VIRUELA DEL MONO

02 de Diciembre de 2022

Hospital Universitario Virgen del Rocío

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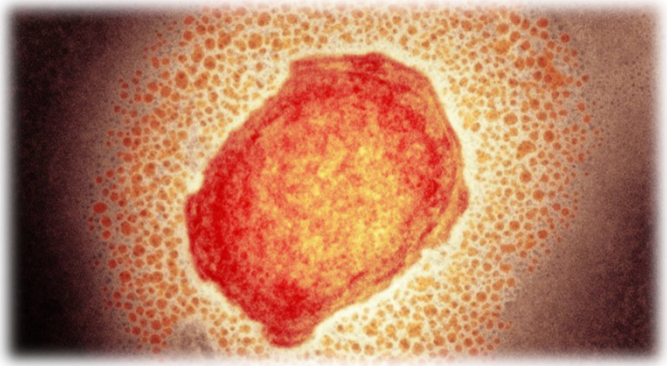
FEA en Enfermedades Infecciosas

VIRUELA DEL MONO

- Zoonosis viral (MPXV)
  - Género Orthopoxvirus
  - Familia Poxviridae

- 1958: experimentación en monos (Copenhague)
- 1970: primer caso en el humano (RDC)

- 2 clados
  - África Central
  - África Occidental (menos virulento)



World Health Organization

Confirmed human monkeypox cases Worldwide, 1970-2021

United States of America

47 casos en **2003**

1 caso en 2021

United Kingdom

4 casos en 2018/2019
3 casos en 2021

Israel (Imported)

1 caso en 2018

Sierra Leone
Liberia
Côte d'Ivoire
Benin
Nigeria
Cameroon
Gabon
Congo
Central African Republic
South Sudan
Democratic Republic of the Congo

Singapore (Imported)

1 caso en 2019

Locally acquired
Imported
Not applicable

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www.gov.uk/government/news/monkeypox-cases-confirmed-in-england-latest-updates

GOV.UK | Topics | Government activity

Home > Health and social care > Public health > Health protection > Infectious diseases

7 May 2022

Monkeypox case confirmed in England

The UK Health Security Agency (UKHSA) can confirm an individual has been diagnosed with monkeypox in England.

The patient has a recent travel history from Nigeria, which is where they are believed to have contracted the infection, before travelling to the UK.

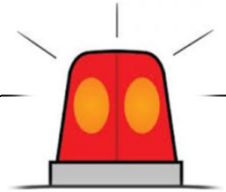
14 May 2022

Two additional cases of monkeypox identified in London

Two individuals have been diagnosed with monkeypox in London, the UK Health Security Agency (UKHSA) has confirmed.

The cases live together in the same household. They are not linked to the previous confirmed case announced on 7 May. Where and how they acquired their infection remains under investigation.

