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From prevention to cure: ready for new challenges

Malignancies and MACEs in the PRESTIGIO Registry

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Disclosure of potential conflicts of interest



None to disclose





- Individuals with 4-class drug-resistant [(4DR) resistant to nucleoside reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs) and integrase strand transfer inhibitors (INSTIs)] HIV constitute a fragile population, characterized by a high burden of disease, due to not only an uncontrolled viral replication but also a chronic immune dysregulation^{1,2}.
- Life-threatening events, such as malignancies and major adverse cardiovascular events (MACEs), could contribute to the high morbidity and mortality, especially when non-AIDS-related, in these people living with HIV (PLWH)¹.
- To our knowledge, no data on their incidence in the 4DR population are currently available.

1. Galli L, Parisi MR, Poli A, Menozzi M, Fiscon M, Garlassi E et al. Burden of Disease in PWH Harboring a Multidrug-Resistant Virus: Data From the PRESTIGIO Registry. Open Forum Infect Dis 2020; 7:ofaa456.

2. Clemente T, Caccia R, Galli L, Galli A, Poli A, Marchetti GC, et al. Inflammation burden score in multidrug-resistant HIV-1 infection [in press]. J Infect 2023; S0163-4453(23)00139-1.



Primary Objective



To explore the incidence of malignancies and MACEs in 4DR-PLWH.

Study design

Retrospective, cohort study on 4DR-PLWH from the PRESTIGIO Registry (NCT04098315), an Italian 39-center registry of adults with HIV genotypically resistant to NRTIs, NNRTIs, PIs, and INSTIs (or with previous virological failure to an INSTI-based regimen, in absence of an integrase genotype).



Methods



- Malignancies included both AIDS- and non-AIDS-related cancers.
- MACEs included stroke, acute myocardial infarction, coronary or peripheral artery disease requiring revascularization, and congestive heart failure.
- Follow-up (FU) accrued from baseline (BL, date of 4-class drug-resistance evidence) until death/loss-to-follow-up/freezing date (28th February, 2023).
- Descriptions by median (interquartile range, IQR) or frequency (%).
- Poisson regression modelled incidence rates (IRs) of new events and 95% confidence intervals (95% CIs).
- Kaplan-Meier curves estimated cumulative probabilities of the first new: 1) malignancy or 2) MACE.



Baseline characteristics



Baseline characteristics	Overall (n=229)
Age (years)	50 (44-55)
Male gender	166 (72.5%)
Positive HCV serostatus	69 (30.1%)
HBV infection	11 (4.8%)
Years since HIV diagnosis	21 (17-26)
ART duration (years)	18 (14-21)
Nadir CD4+ (cells/ μ L)	82 (17-183)
HIV-RNA (copies/mL)	1666 (129-2247)
CD4+ (cells/ μ L)	392 (186-592)
CD8+ (cells/ μ L)	988 (615-1380)
CD4+/CD8+ ratio	0.36 (0.2-0.61)
Hypertension	48 (21%)
Diabetes	18 (7.9%)



Malignancies in 4DR-PLWH



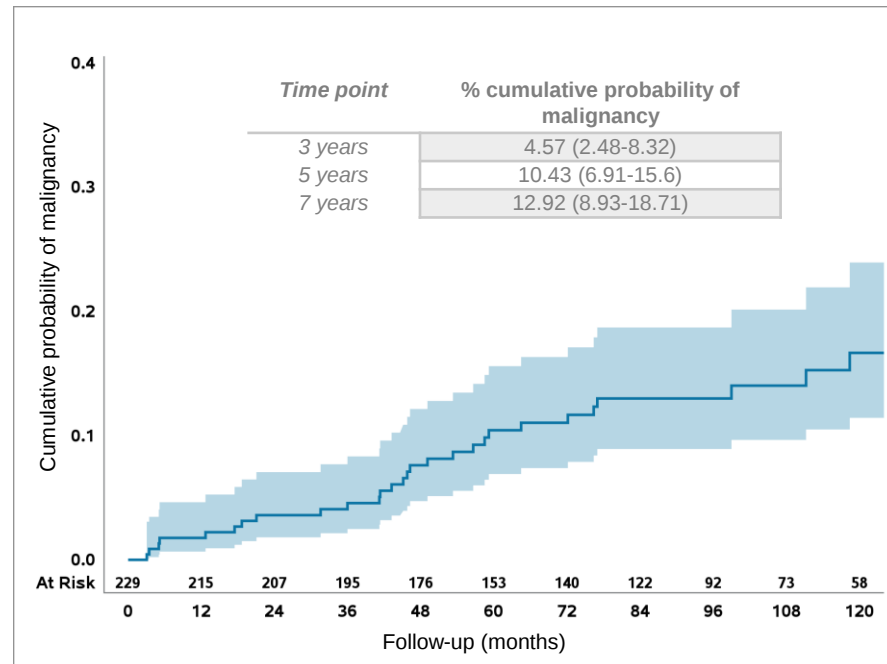
Median FU=7.7 (4.8-10.3) years; **28 (12.2%) 4DR-PLWH with ≥ 1 new malignancy (n=30):** IR=1.7 (95%CI=1.1-2.3)/100 PYFU.

