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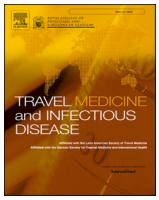

The never-ending story of mpox epidemic: Tracing a new cluster in Florence, Italy

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Dear Editor,

We have read with great interest the bulletin of the Joint ECDC-WHO Regional Office regarding the Europe Monkeypox (mpox) Surveillance, produced on January 12, 2024 [1]. At the current stage of the global clade IIb mpox outbreak which began in 2022, the reporting rate of new cases has drastically declined, but small clusters still occur in Europe and the USA. Meanwhile, an epidemic of clade I mpox, a more transmissible and severe disease subtype, started in the Democratic Republic of the Congo [2].

From November to December 2023, several European countries including Italy, Spain, France, Austria and Belgium reported an increase in new clade IIb mpox cases of more than 50% [3]. In line with this recent trend, we observed 17 new confirmed mpox cases between January and mid-February 2024 in Florence, Italy: 15 at the Sexually Transmitted Diseases Centre of Palagi Hospital and 2 at the Infectious and Tropical Disease Unit of Careggi Hospital (Table 1).

These patients, comprising fourteen Italians, one Georgian, one Colombian, and one Bengali, all identified as men who have sex with men (MSM). None reported any recent international travel. Fifteen were HIV-negative, and two were people living with HIV (PLWH) with good viro-immunological response. One of the 15 HIV-negative patients was taking daily pre-exposure prophylaxis for HIV. Out of the group, two had received the mpox vaccine in 2022.

All patients presented with new onset of painful, umbilicated, vesiculo-pustular anogenital lesions. Ten had lesions limited to the genital area, one had lesions in the perianal area, and six, including all PLWH and four HIV-negative patients, had lesions spread to other body areas including the face, scalp, trunk, limbs, and extremities (Fig. 1).

Most patients experienced mild prodromal symptoms like headache, fatigue, and low-grade fever for a few days. However, all PLWH and three HIV-negative patients suffered from more severe systemic symptoms, including high fever, pharyngitis, and asthenia lasting approximately 5–7 days.

However, these findings suggest no clear correlation between HIV status and the progression of mpox based on the small sample size [4,5]. Polymerase Chain Reaction (PCR) tests on oropharyngeal and skin lesion swabs were positive for mpox DNA, except in three patients who were only positive on penile swabs, indicating possible spontaneous clinical remission.

Remarkably, a close epidemiological link emerged as the first seven patients observed had attended the same men-only nightclub within two weeks prior to the onset of their symptoms, and these patients also reported having unprotected sex at the venue. This highlights the importance of contact tracing and prevention measures including self-isolation of suspected and confirmed cases and monitoring, or self-monitoring, of all known contacts, for 21 days from the last encounter.

Mpox diagnoses in Florence were made using a PCR that does not distinguish between clades. However, to date, no reported cases of mpox are associated with Clade I outside of Africa.

Our data highlight that mpox infection continues to circulate in Italy, although fortunately without severe clinical manifestations.

While the exact reasons behind the increase in mpox cases remain unclear, several factors are thought to contribute to it: diminishing immunity, a growing population of unvaccinated individuals, risky behaviours among MSM and genetic adaptations of poxviruses that can expand or contract some regions of their genome containing genes that allow immune evasion, aiding successful infection [6,7].

We believe that various elements could play a role in the reduction of Mpox cases: patient education, a more careful awareness regarding the illness, changes in sexual behaviour but also intensified vaccination campaigns among the most affected populations.

Ethics statement

The patients in this manuscript have given written informed consent to publication of their case details.

CRediT authorship contribution statement

Luigi Pisano: Data curation, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Manfredi Magliulo:** Data curation, Writing – original draft, Writing – review & editing. **Martina Turco:** Data curation, Writing – original draft, Writing – review & editing. **Jacopo Farini:** Data curation, Writing – original draft. **Anna Lisa Rapaccini:** Data curation, Writing – original draft. **Filippo Lagi:** Data curation, Writing – original draft. **Alessandro**

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Table 1
Demographics and clinical features of reported patients.

