

Monkeypox virus – Would it arrive in Latin America?

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Viruela del Mono - ¿Podría llegar a América Latina?

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May 2022 mark the beginning of a new outbreak of some degree of *concern*, globally, as it is spreading relatively quickly in multiple countries, between persons even without travel-related history [1]. Monkeypox, a DNA virus member of the Orthopoxvirus genus (family Poxviridae) (Figure 1), is now the cause of clinical disease in almost 200 hundred suspected cases in more than a dozen of countries (Figure 2) outside Africa, where this zoonosis is endemic, especially in the Democratic Republic of the Congo, in the Republic of the Congo and Nigeria.

As the number of cases increases daily, the question in Latin America is quite apparent. Would Monkeypox arrive in Latin America? Yes. When writing this Editorial, a suspected case is already investigated in Argentina. A traveller from Spain, with clinical findings compatible with Monkeypox infection. Then, as has occurred with the COVID-19 pandemic [2], we should expect to have more suspected Monkeypox cases in Argentina, as well as, in other countries, especially in those with a large volume of international flights between them and North America and Europe, as is the case of Brazil, Mexico, Colombia, Chile, Peru, among others in the region.

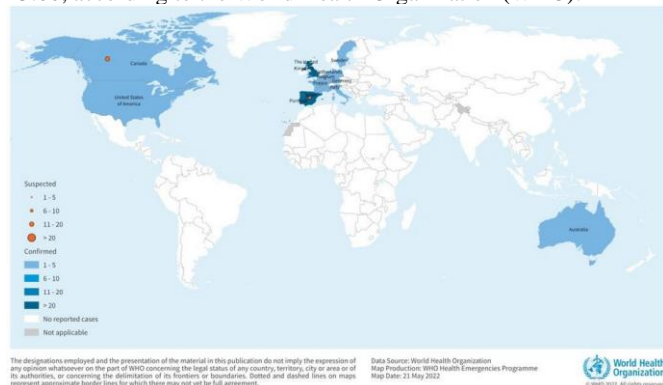
Figure 1. Taxonomical location of the Monkeypox virus, according to the International Committee on Taxonomy of Viruses (ICTV) (<https://talk.ictvonline.org/taxonomy/>).

– Realm: Varidnaviria	2 kingdoms
– Kingdom: Bamfordvirae	2 phyla, 1 family
– Phylum: Nucleocytoviricota	Kingdom: Bamfordvirae
– Class: Megaviricetes	Phylum: Nucleocytoviricota
– Class: Pokkesviricetes	Phylum: Nucleocytoviricota
– Order: Asfuvirales	Class: Pokkesviricetes
– Order: Chitovirales	Class: Pokkesviricetes
– Family: Poxviridae	Order: Chitovirales
– Subfamily: Chordopoxvirinae	Family: Poxviridae
– Genus: Avipoxvirus	Subfamily: Chordopoxvirinae
– Genus: Capripoxvirus	Subfamily: Chordopoxvirinae
– Genus: Centropoxvirus	Subfamily: Chordopoxvirinae
– Genus: Gervidpoxvirus	Subfamily: Chordopoxvirinae
– Genus: Crocodylidpoxvirus	Subfamily: Chordopoxvirinae
– Genus: Leporipoxvirus	Subfamily: Chordopoxvirinae
– Genus: Macropoxvirus	Subfamily: Chordopoxvirinae
– Genus: Molluscipoxvirus	Subfamily: Chordopoxvirinae
– Genus: Mustelipoxvirus	Subfamily: Chordopoxvirinae
– Genus: Orthopoxvirus	Subfamily: Chordopoxvirinae
– Species: Abatino macacopox virus	Genus: Orthopoxvirus
– Species: Akhmeta virus	Genus: Orthopoxvirus
– Species: Camelopox virus	Genus: Orthopoxvirus
– Species: Canipox virus	Genus: Orthopoxvirus
– Species: Ectromelia virus	Genus: Orthopoxvirus
– Species: Monkeypox virus	Genus: Orthopoxvirus
– Species: Raccoonpox virus	Genus: Orthopoxvirus
– Species: Skunkpox virus	Genus: Orthopoxvirus
– Species: Taterapox virus	Genus: Orthopoxvirus
– Species: Vaccinia virus	Genus: Orthopoxvirus
– Species: Variola virus	Genus: Orthopoxvirus
– Species: Volepox virus	Genus: Orthopoxvirus

Although Monkeypox received its name because researchers first detected it in laboratory monkeys in 1958, the virus is thought to transmit from wild animals such as rodents (e.g. prairie dogs, Gambian pouched rats,

dormice, among others) to people — or infected people [3].

Figure 2. Geographical distribution of confirmed and suspected cases of Monkeypox in non-endemic between May 13-21, 2022, as of 13:00, according to the World Health Organization (WHO).



This disease, transmitted primarily to humans by some wild animals, has limited secondary spread through person-to-person transmission [4]. Nevertheless, available information suggests that human-to-human transmission occurs among people in close physical contact with symptomatic cases [1]. Human-to-human transmission is thought to occur primarily through large respiratory droplets. Other human-to-human ways of transmission include direct contact with body fluids or lesion material and indirect contact with lesion material.

Latin America should be prepared for Monkeypox. Now is the moment for evidence-based information dissemination and education for healthcare workers and the general population. Medical and scientific societies, especially those from infectious diseases, virology, public health and epidemiology, should lead this task in the immediate future.

At the same time, public health authorities across the region should work quickly on the availability of PCR for molecular specific diagnosis of the Monkeypox virus that would be detected and identified from skin lesions in suspected cases during the skin eruption period of disease [5]. Fortunately, the capabilities and facilities for molecular diagnosis of infectious diseases have significantly increased in multiple countries of Latin America as a consequence of the work developed during more than two years of the COVID-19 pandemic. Also, the possibility of genome sequencing, which is critical for mutation detection, as well as for the identification of the virus clades, may mark a different clinical evolution and outcome, as the West African one is milder with 1-

5% of case fatality rate (CFR) previously reported, but the Central African clade is up to 8-13% of CFR [6].

As this is a rapidly evolving situation, healthcare workers should be updated and aware of the information provided by the World Health Organization (WHO) and regional and national health authorities. In addition, resources, intensified surveillance, and capacity building should be urgently prioritized in countries with a moderate risk that might be ill-prepared to detect imported cases and limit onward transmission [6].

COVID-19 pandemic has generated illness and death in our region, but it has also trained us to face the challenge of emerging and re-emerging diseases. What we have learned with SARS-CoV-2 helps us to face in a stronger way Monkeypox with health care teams capable of quickly making suspected diagnoses and with proper use of Personal Protective Equipments (PPE) and other measures.

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