Exploring mpox vaccination uptake and tolerability among individuals living with HIV: a single-center study in an infectious disease unit in Italy

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Background

A live attenuated, non-replicating vaccine (MVA-BN) is available for vaccination against mpox. Initially administered intradermally, starting in January 2024 it has been available in Italy for subcutaneous administration only. This study aims to provide an overview of mpox vaccination uptake among people living with HIV (PLWH) in a single center in Italy and explore its tolerability compared to individuals without HIV.

Materials and Methods

We retrospectively collected routine data of people vaccinated with intradermal and subcutaneous MVA-BN in a tertiary-level hospital in Florence, Italy, from September 15, 2022, to May 15, 2024. Data were collected from pre-vaccination screening questionnaires. Adverse events data were collected before the second dose through a dedicated questionnaire. Participants could report any adverse events anytime through phone or email contact.

Results

We vaccinated 332 subjects: 50.6% (n=168) were already on follow-up at our local HIV/STDs clinic. Overall, 36.1% (n=120) were PLWH, who had a higher median age, higher rate of previous smallpox vaccination and a higher proportion of transgender individuals compared to people without HIV (Table 1). The first vaccine shot was administered intradermally in 208 persons (62.6%) and subcutaneously in 124 (37.5%). As for vaccine tolerability, subcutaneous administration was associated with significantly fewer adverse events than intradermal (13 (12.6%) vs. 47 (30.1%), respectively; p=0.002). This difference was observed in both PLWH (9.5% vs 27.2%) and individuals without HIV (12.9% vs. 32.3%). All events were grade 1 in severity. Overall, among people who were supposed to receive two doses of the vaccine, 18 (5.8%) did not complete the cycle, with a high proportion of migrants and sex workers (Table 2). All individuals who did not return for the second dose did so due to personal choice rather than adverse reactions. One individual developed mpox 10 days after the first dose; none of the others routinely followed up at our center contracted mpox.

Conclusion

In conclusion, our limited experience suggests that mpox vaccination has been accepted and well-tolerated in individuals with and without HIV. More work is needed to promote awareness and immunization campaigns in vulnerable populations such as migrants and sex workers.

Table 1. Baseline characteristics of a group of people vaccinated for mpox from 15/09/2022 to 15/05/2024 at the outpatient clinic of the Infectious and Tropical Diseases Unit, Careggi Teaching Hospital, Florence, Italy.

	WITHOUT HIV (n=212)	WITH HIV (n=120)	P*
Gender; N (%)			0.007
•Cisgender Male	194 (91.5)	103 (85.8)	
•Cisgender Female	6 (2.8)	0 (0)	
•Transgender Female	12 (5.7)	17 (14.2)	
Median age in years [IQR]	37 [31-45]	43 [38-52]	<0.001
Self-defining MSM	185 (87.3)	103 (85.8)	0.025
Self-defining Sex worker	13 (6.1)	17 (14.2)	0.025
N° of expected doses; N (%)			<0.001
•1 dose	23 (10.9)	31 (25.8)	
•2 doses	189 (89.2)	89 (74.2)	
Number of individuals who did not complete the second dose; N (%)	8 (3.7)	10 (8.3)	0.078
Intradermal administration	115 (54.2)	93 (77.5)	<0.001
Adverse event (AE) after the first intradermal dose; N (%)			0.164
•Local	31 (32.9)	16 (26.6)	
•Systemic	0 (0)	2 (3.3)	
Adverse event (AE) after the first subcutaneous dose; N (%)			0.698
•Local	11 (12.9)	2 (9.5)	
•Systemic	2 (2.3)	0 (0)	