15° CONGRESSO NAZIONALE
ICAR
Italian Conference on AIDS and Antiviral Research
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LOWER AIDS-RELATED HOSPITALIZATIONS IN WOMEN LIVING WITH HIV MULTIDRUG RESISTANCE: RESULTS FROM THE PRESTIGIO REGISTRY

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Disclosure Statement

Dr. Rebecka Papaioannu Borjesson has no financial relationships with commercial entities to disclose

Background

- Today, people living with HIV (PLWH) who have a complete control of viral replication and a good immunologic profile thanks to antiretroviral therapy (ART) have the same life expectancy as the general population [1].

- PLWH are still at risk of morbidities and hospitalizations [2].

- Non-AIDS-defining events are becoming a much more common cause of hospitalization than AIDS-defining events [3, 4].

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Objectives

- To analyze the **incidence of hospitalization in male and female people living with 4-drug class resistant HIV (4DR-PLWH)** enrolled in the PRESTIGIO Registry.
- To analyze the **causes of hospitalization.**

Material and Methods

- **178 4DR-PLWH** from the PRESTIGIO Registry
- **PRESTIGIO Registry**: Italian registry which collects clinical and laboratory data on individuals with documented genotypic resistance to:
  - *nucleoside reverse transcriptase inhibitors (NRTIs)*
  - *non-NRTIs (NNRTIs)*
  - *protease inhibitors (PIs)*
  - *either genotypic resistance to integrase strand transfer inhibitors (INSTIs) or an history of virological failure [defined as two consecutive measurements of viral load (VL) ≥50 copies/mL] to an INSTI-based regimen.*
- Follow-up: from the date of the first 4DR evidence (baseline) until death/loss-to-follow-up/freezing date (December 31st, 2022).
- Hospitalization: hospital admission for any reason with ≥1 overnight stay.

Statistical analysis

- Data were reported as median (IQR) or frequency (%).
- Mann-Whitney test used to compare baseline characteristics.
- Poisson regression model was used to model incidence rates (IR) with 95% confidence intervals (CI).

Baseline characteristics

Characteristic	Overall (n=178)	Males (n=132)	Females (n=46)	P-value
Age, years	48.86 (43.87 - 53.64)	49.8 (45.62 - 54.07)	46.41 (33.18 - 52.5)	0.004
Years since HIV diagnosis	21.17 (16.79 - 24.87)	21.1 (16.43 - 25.43)	21.17 (17.4 - 24.11)	0.735
Years since ART start	17.49 (13.85 - 20.31)	17.65 (14.11 - 20.7)	16.74 (10.83 - 18.96)	0.114
Calendar year of 4DCR evidence	2014 (2011 - 2016)	2014 (2011 - 2016)	2014 (2011 - 2015)	0.626
Total number of primary resistance mutations	15 (12 - 19)	16 (12 - 19)	14 (11 - 18)	0.270
Nadir CD4+, cells/mm^3	82 (21 - 199)	73 (16 - 189)	96 (42 - 203)	0.317
BL HIV-RNA, log_{10} copies/mL	3.45 (2.31 - 4.39)	3.45 (2.25 - 4.37)	3.45 (2.44 - 4.4)	0.936
BL CD4+, cells/mm^3	395 (200 - 596)	404 (206 - 630)	319 (181 - 540)	0.135
BL CD4+/CD8+ ratio	0.37 (0.2 - 0.61)	0.35 (0.2 - 0.59)	0.41 (0.24 - 0.73)	0.408