16 May 2022



Four more cases of monkeypox indentified by UKHSA

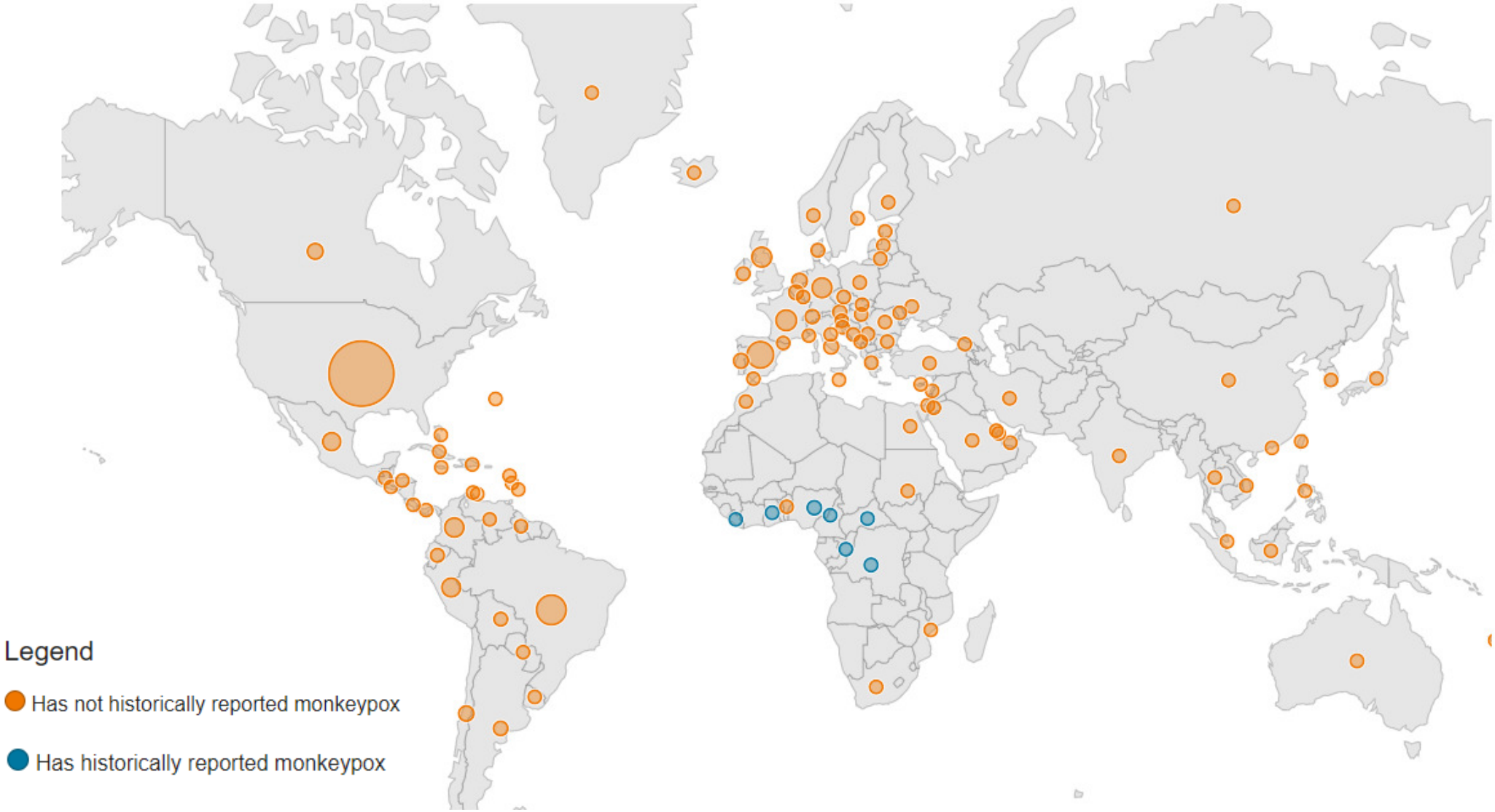
The UK Health Security Agency (UKHSA) has detected 4 additional cases of monkeypox, 3 in London and one linked case in the North East of England.

The 4 new cases do not have known connections with the previous confirmed cases announced on 14 May and the case announced on 7 May.

Investigations are underway to establish links between the latest 4 cases, who all appear to have been infected in London. All 4 of these cases self-identify as gay, bisexual or other men who have sex with men (MSM).

Currently, common contacts have been identified for 2 of the 4 latest cases.

There is no link to travel to a country where monkeypox is endemic, and exactly where and how they acquired their infections remains under urgent investigation, including whether they have further links to each other.



Source: WHO, European CDC, US CDC, and Ministries of Health

VIRUELA DEL MONO EN 2022

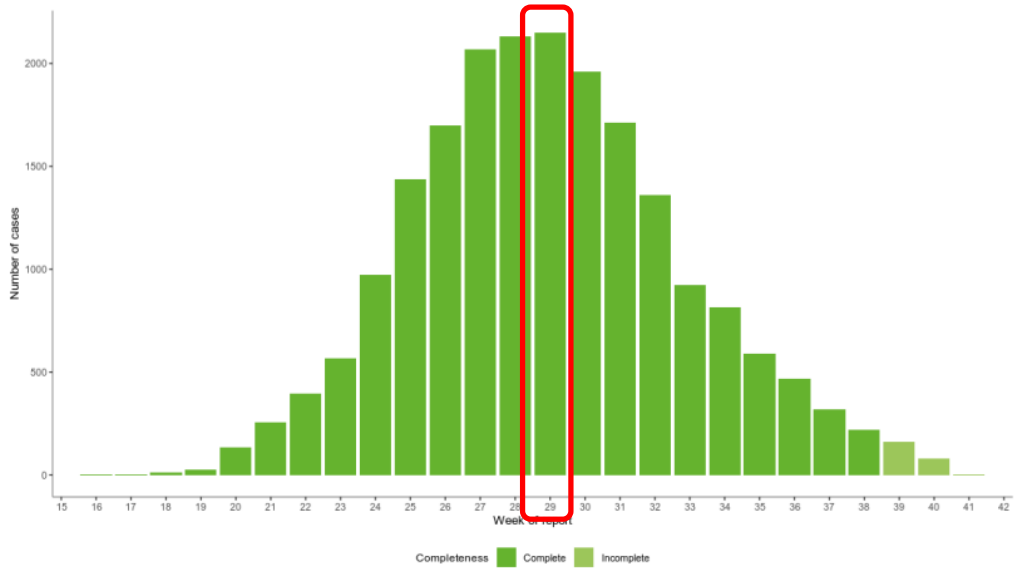
- Casos declarados (may – nov 22):
  - 81.095 en total.
  - 25.512 (31.4%) en 29 países de la UE /EEU
  - 7.405 en España.

