Elsevier has created a Monkeypox Information Center in response to the declared public health emergency of international concern, with free information in English on the monkeypox virus. The Monkeypox Information Center is hosted on Elsevier Connect, the company's public news and information website.

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Evidence of human-to-dog transmission of monkeypox virus

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See Online for appendix

Human monkeypox virus is spreading in Europe and the USA among individuals who have not travelled to endemic areas.[1] On July 23, 2022, monkeypox was declared a Public Health Emergency of International Concern by WHO Director-General Tedros Adhanom Ghebreyesus.[2] Human-to-human transmission of monkeypox virus usually occurs through close contact with the lesions, body fluids, and respiratory droplets of infected people or animals.[3] The possibility of sexual transmission is being investigated, as the current outbreak appears to be concentrated in men who have sex with men and has been associated with unexpected anal and genital lesions.[1,4] Whether domesticated cats and dogs could be a vector for monkeypox virus is unknown. Here we describe the first case of a dog with confirmed monkeypox virus infection that might have been acquired through human transmission.

Two men who have sex with men attended Pitié-Salpêtrière Hospital, Paris, France, on June 10, 2022 (appendix). One man (referred to as patient 1 going forward) is Latino, aged 44 years, and lives with HIV with undetectable viral loads on antiretrovirals; the second man (patient 2) is White, aged 27 years, and HIV-negative. The men are non-exclusive partners living in the same household. They each signed a consent form for the use of their clinical and biological data, and for the publication of anonymised photographs. The men had presented with anal ulceration 6 days after sex with other partners. In patient 1, anal ulceration was followed by a vesiculopustular rash on the face, ears, and legs; in patient 2, on the legs and back (figure A, B). In both cases, rash was associated with asthenia, headaches, and fever 4 days later.

Figure: Skin and mucosal lesions in two male patients and their dog with confirmed monkeypox virus
(A) Pustular lesion of the thigh, with central umbilication and the onset of necrosis, in patient 1. (B) Erosive and pustular anal lesions in patient 2. (C) Two slightly crusty erythematous papules in the dog. (D) Millimetric erosive anal lesion in the dog.

For **monkeypox cases in France** see https://www.santepubliquefrance.fr/les-actualites/2022/cas-de-variole-du-singe-point-de-situation-au-4-aout-2022

Monkeypox virus was assayed by real-time PCR (LightCycler 480 System; Roche Diagnostics, Meylan, France). In patient 1, virus was detected in skin and oropharynx samples; whereas in patient 2, virus was detected in anal and oropharynx samples.

12 days after symptom onset, their male Italian greyhound, aged 4 years and with no previous medical disorders, presented with mucocutaneous lesions, including abdomen pustules and a thin anal ulceration (figure C, D; appendix). The dog tested positive for monkeypox virus by use of a PCR protocol adapted from Li and colleagues[5] that involved scraping skin lesions and swabbing the anus and oral cavity. Monkeypox virus DNA sequences from the dog and patient 1 were compared by next-generation sequencing (MinION; Oxford Nanopore Technologies, Oxford, UK). Both samples contained virus of the hMPXV-1 clade, lineage B.1, which has been spreading in non-endemic countries since April, 2022, and, as of Aug 4, 2022, has infected more than 1700 people in France, mostly concentrated in Paris, where the dog first developed symptoms. Moreover, the virus that infected patient 1 and the virus that infected the dog showed 100% sequence homology on the 19·5 kilobase pairs sequenced. The men reported co-sleeping with their dog. They had been careful to prevent their dog from contact with other pets or humans from the onset of their own symptoms (ie, 13 days before the dog started to present cutaneous manifestations).

In endemic countries, only wild animals (rodents and primates) have been found to carry monkeypox virus.[6] However, transmission of monkeypox virus in prairie dogs has been described

in the USA[7] and in captive primates in Europe[8] that were in contact with imported infected animals. Infection among domesticated animals, such as dogs and cats, has never been reported.

To the best of our knowledge, the kinetics of symptom onset in both patients and, subsequently, in their dog suggest human-to-dog transmission of monkeypox virus. Given the dog's skin and mucosal lesions as well as the positive monkeypox virus PCR results from anal and oral swabs, we hypothesise a real canine disease, not a simple carriage of the virus by close contact with humans or airborne transmission (or both). Our findings should prompt debate on the need to isolate pets from monkeypox virus-positive individuals. We call for further investigation on secondary transmissions via pets.

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WHO's Palestinian statistics: what's Israel got to do with it?

We are writing to express our serious concerns and surprise over some of the statements and quotations offered in Richard Horton's Offline[1] about WHO's decision not to publish health statistics for the West Bank and the Gaza Strip in their *World Health Statistics 2022*.[2] In fact, we entirely agree with Horton's central point about the need to publish accurate health statistics from all jurisdictions. We, too, cannot understand why Palestinian health data were not included, especially as Palestine is a member of the WHO Eastern Mediterranean Regional Office group. Moreover, we are deeply concerned by the health conditions and status of Palestinians, as reported by the Director-General in May, 2022.[3]

That being said, we are perplexed by Horton's conflation of WHO's omission with various purported sins committed over more than 100 years, first by the Zionists, then perpetuated by Israel. We are confounded by this non sequitur since Israel could not, and did not, have any role in WHO's decision. Why bring Israel into the discussion at all? Both the content and tone strike us simply as a gratuitous swipe at Israel, Zionism, and Jews, which can have no constructive role in advancing Palestinian health. A few examples we hope will elucidate our concerns.

Genocide is a highly charged word that can push many buttons. In this context we are all too familiar with the preposterous and poisonous claim that the Jews or just the Zionists are somehow out to destroy the Palestinian people. The complex history of our region relates numerous Israeli acceptances of international decisions and attempts at reconciliation with Palestinian authorities and leadership, which, tragically, were met with responses aimed at eliminating the Jewish people in Israel.[4] Use of the loaded term genocide also, sadly, feeds directly into a narrative of some who accuse Israel and its supporters of responsibility for a Palestinian Holocaust—a mirror image of what was perpetrated by Nazi Germany and its European collaborators on the Jews.

Taiwan, with 20 million inhabitants, is also, unhelpfully, not included in WHO's health statistics.[2] Taiwan's effort to join WHO as an observer failed once again earlier this year.[5] Clearly, Taiwan is a fully-fledged sovereign country, whatever the Chinese leadership thinks or claims. Although worthy of criticism, is WHO's exclusion of Taiwan's membership a form of genocide? To us, and surely to other fair-minded readers of *The Lancet*, the abuse of this word in this context points to another, not so subtle, attempt to serve an agenda of delegitimising Israel.

To claim that "life expectancy, infant and under-5 mortality, and maternal mortality were all worse than those of the occupying nation",[1] which Horton attributes to Rik Peeperkorn of WHO, does not take into account the complexity of the multifactorial reasons for the tragic state of Palestinian health. Without wishing to diminish Israel's contribution to the difficult state of Palestinian health at times, it is clear that a major part of the

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