❑ 24 (80%) cancers were non-AIDS-defining

- 7 HPV-related anal neoplasms;
- 4 Hodgkin lymphomas;
- 4 skin cancers;
- 2 hepatocellular carcinomas;
- 2 laryngeal carcinomas;
- 1 breast cancer;
- 1 lung cancer;
- 1 urothelial carcinoma;
- 1 cholangiocarcinoma;
- 1 conjunctival squamous cell carcinoma.

❑ 6 (20%) tumors were AIDS-defining

- 4 high-grade non-Hodgkin lymphomas;
- 2 Kaposi's sarcomas.

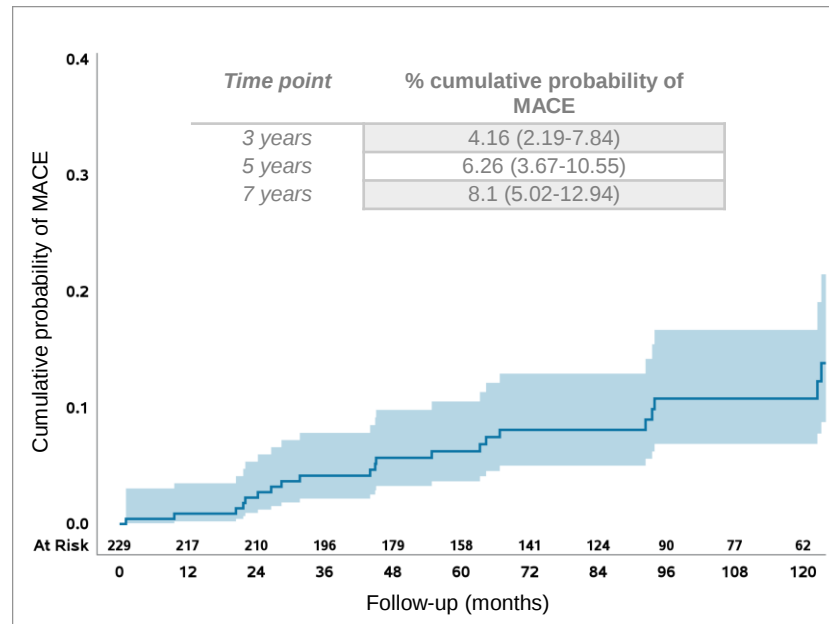


MACEs in 4DR-PLWH



Twenty-two (9.6%) 4DR-PLWH developed ≥ 1 MACE (n=31): IR=1.8 (95%CI=1.1-2.4)/100 person-years-of-FU.

- 15 acute myocardial infarctions;
 - 8 congestive heart failures;
 - 4 coronary diseases requiring revascularization;
 - 3 strokes;
 - 1 peripheral artery disease requiring revascularization.
- Remarkably, 5 individuals developed ≥ 2 incident MACEs: 2 events occurred in 2 individuals, 3 events in 2, 4 events in 1.



Conclusions



- People living with multidrug-resistant HIV are characterized by a high incidence of malignancies and MACEs.
- Screening and prevention strategies are strongly recommended in PLWH with long exposure to antiretroviral drugs and 4-class drug resistance.



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