- Población:
  - Varones (96.4%), 18 - 44 años (79.7%), HSH (86.1%).
  - Casos esporádicos en mujeres (3.1%) y niños (1.2%).

- Presentación clínica leve.
  - 1.1% hospitalización.
  - 30 casos ingreso en UCI.
  - 55 fallecidos.

- Riesgo estimado:
  - Moderado HSH.
  - Bajo para población general.

Figure 1. Number of confirmed MPX cases reported weekly in the EU/EEA, from 22 April 2022 to 11 October 2022



23 julio 2022: la OMS declara Emergencia de Salud Pública de importancia internacional (PHEIC)

https://worldhealthorg.shinyapps.io/mpx_global/#section-fns2

VIRUELA DEL MONO EN ÁFRICA 2022

This section specifically focuses on countries in the African region, in order to highlight any differences in epidemiology between this region and others regarding the ongoing 2022 monkeypox outbreak. Historically, the sexual component of transmission in the region has been thought to contribute less to human to human transmission of monkeypox than has been observed in the ongoing global outbreak. It should also be noted that there is limited testing capacity for monkeypox in much of the region, which has led to underascertainment of monkeypox cases.

In 2022, as of 10 Nov 2022, there have been **962 confirmed cases** of monkeypox reported in the region and **14 deaths.** These represent **1%** and **29%** of global cases and deaths respectively. In addition, **174 (18% of all cases)** detailed cases have been reported to WHO.

Of those cases with detailed data:

- **111 male cases (64.5%)** and **61 female cases (35.5%)** have been reported
- The median age is **25 (IQR: 11 - 36).**
- Of the **169** cases where age was available, there were **65 (38.5% of total)** cases reported aged **0-17**, out of which **21 (12.4% of total)** were aged **0-4.**
- There are currently no detailed cases for which transmission or exposure setting detail is available

https://worldhealthorg.shinyapps.io/mpx_global/#section-fns2

The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 AUGUST 25, 2022 VOL. 387 NO. 8

Monkeypox Virus Infection in Humans across 16 Countries — April–June 2022

528 casos confirmados
5 continentes
16 países y 43 centros distintos

Población

- Mediana 38 a
- 75% raza blanca
- 98% HSH
- 41% VIH+
- >50% no VIH en PpE

Transmisión

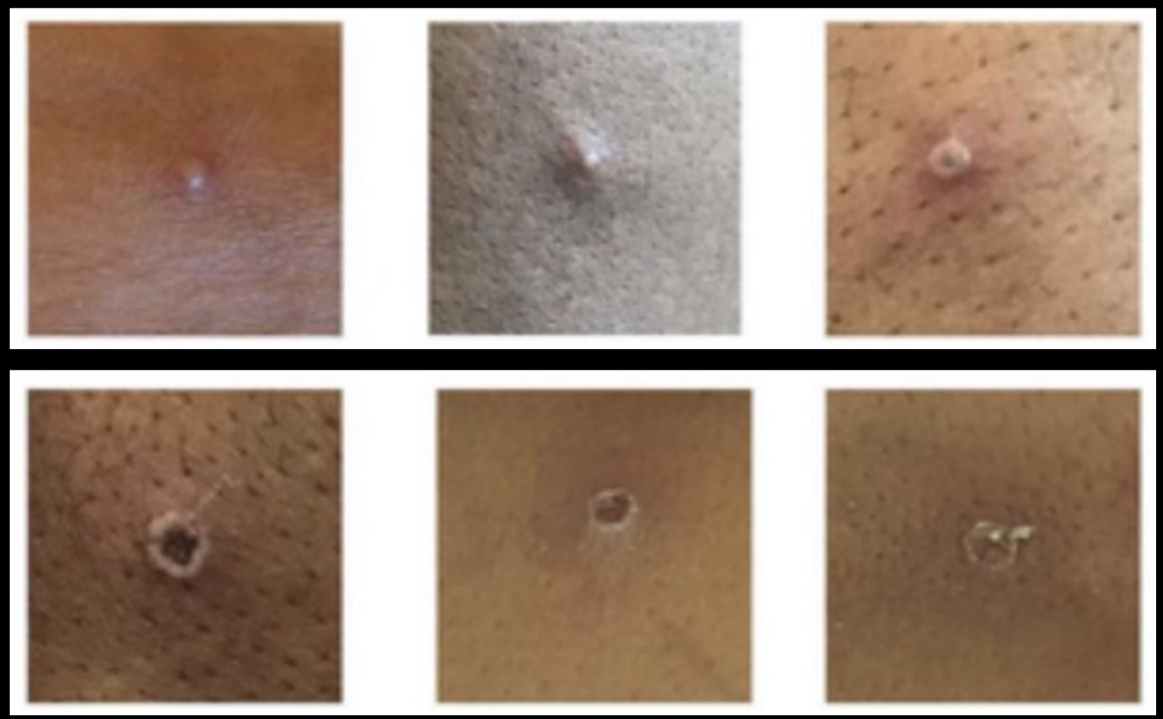
- 95% contacto sexual
  - 28% viajes
  - 20% grandes eventos
  - 32% lugares encuentros sex.
  - 20% *chemsex*