PATIENTS	GENDER, AGE, SEXUAL ORIENTATION	HIV STATUS	PREVIOUS STIs	SYSTEMIC SYMPTOMS	LYMPHOADENOPATHY	LOCALIZATION	CLINICAL FEATURES	VACCINATION FOR SMALLPOX	PrEP
1	M, 35, MSM	Negative	no	Low-grade fever, asthenia	Inguinal area	Inner layer of the foreskin, frenulum	Clustered pustular, ulcerated lesions	no	no
2	M, 55, MSM	Negative	Syphilis	Low-grade fever, asthenia, myalgias	no	Perianal area	Umbilicated pustules	no	no
3	M, 28, MSM	Negative	no	no	Inguinal area	Shaft of the penis	Small umbilicated pustules	no	no
4	M, 41, MSM	Negative	no	Headache	Inguinal area	Shaft of the penis, glans, inner layer of the foreskin	Umbilicated pustules associated with edema of the foreskin	no	no
5	M, 40, MSM	Negative	no	Low-grade fever	Inguinal area	Pubic area, shaft of the penis	Umbilicated pustules	yes	yes
6	M, 50, MSM	Negative	Urethritis caused by Mycoplasma genitalium	no	no	Shaft of the penis	Umbilicated pustules	no	no
7	M, 25, MSM	Negative	Syphilis	Mild pharyngitis, headache	Inguinal area	Balanopreputial sulcus	Umbilicated, partially ulcerated, pustules	no	no
8	M, 46, MSM	Negative	Pharyngitis caused by Chlamydia trachomatis, proctitis and pharyngitis caused by Neisseria gonorrhoeae	no	no	Glans	Ulcerated nodule	no	no
9	M, 46, MSM	Positive	Syphilis, pharyngitis by Ureaplasma urealitycum	Fever, pharyngitis	Inguinal area	Pubic area, penile shaft, perianal lesions and widespread on the trunk and root of the thighs	Umbilicated pustules	no	no
10	M, 45, MSM	Positive	Hepatitis A, Syphilis and pharyngitis caused by Chlamydia trachomatis	Fever, pharyngitis, asthenia	Inguinal area	Pubic area, penile shaft, perianal lesions, trunk	Umbilicated pustules	no	no
11	M, 39, MSM	Negative	no	Fever, pharyngitis, asthenia, headache	Inguinal area	Trunk, upper limbs, legs, soles of the feet, face, scalp, inguinal and perianal area	Umbilicated pustules	no	no
12	M, 30, MSM	Negative	no	Headache, asthenia, diarrhea	Inguinal area	Balanopreputial sulcus	Umbilicated pustules associated with edema of the foreskin	no	no
13	M, 31, MSM	Negative	no	Pharyngitis, asthenia, night sweats	Inguinal area	Perianal area, pubic and inguinal area, face, scalp, hands and upper limbs	Vesiculo-pustular lesions with erythematous halo	no	no
14	M, 31, MSM	Negative	no	no	Inguinal area	Penile shaft	Umbilicated pustules	yes	no
15	M, 28, MSM	Negative	no	Fever, headache, myalgias and arthralgias	Inguinal area	Penile shaft, trunk, hands	Umbilicated pustules	no	no
16	M, 26, MSM	Negative	no	Low-grade fever, asthenia, myalgias	Inguinal area	Penile shaft	Umbilicated pustules	no	no

(*continued on next page*)

Table 1 (*continued*)

PATIENTS	GENDER, AGE, SEXUAL ORIENTATION	HIV STATUS	PREVIOUS STIs	SYSTEMIC SYMPTOMS	LYMPHOADENOPATHY	LOCALIZATION	CLINICAL FEATURES	VACCINATION FOR SMALLPOX	PrEP
17	M, 21, MSM	Negative	no	Fever, pharyngitis, asthenia	Inguinal area	Penile shaft, trunk, upper limbs	Umbilicated pustules	no	no

Abbreviations: **M**, male; **HIV**, human immunodeficiency virus; **MSM**, men who have sex with men; **STIs**, sexually transmitted infections; **PrEP**, Pre-exposure prophylaxis.

