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ARTICLE IN PRESS

EUROPEAN UROLOGY xxx (xxxx) xxx

available at www.sciencedirect.com journal homepage: www.europeanurology.com





Platinum Priority – Editorial
Referring to the article published on pp. x–y of this issue

Monkeypox and the Urologist: Playing an Important Role in This Emerging Global Outbreak

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In this issue of *European Urology*, Gomez-Garberi et al [1] report on a series of patients with monkeypox who presented to either the urology or internal medicine department at the University Hospital of San Juan de Alicante in Spain. They highlight the high frequency of genital symptoms and signs, and that urologists must be prepared to play a key role in diagnosing this infection. This report is timely as we witness a global outbreak and because, until now, many urologists might have been unaware of monkeypox.

Monkeypox is a viral zoonosis that is transmitted between humans or from an animal host, such as a rodent, squirrel, or nonhuman primate. Transmission is via direct contact with blood, bodily fluids, or cutaneous/mucosal lesions. Few individuals are hospitalised and very few die from the infection. Human infections were first diagnosed in 1970 and, up until the mid 2000s, seemed to be contained within central and west Africa. From 2003 onwards, an increasing number of cases outside of endemic areas, including Europe and North America, were identified. However, the number of new cases was low and most were selfcontained. That was until 2021, when there were two reports of monkeypox in the USA for individuals who had visited Nigeria [2]. In May 2022, multiple cases of monkeypox infection were reported in Portugal, Spain, and Canada [3]. Over the next few days, cases were identified in Australia, the UK, Belgium, Switzerland, Israel, and the USA. At the time of writing, there have been 49 974 confirmed cases in 92 nonendemic regions (https://www.cdc.gov/ poxvirus/monkeypox/response/2022/world-map.html), including 18 416 new diagnoses in the USA (Fig. 1).

The incubation period for monkeypox is usually between 6 and 13 d [4] and most infected individuals present with fever, headache, muscle aches, fatigue, and lymphadenopathy [5]. This last feature is a distinctive sign that can help in differentiating monkeypox from other viral illnesses with similar symptoms (eg, chicken pox, measles, and smallpox). Approximately 1–3 d after the fever starts, skin eruptions emerge on the face, extremities, and mucous membranes. Lesions can be located on the genital organs and, as detailed by Gomez-Garberi et al [1], it is these eruptions that may be the initial presenting symptom for many individuals. Treatment is mostly aimed at symptom relief, including shortening the duration of symptoms [6] and preventing further spread, including use of vaccination [7].

There are important take home messages for our readers. First, as demonstrated, an awareness of this diagnosis is important [1]. Gomez-Garberi et al [1] report that most individuals had genital eruptions, although one man presented with fever and penile oedema without a clear source. He had lymphadenopathy at presentation, but it was 21 d before skin lesions developed. Anogenital lesions were seen in most infected individuals (eg, 73% of those documented by the SHARE-net Clinical Group [4]) so this atypical presentation may be seen in many units. Second, in the current outbreak there are at-risk populations and awareness of these will help in identifying cases. Thornhill et al [4] reported 528 individuals with infection, of whom 98% were gay or bisexual, 75% were white, and 41% also had human immunodeficiency virus (HIV) infection; the median age was 38 yr. It was thought that transmission was mostly

DOI of original article: https://doi.org/10.1016/j.eururo.2022.08.034

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https://doi.org/10.1016/j.eururo.2022.09.006

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Please cite this article as: James W.F. Catto, Monkeypox and the Urologist: Playing an Important Role in This Emerging Global Outbreak, Eur Urol (2022), https://doi.org/10.1016/j.eururo.2022.09.006

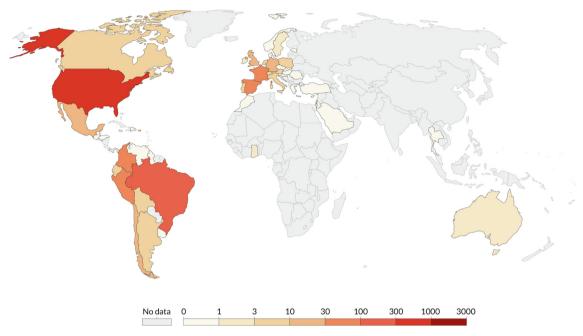


Fig. 1 - Global distribution of new monkeypox cases up to August 2022. Retrieved from https://ourworldindata.org/explorers/monkeypox [11].

via sexual activity, and the data from Gomez-Garberi et al [1] support this hypothesis (eg, 71% of those with infection were men who had sex with men, the median age was 42 yr, and HIV was found in 57%). Third, co-infection with other sexually transmitted diseases is common, so thorough screening is advocated. Finally, the authors helpfully detail steps that a urologist should take when identifying a case of monkeypox. A diagnosis should be confirmed (including any appropriate notifications) and symptoms treated. Patients should be managed with sensitivity (without stigmatisation) and encouraged to talk to their contacts (for education and enhanced testing) to reduce any local spread [4]. The duration of viral shedding (after resolution of lesions) is unknown, so the use of condoms for 8 wk is advocated.

Targeted vaccination has been introduced and it is hoped that studies will inform the best application [8,9]. Molecular epidemiology and genomics are unravelling why the viral demographics have changed and how this might have an impact in the future [10]. It is likely that these studies will deliver better treatments and effective vaccines. While the current monkeypox outbreak is a cause for concern, we should be measured in our response. In contrast to HIV and COVID-19, most individuals recover fully and fatalities are mostly rare. While some monkeypox strains do have higher rates of pathogenicity, vaccines exist. Our role as urologists will be to consider the diagnosis, confirm this

through testing, treat local symptoms and the patient with sensitivity, and then reduce the spread through education.

Conflicts of interest: The author has nothing to disclose.

References

- [1] Gomez-Garberi M, Sarrio-Sanz P, Martinez-Cayuelas L, et al. Genitourinary lesions due to monkeypox. Eur Urol 2022, In press.
- [2] Looi MK. Monkeypox: what we know about the 2022 outbreak so far. BMJ 2022;378:o2058.
- [3] Kumar N, Acharya A, Gendelman HE, Byrareddy SN. The 2022 outbreak and the pathobiology of the monkeypox virus. J Autoimmun 2022;131:102855.
- [4] Thornhill JP, Barkati S, Walmsley S, et al. Monkeypox virus infection in humans across 16 countries — April–June 2022. N Engl J Med 2022;387:679–91.
- [5] Adler H, Gould S, Hine P, et al. Clinical features and management of human monkeypox: a retrospective observational study in the UK. Lancet Infect Dis 2022;22:1153–62.
- [6] Sherwat A, Brooks JT, Birnkrant D, Kim P. Tecovirimat and the treatment of monkeypox — past, present, and future considerations. N Engl J Med 2022;387:579–81.
- [7] Gruber MF. Current status of monkeypox vaccines. NPJ Vaccines 2022;7:94.
- [8] Mahase E. Monkeypox: gay and bisexual men with high exposure risk will be offered vaccine in England. BMJ 2022;377:o1542.
- [9] Kupferschmidt K. Scientists scramble to set up monkeypox vaccine trials. Science 2022;377:696–7.
- [10] Rothenburg S, Yang Z, Beard P, et al. Monkeypox emergency: urgent questions and perspectives. Cell 2022;185:3279–81.
- [11] Mathieu E, Spooner F, Dattani S, Ritchie H, Roser M. Monkeypox 2022. https://ourworldindata.org/monkeypox.