Clínica

- PI: 7 días
- 95% piel (75% genital)
- Vesiculo-pustulosas
- Fiebre, adenopatías…
- No diferencia VIH o no

- 13% hospitalización
  - 3 complicaciones
  - No exitus

N engl j med, August 25, 2022



¿QUÉ SABÍAMOS DE SU TRANSMISIÓN?

- Vías de transmisión
  - Contacto directo con animales infectados en zonas endémicas
  - Persona – persona:
    - Contacto con fluidos de persona infectada u objetos contaminados por éstos (ropa, sábanas…)
    - Gotas respiratorias grandes (contacto muy estrecho, tiempo prolongado)
    - Tasa ataque 8% (0-11%) en convivientes no vacunados. PLoS Negl Trop Dis 2019.

- Período
  - Desde el inicio de los primeros síntomas
  - Máximo durante fase de exantema vesicular – hasta resolución completa de las lesiones

- ¿¿ Transmisión sexual??

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- ¿Es una infección de transmisión sexual?
  - 29/ 32 pacientes se hicieron PCR en semen con resultado positivo (¿viabilidad?).
  - Lesiones anales o genitales como punto de inoculación (73% afectación genital).
  - 23% lesiones únicas orofaringeas.
  - Brotes en relación a concentraciones / eventos sexuales.
  - **29% otras ITS concomitantes.**
  - **54** (10.2%) **personas solo una lesión genital (ojo!).**

"Consequently, we recommend consideration of monkeypox in at-risk persons presenting with traditional STI symptoms"

N engl j med, August 25, 2022

EN NIÑOS…

- 22.07.22: primeros 2 casos en niños del brote actual.
  - 562 niños (1.2%): 145 (0.3%) entre 0-4 años

- Transmisión entre miembros del hogar
  - Contacto piel con piel, ropa, utensilios…
  - Menos probable transmisión respiratoria (gotitas)

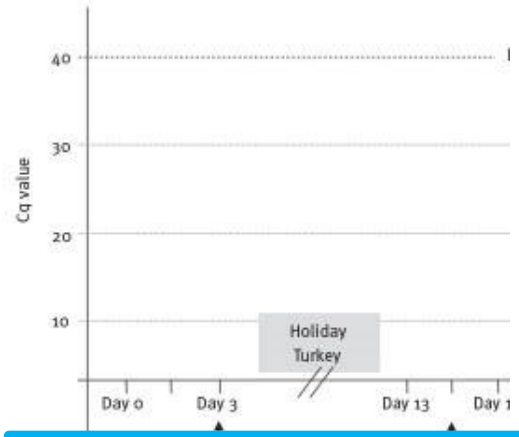
- Riesgo de enfermedad más grave
  - Más lesiones , más complicaciones
  - Menores de 8 años
  - Atopia, dermatitis del pañal.
  - Inmunodeprimidos

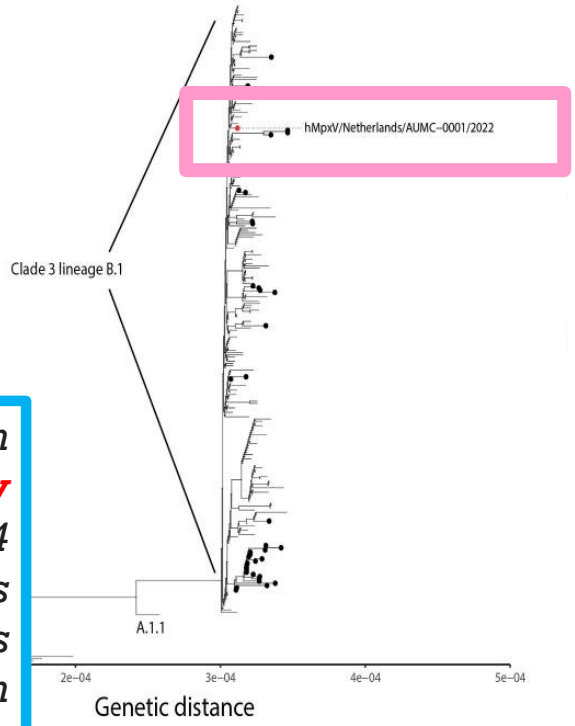
- Tratamiento:
  - Tecovirimat en pacientes de riesgo (14 días, VO en > 13 kg)
  - Vacuna 3ª generación
  - Inmunoglobulinas en RN