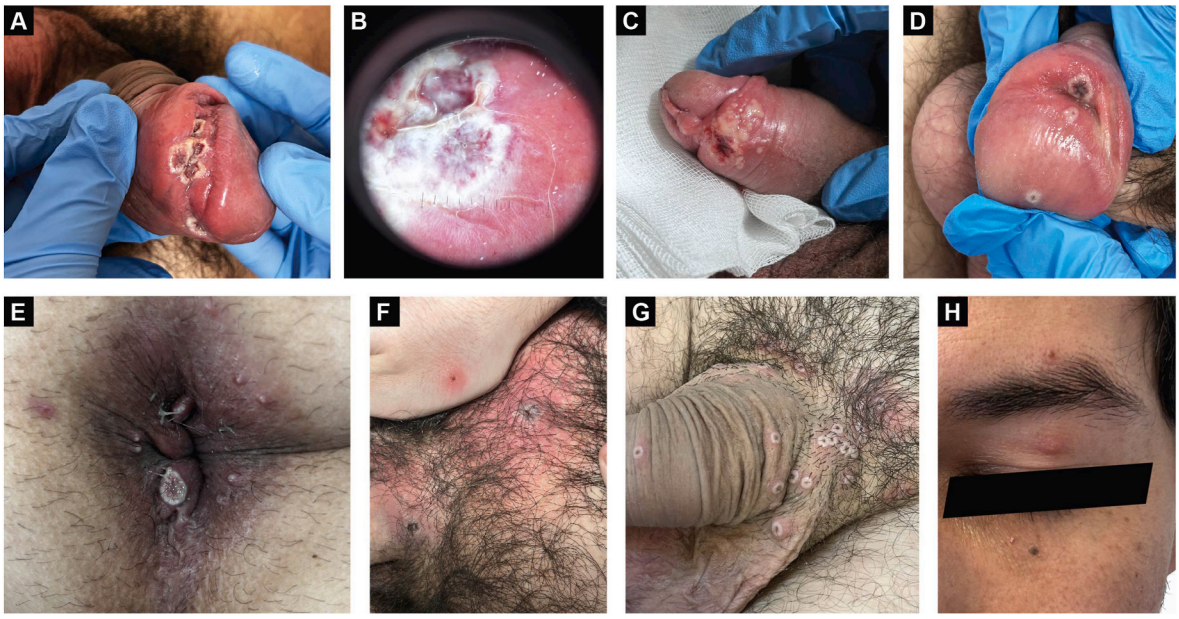

Fig. 1. Clustered, pustular lesions with central umbilication were observed on the balanopreputial sulcus of patient A). B) Dermoscopy of the lesions of patient A) showed a rounded whitish structureless area with a brownish central crust and perilesional erythema. A large, partially ulcerated, pustular lesion, surrounded by other small satellite pustules, was observed on the inner layer of the foreskin of patient C). Patient D) showed three umbilicated pustular lesions on the glans and the balanopreputial sulcus. Patient E) showed a perianal distribution of the Mpox lesions. Patient F) showed two umbilicated, pustular lesions on the pubic area and a third, smaller, lesion on the right hand. Multiple small umbilicated pustules were observed on the shaft of the penis and the pubic area of patient G). Patient H) showed a typical vesiculo-pustular lesion, with central yellow crust and peripheral erythematous halo, on the left upper eyelid.

Bartoloni: Data curation, Supervision, Writing – original draft. **Nicola Pimpinelli:** Data curation, Supervision, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Luigi Pisano, Manfredi Magliulo, Martina Turco*, Jacopo Farini, Anna Lisa Rapaccini
Section of Dermatology, Health Sciences Department, University of Florence, Florence, Italy

Filippo Lagi, Alessandro Bartoloni
Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy

Nicola Pimpinelli
Section of Dermatology, Health Sciences Department, University of Florence, Florence, Italy

* Corresponding author. Piero Palagi Hospital, Viale Michelangiolo 41, Firenze, Italy.
E-mail address: martina.turco@unifi.it (M. Turco).