) exhibit approximately a two-fold higher risk of lung cancer compared to the general population, the role of LDCT in this population remains controversial.
- We report the results of a lung cancer screening program in PLWH.

METHODS

- Retrospective cohort study. PLWH on follow-up in a tertiary hospital between January 2015 and September 2019, were offered one LDCT for lung cancer screening.
- Inclusion criteria were: 45 years or older, 30 pack-year history of smoking or more, current smokers or quit within 15 years of screening, and absence of previous lung cancer diagnosis .
- We registered the following radiological data: presence of lung nodules, pathological lymph nodes, coronary atherosclerosis, bone marrow attenuation, lung emphysema, and non-nodular lung opacities.
- The descriptive analysis was performed using frequency distributions. We used logistic regression to assess the relationship between baseline variables of interest and the diagnosis of lung cancer during follow-up.
- Statistical analyses were performed using Stata v. 16.0 (StataCorp LP College Station, TX, USA).

RESULTS

Table1. Patient sample caracteristics		
Caracteristics	Values	
AGE (Median) (IQR)	57	54 – 60
40-44	1	1 %
45-49	9	6 %
50-54	40	28 %
55-59	52	36 %
>60	39	27 %
GENDER		
Male	122	85 %
Female	20	14 %
TOBACO USE		
Current	122	86 %
Previous	12	9 %
Never	0	0 %
Unknown	7	5 %
PACKS-YEAR (Median) (IQR)	34	25 – 41
HCV		
Active	12	9 %
Cured	70	50 %
Clearance	5	3 %
No infection	54	38 %
Unknown	0	0 %
NADIR CD4+ (Cells/µl) (Median) (IQR)	179	75 – 305
CURRENT CD4+ (Cells/µl) (Median) (IQR)	666	403 – 911
HIV Viral load (log)		
< 1,57 log	138	97,00 %
> 1,57 log	3	3,00 %
LUNG CANCER PATIENTS (n)	5	3.5%

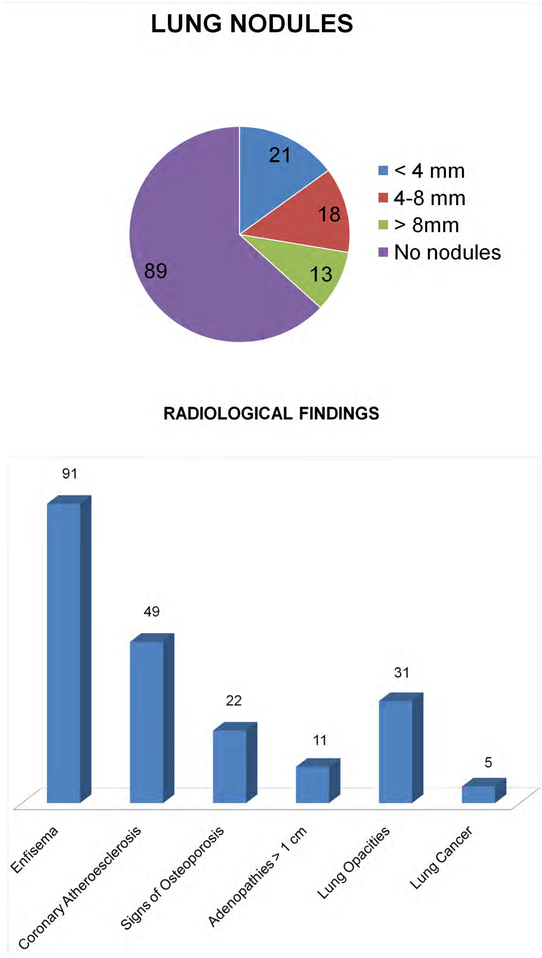


Table 2. Caracteristics of patients with lung cancer

	Age	Gender	Smoking habit	Pack-years	Previous I.V drug user	HCV	HIV Viral load (log)	Nadir CD4+ (cells/ml)	Current CD4+ (cells/ml)	Lung cancer histology
Patient 1	57	male	Active	50	Yes	Clearence	< 1,57	43	243	Squamous cell carcinoma
Patient 2	61	male	Active	100	Yes	Cured	< 1,57	10	352	Squamous cell carcinoma
Patient 3	57	male	Active	60	Yes	Cured	< 1,57	105	182	Squamous cell carcinoma
Patient 4	59	male	Active	60	Yes	Cured	< 1,57	71	517	Squamous cell carcinoma
Patient 5	56	male	Active	82	Yes	Cured	< 1,57	180	850	Adenocarcinoma

CONCLUSIONS

- A total of 5 Lung cancers in 141 (3,6%) patients was detected.
- Patients with LC showed lower nadir CD4, lower current CD4 count. The mean packs-year in patients with LC was significantly higher than in the rest of the sample (70.5 vs 35.87 packs-year, p= 0,011).
- Patients diagnosed with LC show a high burden of squamous cell carcinoma. This finding differs from the histological distribution described in other cohorts of HIV-infected participants.
- The high prevalence of asymptomatic lung cancer detected using LDCT screening in this high risk population supports the implementation of lung screening programs in PLWHIV.

➢ Limitations of our study:

- Limited sample size
- Retrospective design
- Absence of longitudinal follow-up.

ADDITIONAL KEY INFORMATION

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