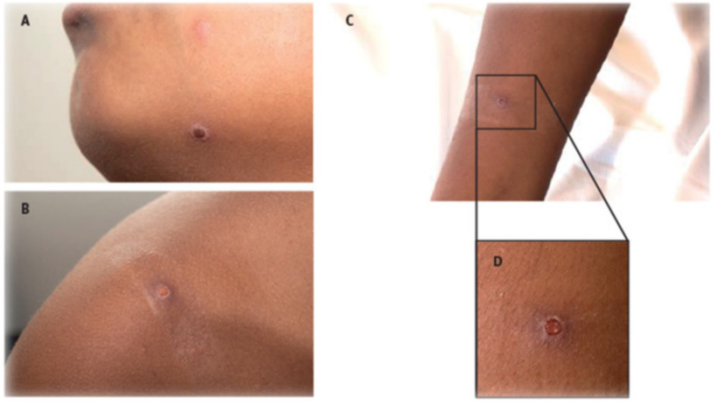
J Am Acad Dermatol. 2022 Sep
Clinical Infectious Diseases, 2005 Dec

Paediatric monkeypox patient with unknown source of infection, the Netherlands, June 2022

A Marceline Tutu van Furth [1 2], Martijn van der Kuip [1 2], Anne L van Els [1 2], Lydia Cr Fievez [3], Gini Gc van Rijckevorsel [4 3], Anton van den Ouden [5], Marcel Jonges [6], Matthijs Ra Welkers [7 6]







Unexpectedly, the child had an ***immunoglobulin A (IgA) deficiency*** *(0.45 g/L; reference value: 0.53–2.04 g/L) → Considering that IgA neutralises the virus at the mucosal level, this suggests that respiratory transmission may have played a role.*

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

Neonatal Monkeypox Virus Infection

nejm.org on October 13, 2022

Se postulan 4 vías posibles de adquisición:

1. Vía ascendente

- Desde vagina y cervix → colonización de membranas coriónicas.
- Detección de DNA en fluidos genitales.
- Abortos por COWPOX: efectos citopáticos en vagina y placenta.

2. Hematógena: placenta → decidua → trofoblasto y circulación fetal. Modelo de CMV.

3. Infección directa del sincitiotrofoblasto (como el virus de la *vaccinia*)

4. Por inflamación asociada a MPXV (aumento de canales y permeabilidad placentaria)

Potential mechanisms of intrauterine transmission of monkeypox virus

As the present outbreak continues to expand through sustained human-to-human transmission and due to a vaccine shortage, there is a strong possibility of monkeypox becoming globally endemic. The obstetric concern is the risk of vertical transmission of the monkeypox virus to the fetus. To date, at least 12 pregnant individuals with monkeypox have been identified: eight women (probably clade IIb) infected in 2022,[1,2] and four women (probably clade I) infected between 2007 and 2011.[3]

Monkeypox viral DNA within fetal and placental lesions has been detected concurrently at birth with real-time PCR. Placental histology from pregnancies with congenital cowpox and smallpox—orthopoxviruses closely related to the monkeypox virus—has also shown intracytoplasmic inclusions, known as Guarnieri bodies, within the decidua and viral cytopathic effects—such as granulomas, inflammatory infiltrate, and necrotic placental villi.[4,5] The findings support the potential for orthopoxviruses to breach the placenta, although the exact mechanisms remain uncharacterised.

We propose four pathways through which monkeypox could be vertically transmitted in utero (appendix).