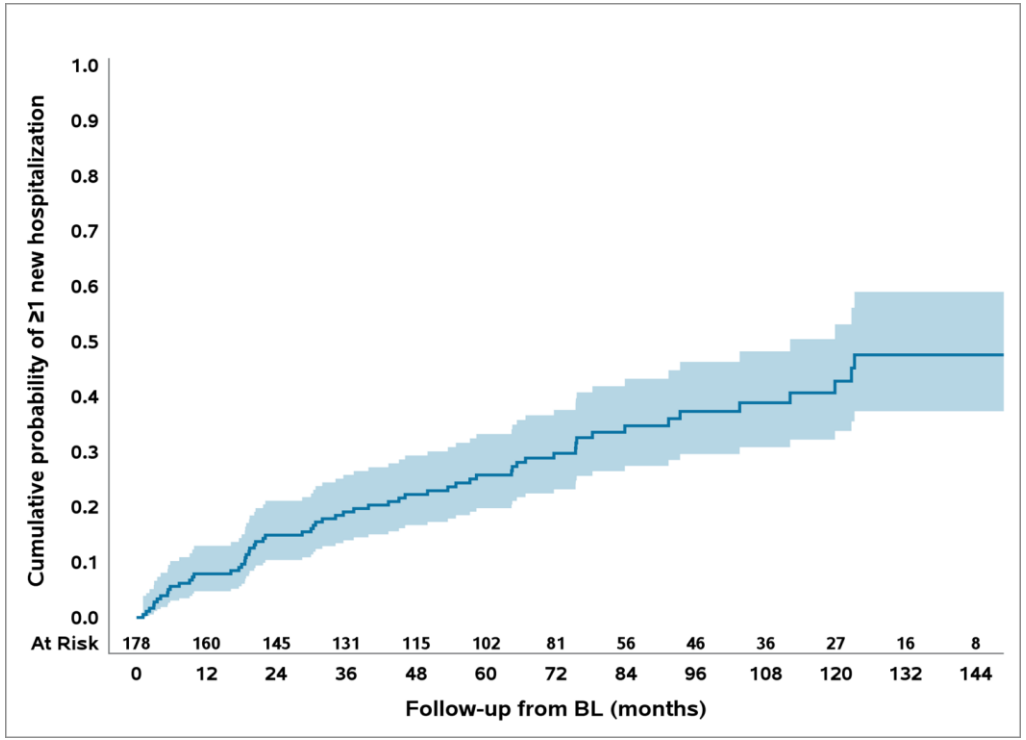
Incidence of hospitalization

The overall incidence rate of hospitalization was 9.43/100-PYFU (95%CI=7.76-11.10)

MALES (933 PYFU)			FEMALES (361 PYFU)			IRR F/M (95%CI)	P-value (M vs F)
Number of patients	Number of events	Incidence rate (95%CI) per 100-PYFU	Number of patients	Number of events	Incidence rate (95%CI) per 100-PYFU		
43	94	10.08 (8.23-12.34)	17	28	7.75 (5.35-11.23)	0.77 (0.51-1.17)	0.223

The median duration of hospitalization was 8 days (IQR 4-20)

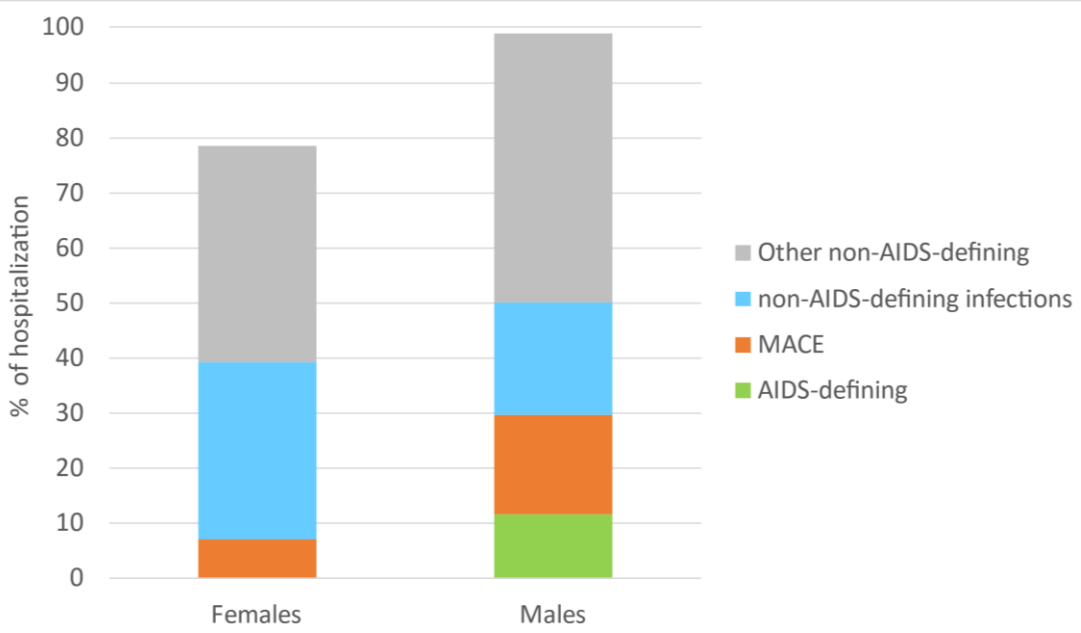
Cumulative probabilities of new hospitalizations



- 31/178 (17.4%) had 1 hospitalization.
- 13/178 (7.3%) had 2 hospitalizations.
- 10/178 (5.6%) had 3 hospitalizations.
- 3/178 (1.7%) had 4 hospitalizations.
- 3/178 (1.7%) had ≥5 hospitalizations.

- After 7 years from baseline, 34.7% of people were estimated to have had one or more hospitalizations.

Most frequent causes of hospitalization



- n=28, 23%
- n=19, 15.6%
- females had no hospitalizations for AIDS-defining events compared to males (0% vs 11.7% (n=11), p=0.049)
- gender differences for non-AIDS-defining events
  - MACEs: 17 (18.1%) in M and 2 (7.1%) in F, p=0.097
  - non-AIDS-defining infections: 19 (20.2%) in M and 9 (32.1%) F, p=0.084

Immuno-virologic profile at hospitalization

Variables	Males (n=132)	Females (n=46)	p-value
HIVRNA, copies/mL	108 (22-17100)	36 (0.9-541)	0.049
CD4, cells/mm^3	232 (70-621)	580 (427-729)	0.030
CD4/CD8 ratio	0.35 (0.2 - 0.59)	0.41 (0.24 - 0.73)	0.4080

Immuno-virologic profile at hospitalization was better in females than in males

Conclusions

- Women living with HIV multidrug resistance seem to have a lower incidence of AIDS-defining events hospitalizations
- Women tended to have fewer hospitalizations for MACEs and more hospitalizations for non-AIDS-defining infections than males.

Aknowledgements

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SUPPORTED BY: ViiV Healthcare, Gilead Sciences, Theratechnologies, MSD