Editorials

The changing face of monkeypox

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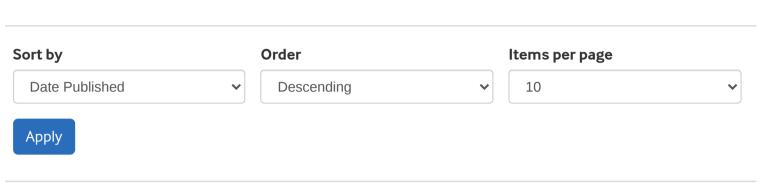
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06 October 2022

Andrew A. Lover

Amherst

Assistant Professor, Epidemiology

Andrew Noymer, noymer@uci.edu

School of Public Health and Health

Street, Amherst, MA 01003-9304

@AndrewALover, @AndrewNoymer

Sciences, University of Massachusetts-

409 Arnold House, 715 North Pleasant

Re: The changing face of monkeypox and the seasonality of human orthopoxvirus infections Dear Editor,

The sixth month old MPX Public Health Emergency is currently slowing, but shows increasing case reports in new populations outside of men who have sex with men (MSMs). While human infections were first identified in the Democratic Republic for Congo (Congo, Léopoldville, at the time; later, Zaire) in 1970, many aspects of MPX epidemiology remain obscure, including primary modes of transmission, and seasonality of infections in temperate climates. Understanding these closely-linked features has major import for pandemic planning and response.

The primary modes of transmission of variola (smallpox; the closest well-studied human orthopoxvirus) have never been full elucidated but the balance of evidence suggests: "Smallpox appears to have been most effectively and virulently transmitted by fine particle aerosols and therefore should be classified as an anisotropic infection; an infection where route of transmission influences either virulence and or probability of infection, formerly called a "preferentially" airborne infectious disease."[1]

And closely aligned with this mode of transmission is strong seasonality in temperate climates: "...a seasonal incidence similar to that of measles and chickenpox; it was mainly a disease of winter and spring."[2] For example, historical data from New York City, and London (Fig 1, https://osf.io/stke3) shows clearly evident peaks in wintertime and spring, across decades of transmission in multiple geographies. The seasonality of transmission has also been quantified in other diverse settings, and was associated with ambient humidity across multiple cities in Asia and Europe.[3] Finally, increased environmental stability of orthopoxviruses has also been associated with low humidity.[4]

This seasonality suggests if MPX epidemiology is closely analogous to variola transmission, the observed cases in the Northern hemisphere in 2022 may represent an atypical summer wave, associated with the introduction of the virus into new populations. The global community should consider and closely monitor for a potential shift towards more "textbook" modes of transmission, potentially leading to lower transmission in the near team, followed by a "surprise" re-emergence during the Northern hemisphere winter 2022–23 or into spring 2023. Moreover, the expansion of the current outbreak to new demographic groups, including infants [5] may foreshadow potential low-level endemicity, in which seasonality may play an important role, in part by masking the true drivers of the current decline in cases.

*Andrew A Lover, Andrew Noymer

alover@umass.edu or noymer@uci.edu

a. Dept. of Biostatistics and Epidemiology, School of Public Health and Health Sciences, University of Massachusetts- Amherst b. Dept. of Population Health and Disease Prevention, University of California-Irvine

References

1 Milton DK. What was the primary mode of smallpox transmission? Implications for biodefense. Front Cell Infect Microbiol 2012;2. doi:10.3389/fcimb.2012.00150

2 Fenner F, Henderson DA, Arita I, et al. Smallpox and its eradication. Published Online First:

1988.http://www.who.int/iris/handle/10665/39485 (accessed 11 Jan 2018).

3 Nishiura H, Kashiwagi T. Smallpox and season: reanalysis of historical data. Interdiscip Perspect Infect Dis 2009;2009:e591935. doi:10.1155/2009/591935

4 Essbauer S, Meyer H, Porsch-Özcürümez M, et al. Long-lasting stability of vaccinia virus (orthopoxvirus) in food and environmental samples. Zoonoses Public Health 2007;54:118–24. doi:10.1111/j.1863-2378.2007.01035.x

5 Saunders KE. Monkeypox in a Young Infant — Florida, 2022. MMWR Morb Mortal Wkly Rep 2022;71. doi:10.15585/mmwr.mm7138e3 6 Davidson A. The seasonal fluctuations of epidemic diseases. Trans Epidemiol Soc Lond 1897;16:257–86.

Competing interests: No competing interests

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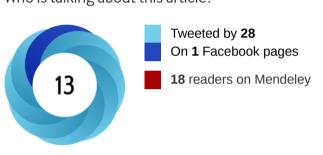
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