First, monkeypox virus could ascend from the vagina and cervix to colonise cells in the chorionic membranes, including epithelial and mesenchymal cells and trophoblasts. Transmission via genital fluids is possible given the detection of replication-competent monkeypox virus from semen and prolonged viral DNA shedding in the reproductive tract. In miscarriages due to human cowpox, infectious virus is present within vaginal secretions, and cytopathic effects can be observed in the vagina and placenta for 4–6 weeks after maternal infection.[4]

Second, viraemia might allow monkeypox virus to reach the placenta through the spiral arteries in the uterus. From there, the virus could sequentially infect the decidua, extravillous trophoblast, or the placental villi to enter the fetal circulation. In congenital cytomegalovirus infection, apolipoprotein B messenger RNA–editing catalytic polypeptide-like 3 enzymes restrict viral replication in the decidua but not within the villi.[6] Because the same enzyme complex drives genetic changes in monkeypox clade IIb, the virus could evolve to target the placental perivascular cells preferentially during maternal viraemia.

Third, similarly to extracellular enveloped vaccinia virus, monkeypox virus might directly infect the syncytiotrophoblast by transcytosis or fusion with the trophoblast membrane.

Finally, inflammation associated with monkeypox virus could allow viral invasion of fetal blood. Innate and adaptive maternal immune responses by dendritic cells, natural killer cells, and T-lymphocytes in the decidua might release cytokines which disrupt the cortical actin network overlying the syncytiotrophoblast. Type 1 interferon responses induced by monkeypox virus could also contribute, as the release of IFNα or IFNβ antiviral mediators has been shown to damage human placental tissue ex vivo.

We declare no competing interests.

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1 Government of Brazil. Monkeypox epidemiological bulletin no 8 (emergency operations center). 2022. https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/boletins/epidemiologicos/variola-dos-macacos/boletim-epidemiologico-de-monkeypox-no-8-coe/view (accessed Aug 26, 2022).
2 Infectious Disease Society of America. Monkeypox: updates on testing, vaccination & treatment. https://www.idsociety.org/multimedia/clinician-calls/cdcidsa-monkeypox-updates-on-testing-vaccination--treatment/ (accessed Aug 26, 2022).
3 Mbala PK, Huggins JW, Riu-Rovira, T. Maternal and fetal outcomes among pregnant women with human monkeypox infection in the Democratic Republic of Congo. *J Infect Dis* 2017; **216:** 824–28.
4 Ferrier A, Frenois-Veyrat G, Schvoerer E, et al. Fatal cowpox virus infection in human fetus, France, 2017. *Emerg Infect Dis* 2021; **27:** 2570–77.
5 Garcia AGP. Fetal infection in chickenpox and alastrim with histopathologic study of the placenta. Pediatrics 1963; **32:** 895–901.
6 Megli CJ, Coyne CB. Infections at the maternal–fetal interface: an overview of pathogenesis and defence. *Nat Rev Microbiol* 2022; **20:** 67–82

Lancet Microbe 2022
Published Online September 13, 2022
https://doi.org/10.1016/S2666-5247(22)00260-9

See Online for appendix

Lancet Microbe. 2022 Sep

Monkeypox virus infections in children in Spain during the first months of the 2022 outbreak

David Aguilera-Alonso [1], José Antonio Alonso-Cadenas [2], Marc Roguera-Sopena [3], Nicola Lorusso [4], Lucía García San Miguel [5], Cristina Calvo [6]

- *In the older age group, nine patients were infected via an* ***outbreak in a tattoo and piercing studio****, probably by contaminated material, and in three patients, transmission was via sexual close contact.*

- **Acute complication** (bacterial super infection that required drainage of an abscess).

- *Although the severity in non-endemic countries seems lower thanthat reported in endemic countries, during the 2003 outbreak in the USA, the two patients with severe monkeypox were children (one complicated with encephalitis and one with retropharyngeal abscess).*

- *This reinforces the idea that* ***unknown community transmission*** *might be happening (eg, through undiagnosed patients or asymptomatic carriers).*

	All paediatric patients (n=16)	Younger than 4 years (n=4)	Aged 13–17 years (n=12)
Median age, years	15 (8–16)	1 (0–2)	16 (14–16)
Sex			
Male	10 (63%)	2 (50%)	8 (67%)
Female	6 (38%)	2 (50%)	4 (33%)
Country of birth			
Spain	16 (100%)	4 (100%)	12 (100%)
Transmission route			
Contact with contaminated material	9 (56%)	0	9 (75%)
Household contact	3 (19%)	3 (75%)	0 (0%)
Sexual close contact	3 (19%)	0	3 (25%)
Unknown	1 (6%)	1 (25%)	0
Specimen of detection			
Skin lesion	16 (100%)	4 (100%)	12 (100%)
Symptoms			
Rash	16 (100%)	4 (100%)	12 (100%)
Lymphadenopathy	5 (31%)	0 (0%)	5 (42%)
Fever	4 (25%)	2 (50%)	2 (17%)
Asthenia	2 (13%)	0	2 (17%)
Sore throat	2 (13%)	0	2 (17%)
Myalgia	1 (6%)	0	1 (8%)
Vomiting	1 (6%)	1 (25%)	0
Diarrhoea	1 (6%)	1 (25%)	0
Antiviral treatment	0	0	0
Hospitalisation	0	0	0
Complications	1 (6%)	1 (25%)	0
Survived	16 (100%)	4 (100%)	12 (100%)

Data are median (IQR) or n (%).

