

Shifting patterns and outcomes of malignancies in People Living with HIV: a 10-year retrospective study

S Ramos Oliveira¹; M Teixeira Costa²; C Soeiro¹; C Bacelar¹; C Batista¹; S Vale Araújo¹; M Guimarães¹; C Azeredo¹; F Duarte¹; S Duarte Rocha¹; F Reis¹; E Ruiz Pena¹; MJ Gonçalves¹; R Correia de Abreu¹; S Jordão¹

1- Infectious Diseases Department ; 2 - Oncology Department - Pedro Hispano Hospital - Local Health Unit Matosinhos, Portugal



Background:

People living with HIV (PLWH) are at *greater risk of developing cancer*, whether it is AIDS-defining (ADC) or non-AIDS-defining (NADC), and the oncogenic role of HIV is not fully elucidated.

Authors hypothesize that the *epidemiology and prognosis* of malignancies may have changed after the official recommendations of early initiation of TARV for all patients (2015).



Materials and Methods:

Retrospective analysis of the malignant neoplasms diagnosed in **PLWH under follow-up** in a tertiary hospital **between 2014 and 2023**. Excluded neoplasms diagnosed before HIV infection.

Statistical analysis was performed on SPSS, using Chi-square and Mann-Whitney tests, accordingly.

Results: 8% of PLWH (n=119/1436) had *at least one malignant neoplasm (dx 2002-2024)*

14 patients (12%) w/ 2 distinct malignancies – dx <5y apart in 79%

PLWH w/ malignancies (n=119)



- 96% HIV-1⁺ | 4% HIV-2⁺ (n=5)
- 80% cis-man
- Median age at HIV dx: 46 years [14-78]
- 60% current/previous smokers

Period 2002-2014 vs 2015-2024

- **Significant** ↓ in the incidence of ADC (37% vs 11%, *p*-value < 0,005)
- **Significant** ↑ in the median years between HIV dx and malignancy* (4 vs 12, *p*-value < 0,005)

* 4 pt w/ dx of HIV shortly after dx of the neoplasm (w/ AIDS)

Malignancies (n=133)

80,5% solid tumors | 19,5% hematological malignancies



82% NADC (n=108)

Skin (n=11) | CNS (n=1) | Head and neck (n=17) | Lung (n=14) | Esophagus (n=5) | Stomach (n=3) | Colorectal (n=5) | Pancreas (n=1) | Hepatocellular carcinoma (n=8) | Kidney (n=2) | Urothelial (n=5) | Prostate (n=7) | Breast (n=5) | Vulva (n=1) | Endometrial carcinoma (n=2) | Penile cancer (n=2) | Anal (n=6) | Hodgkin lymphoma (n=8) | Non-Hodgkin lymphoma (n=1) | Other hematological malignancies (n=3) | Neuroendocrine tumour (n=2) | Cancer of unknown primary (n=1)

18% ADC (n=25)

Cervical cancer (n=1) | Kaposi sarcoma (n=9) | Burkitt lymphoma (n=4) | Primary CNS lymphoma (n=1) | Large B-cell lymphoma (n=9)



Median **age** at dx of neoplasm: 58 y [26-86]

- **Significantly higher** in NADCs: 59 vs 44, *p*-value=0.00014
- *No dif.* between: 2002-2014 and 2015-2024, solid organ or hematological malignancies, and curative or palliative treatment intention



Immunological status (at dx):

- Median *nadir* CD4⁺ count: 159 [0-1301] - *No dif.* between 2002-2014 and 2015-2024
- Median CD4⁺ count : 383 [1-1439] - **Significantly higher** after 2016: 291 vs 461, *p*-value=0.0477
- 79% pt receiving ART, but undetectable VL only in 68%
 - Undetectable VL - **Significantly higher prevalence** in the latter period (40% vs 77,5%, *p*-value=0.000046)
- 40% (n=53) with a previous AIDS-defining condition



Cancer staging (at dx):

- Solid tumors: 24% w/ advanced disease (metastatic or locally advanced) | *10pt missing information*



Treatment:

- **Curative intention:** 77% (n=102) | **Palliative intention:** 23% (n=31), of which n=18 received only **best supportive care**
- Globally: Chemotherapy 61% | Surgery 51 % | Radiotherapy 37%
- *No dif.* between nadir of CD4⁺, CD4⁺ count or viral suppression at dx and *limitation to palliative treatment*

Prognosis

- **Mortality for all causes:** **33% (1y) | 41% (5y)** after dx of the neoplasm
- Patients w/ **curative** intention at dx: 46,5% cured (>5y), mortality: 17% (1y), 25% (5y); *28% still under FUP*
- Patients w/ **palliative** intention at dx: mortality: 90% (1y), 97% (5y)
- *No dif.* in mortality between: 2002-2014 and 2015-2024, ADCs and NADCs, and hematological or solid organ tumors



Conclusions:

PLWH have a *high incidence* of malignancies, with a *significant increase of NADCs in the latter years*. **Even with higher rates of virological suppression and better immunological status, morbimortality remains high, which may allude to the necessity of systematic cancer screening in this population.**