Characterization of mpox in people who live with HIV: a country-wide observational study

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Background

- People who live with HIV (PWLH) have been one of the most afflicted groups during the current mpox outbreak.
- They are hypothesized to have a more severe clinical course than people without HIV, but comparative data is scarce.
- We aimed to compare clinical features and outcomes of mpox in people with and without HIV in Mexico.

Methods

Study design and participants

- We performed an observational study using epidemiologic surveillance de-identified data, which includes information on every individual tested for mpox during the study period (May 24th to November 21st 2022).
- Sociodemographic and clinical data were collected with case report forms (CRFs), which were also filled by the physician providing healthcare to the individual.
- This study was approved by the ethics committee of the Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán.

Methods (cont.)

Sample collection

- Attending physicians also collected samples with standard technique described by national guidelines for real-time polymerase chain reaction testing.
- All samples were sent and analyzed by the Institute of Diagnosis and Epidemiologic Reference.

Statistical analysis

- We used medians and interquartile ranges to describe numeric data, and counts and proportions to describe categorical data.
- Individual binary logistic regression models were constructed to estimate the association between HIV diagnosis, outcomes and clinical features of mpox.
- In each model we adjusted for age, biological sex (gender was not uniformly available), possible mechanism of transmission, calendar date, and state to reduce confounding.
- Associations were reported with odds ratios (OR) and 95% confidence intervals (CI) and were interpreted as risk ratios for rare outcomes (<5%).

Urethritis, proctitis, generalized rash, and painful lesions are more common in people living with HIV.

People who live with HIV have a higher risk of developing severe mpox.

Results

- Among 3291 people with mpox diagnosed between May and November 2022, 58% were people living with HIV.
- Epidemiological and sociodemographic characteristics of individuals with mpox are shown in the Table.
- Having HIV was associated with an increased risk of having severe mpox (defined as requiring hospitalization or the person ultimately died, OR 2.05, 1.86-2.26) and increased odds of generalized rash (OR 1.31, 1.19−1.44). People with HIV had a higher risk of otalgia, proctitis, and urethritis. Other associations are shown in the Figure.
- Eleven persons died during the study period and were discussed by a mortality committee conformed by clinicians regarding the causal role of mpox, of which 4 were determined to have died due to mpox, all of which were PLWH.

Table. Epidemiological and sociodemographic characteristics of people with mpox.

	PLWH (n=1930)	Not PLWH (n=1361)
Age	34 (30-40)	32 (27-38)
Biological sex male	1930 (100%)	1276 (93.8%)
Gender cis man	1731 (89.7%)	1096 (80.5%)
Gender cis woman	2 (0.1%)	79 (5.8%)
Gender trans woman	3 (0.2%)	1 (0.1%)
Sexual preference MSM	1772 (91.8%)	917 (67.4%)
Self-disclosed sexual contact	1028 (53.3%)	547 (40.2%)
CD4 cell count (available for 725 persons)	495 (309-700)	-
CD4 <200	89 (4.6%)	-
Required hospitalization	75 (3.9%)	35 (2.6%)
Required intensive care	8 (0.4%)	3 (0.2%)
Total deaths	5 (0.3%)	6 (0.4%)
Deaths due to mpox	4 (0.2%)	0 (0%)

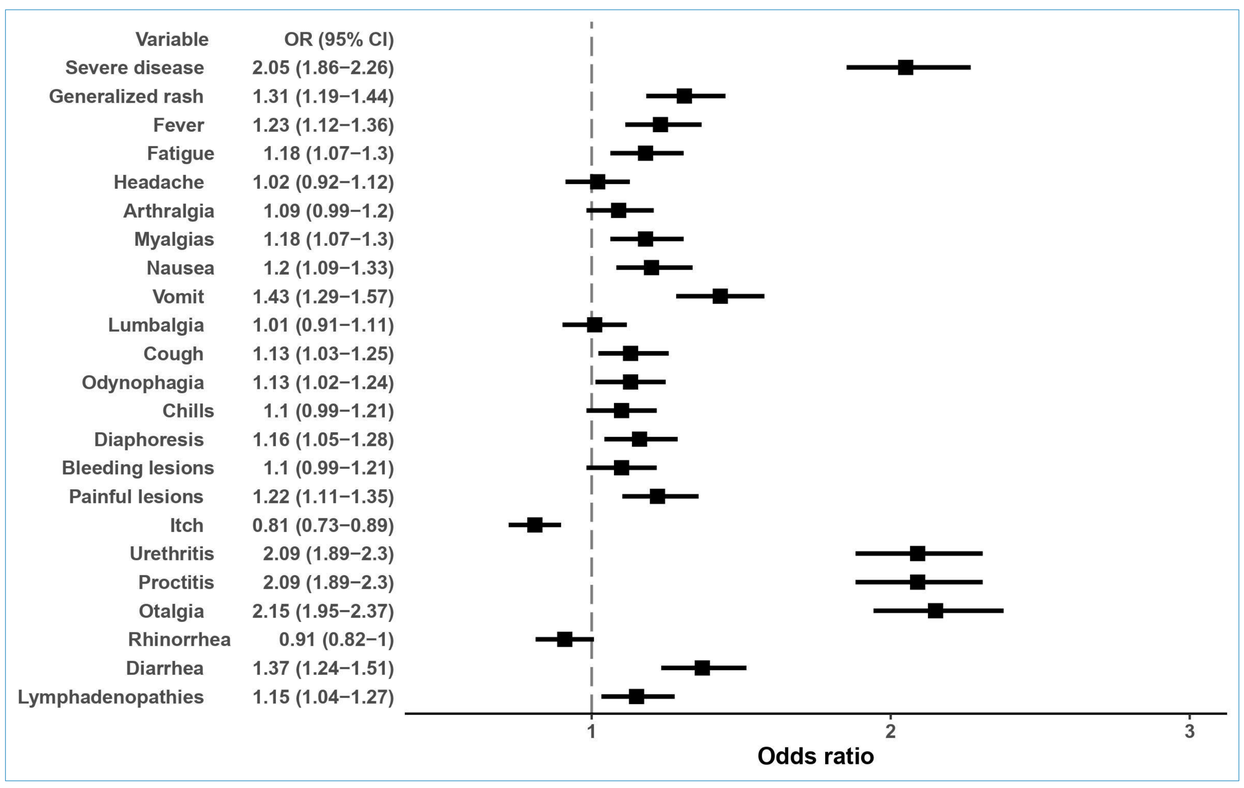

Figure. Outcomes and symptoms according to HIV status. Odds ratios consider "HIV negative" as the reference group and are calculated according to regression models described in the methods section.

Conclusion

- Even with similar sociodemographic and clinical characteristics, PLWH have a higher risk of severe mpox.
- All patients that died from mpox in our cohort were PLWH.
- The impact of CD4 cell count, HIV viral load, and antiretroviral therapy should be further studied to better understand the risk gradient and to make a precise causal contrast.

Presented at IAS 2023, the 12th IAS Conference on HIV Science

IAS 2023 23–26 July