Table: Characteristics of patients younger than 18 years with laboratory-confirmed monkeypox virus infection in Spain from April 26 to Aug 3, 2022

Lancet Child Adolesc Health. 2022 Sep

TRATAMIENTO

- Tratamiento de soporte
  - Analgésicos, antipiréticos
  - Fluidoterapia
  - Oxigenoterapia etc.
- Tratamiento dirigido de las posibles complicaciones
  - Antibióticos
  - Drenaje qx de abscesos

System Affected/Syndrome	Treatment Objective
Respiratory tract	Maintain patent airways, prevent respiratory infection, atelectasis, and respiratory compromise
Sepsis	Hemodynamic stabilization
Gastrointestinal/mouth & throat sores	Minimize mucosal pain and disruption of food intake, promote lesion healing
Gastrointestinal/vomiting, diarrhea	Minimize gastrointestinal fluid losses
Fever	Prevent and treat episodes of fever
Exfoliation, skin compromise	Minimize insensible fluid loss, promote lesion healing
Superinfection skin	Prevention/treatment of secondary bacterial infections, promote lesion healing
Inflammation/lymphadenopathy	Minimize pain and decrease size of lymphadenopathy
Ocular infection	Prevent corneal scarring and vision impairment

TRATAMIENTO ETIOLÓGICO

Table 3. Promising Therapeutics for the Treatment of *Orthopoxvirus* Infections

Antiviral Therapeutic	Mechanism of Action	Clinical Considerations	Stage of Development or Use
Cidofovir	Inhibits DNA polymerase	Intravenous administration with hydration and probenecid; nephrotoxicity has been seen	Licensed for the use of cytomegalovirus retinitis in AIDS patients. Has been used to treat other poxvirus infections (molluscum contagiosum and orf virus).
CMX-001	Modified cidofovir compound; inhibits DNA polymerase	Lacks nephrotoxicity seen with cidofovir; oral administration	In development.
ST-246	Inhibits release of intracellular virus	Oral administration	Is maintained in the United States in the Strategic National Stockpile. Available for other *Orthopoxvirus* infections under an investigational protocol.

Cidofovir
Brincidofovir
NIOCH-14
Tecovirimat (ST-246).

TRATAMIENTO ETIOLÓGICO

ST-246	Inhibits release of intracellular virus	Oral administration	Is maintained in the United States in the Strategic National Stockpile. Available for other *Orthopoxvirus* infections under an investigational protocol.

Tecovirimat (ST-246, Tpoxx) – inh. salida de viriones

- Inhibidor selectivo y potente de la replicación de múltiples ortopoxvirus
- Eficaz para proteger primates no humanos
- No causó EA graves: tolerable y seguro
  - Ensayo farmacocinético y seguridad controlado con placebo en 449 voluntarios humanos adultos sanos.
- Aprobado por la EMA. No comercializado en España.

J Med Virol. 2018;1-8.
N Engl J Med. 2018;379(1):44-53.

TRATAMIENTO ETIOLÓGICO

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CMX-001	Modified cidofovir compound; inhibits DNA polymerase	Lacks nephrotoxicity seen with cidofovir; oral administration	In development.

Cidofovir y brincidofovir (CMX-001)

- Inhiben ADN viral polimerasa
- Brincidofovir: in vitro mejor actividad antiviral que cidofovir, menor toxicidad renal
- Disponibles en España pero no datos disponibles sobre su eficacia en tto de casos humanos de viruela del simio

Viruses 2020, 12, 1257

INDICACIONES TECOVIRIMAT

- Formas graves de presentación de viruela del mono (enfermedad hemorrágica, lesiones confluentes, sepsis, encefalitis, afect. ocular etc)
- Pacientes inmunocomprometidos (VIH/SIDA, cáncer, enfermedad autoinmune, recepción de altas dosis de glucocorticoides, inmunosupresores biológicos, trasplante de médula ósea y sólidos)
- Mujeres embarazadas y en periodo de lactancia
- Pacientes pediátricos, especialmente los de edad <8 años
- Pacientes con dermatitis atópica o afecciones cutáneas exfoliativas, lesiones de viruela del mono con infección bacteriana secundaria o enfermedad localizada grave en zonas como los ojos, la boca, el ano o los genitales

https://www.cdc.gov/poxvirus/monkeypox/clinicians/Tecovirimat.html

VACUNA

- Vacuna antivariólica:
  - Eficacia del 85% para prevenir la viruela símica / formas mas leves
    - 90% de los casos nacidos después del fin del programa de vacunación (1980)
  - Ya no accesible al público

