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## European Journal of Internal Medicine

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## Letter to the Editor

## Monkeypox infection: Should we expect changes in its epidemiological and clinical features?

Dear Editor,

We read with interest the excellent review on the outbreak of monkeypox (MPX) by Patauner et al. [1]. The epidemiological scenario was exhaustively described but referred to a pre-vaccination era. In fact, in August 2022, EMA's Emergency Task Force advised on use of Imvanex/Jynneos against MPX [2]. The Italian Ministry of Health advised pre-exposure vaccination of at-risk individuals identified as men who have sex with men (MSM) having multiple sexual partners, and/or group sex and/or chemsex and/or a recent diagnosis of sexually transmitted infection (STI), irrespective of HIV infection [3].

The highest number of cases reported in EU/EEA has been reached during week 29 (18 to 24 July) [4]. Since then, notification rates have decreased. Between week 35 (29 August to 4 September) and the previous one, a negative change in notification rate has been observed in 20 countries, varying from -15.8 to -100% [4]. In Italy, a cumulative number of 837 cases has been reported since the beginning of the outbreak, and a -25% change has been registered between week 35 and 34. Our experience in an STI reference center in Rome (Italy) is in line with this epidemiological trend. Indeed, six MPX cases were diagnosed between 21 June and 8 August 2022. Notably, no other MPX case was diagnosed up to 23 September, when a 32-year-old HIV-negative MSM presented with a small and painful ulcerative lesion of the penis associated with edema in the absence of lymphadenopathy and systemic symptoms. He referred a syphilis diagnosis in the previous six months, and participation in a chemsex group in Italy in the previous 7 days. The patient had received the first dose of MPX vaccination approximately 30 days before MPX diagnosis, which was laboratory-confirmed by a Real-Time PCR-based assay.

Despite observed in a single STI center, our case series reflects a real and factual phenomenon of reduction in MPX cases, with the following possible reasons: (i) behavioral changes in the most affected group (MSM) due to risk communication through MSM community engagement; (ii) natural immunity acquired in the last months by part of the populations at risk as a consequence of dense sexual networks among MSM; (iii) increasing vaccination against MPX among populations at risk. According to the most recent ECDC indications, MPX can be defined as an STI, represented by infections caused by any infectious agent (bacteria, viruses, parasites, or other microorganisms), that can be passed from one person to another during an intimate/sexual encounter. Previous observations in the STI field have shown that sexual behavior can vary based on the (re)-emergence of an infectious agent and, subsequently, the availability of preventive or therapeutic strategies. Before the introduction of HAART for HIV infection, syphilis and gonorrhea diagnoses hit historical lows. Since 2002, a syphilis outbreak started thank to the optimism induced by the efficacy of HAART in controlling HIV infection, as also reported in our country [5]. Initially, MSM are likely to have developed fear about MPX acquisition from sex. This

probably induced a modification in their behavior, such as reduction of sexual partners and selection of safer sexual partners. More recently, the anti-MPX vaccination campaign has started and an increasing number of MSM have been already vaccinated with a first dose. MPX vaccination might be an encouraging factor for resuming risk behavior since reducing STI risk perception, due to the confidence in vaccine protection. Indeed, our last patient had received the first dose a month before the onset of symptoms. Noteworthy, the protective efficacy of the vaccine currently used against MPX has not been studied in humans. Observational studies previously conducted in Africa suggest that smallpox vaccination might provide up to an 85% protection against MPX [3]. Based on these data, we fear that a rebound in MPX diagnoses might be observed in the next weeks. In addition, immune response elicited by the vaccine might modify the clinical manifestations of MPX. It is thus necessary to maintain a high level of attention on both genital and extra-genital ulcerative dermatological manifestations, as well as constitutional symptoms.

## CRediT authorship contribution statement

**Maria Gabriella Donà:** Conceptualization, Writing – original draft.  
**Eugenia Giuliani:** Conceptualization, Writing – review & editing.  
**Mauro Zaccarelli:** Conceptualization, Writing – review & editing.  
**Alessandra Latini:** Conceptualization, Writing – review & editing.

## Declaration of Competing Interest

The authors declare they have no conflict of interest.

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