- Vacunas de primera y segunda generación contienen virus *vaccinia* con capacidad de replicación, lo que supone mayor riesgo de EA

- Las de tercera generación utilizan virus *vaccinia* atenuados con un mejor perfil de seguridad

Monkeypox

Monkeypox and Smallpox Vaccine Guidance

ACAM2000 ®

- Segunda generación
- Personal sanitario y laboratorio seleccionado
- Reduce síntomas pero NO previene enfermedad
- No disponible al público ni en áreas endémicas – *stock* limitado en España

JYNNEOS ® /(IMVANEX ®)

- Tercera generación
- Probada en VIH y dermatitis atópica
- Protección demostrada en estudios animales
- En desarrollo, aún sin licencia en EEUU. Sí ha completado múltiples estudios preclínicos y clínicos y ha sido autorizada para uso de emergencia

Monkeypox

Monkeypox and Smallpox Vaccine Guidance

¿Cuándo?

- Tras la exposición: mejor cuanto más precoz
  - Primeros 4 días
  - >4-14 días: puede disminuir gravedad pero no evitar la enfermedad
- Considerar vacunar a expuestos a la viruela del mono vacunados para la viruela > 3 años

¿A quién?

- Riesgo complicación 1-2 /1.000.000 personas
- Personas en contacto con piel, mucosas, fluidos, gotas resp. o costras de un paciente infectado

2.1. Profilaxis preexposición

Se recomienda la vacunación en las personas que no hayan pasado la enfermedad con mayor riesgo de exposición:

2.1.1. *Personas que mantienen prácticas sexuales de alto riesgo, fundamentalmente pero no exclusivamente GBHSH (Gays, Bisexuales y Hombres que tienen sexo con Hombres) incluidas dentro de las indicaciones de la profilaxis preexposición al VIH (PrEP) o con infección por el VIH en seguimiento en las consultas hospitalarias.*

2.1.2. *Personas con riesgo ocupacional como personal sanitario en consultas especializadas en atención de ITS/VIH a personas con prácticas de alto riesgo y personal de laboratorio que manejan muestras potencialmente contaminadas con virus Monkeypox o personal que se encarga de la desinfección de superficies en locales específicos donde se mantienen relaciones sexuales de riesgo, sin elementos de protección individual adecuados o que ha presentado alguna incidencia en el uso del mismo.*

2.2. Profilaxis posexposición

Se recomienda la vacunación en las personas que no hayan pasado la enfermedad en las siguientes situaciones:

2.2.1. *Contactos estrechos de casos confirmados con alto riesgo de enfermedad grave:*

a. *Personas con inmunodepresión, incluyendo infección con VIH con <200 cél/ml*
b. *Mujeres embarazadas en cualquier trimestre de la gestación.*
c. *Población infantil de cualquier edad.*

La vacunación en la población infantil (<18 años) y mujeres embarazadas no está contemplada en la ficha técnica de JYNNEOS o IMVANEX, sin embargo, la enfermedad puede ser más grave y causar secuelas. Además, hay experiencia de utilización de vacunas de viruela en brotes de MPX. Se recomienda la utilización de un consentimiento informado en estos grupos de población tras realizar una evaluación individualizada del riesgo/beneficio.

2.2.2. Otras personas, ya incluidas en el Protocolo para la detección precoz y manejo de casos ante la alerta de MPX:

a. *Personal sanitario que haya tenido un contacto cercano* (inferior a 1 metro en la misma habitación*) sin EPI o que ha presentado alguna incidencia en el uso del EPI.*
b. *Personal de laboratorio que maneje muestras de pacientes sospechosos o confirmados de MPX que ha presentado alguna incidencia en el uso del EPI.*
c. *Contactos estrechos (independientemente de su vulnerabilidad) de casos confirmados, en caso de mayor disponibilidad de dosis.*

NO se recomienda vacunación masiva a la población

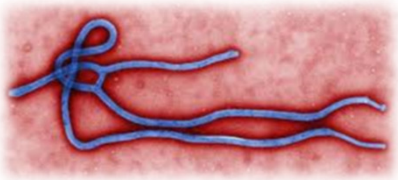
EL PAÍS PLANETA FUTURO SUSCRÍBETE

Los billetes de avión predicen dónde viajan las enfermedades

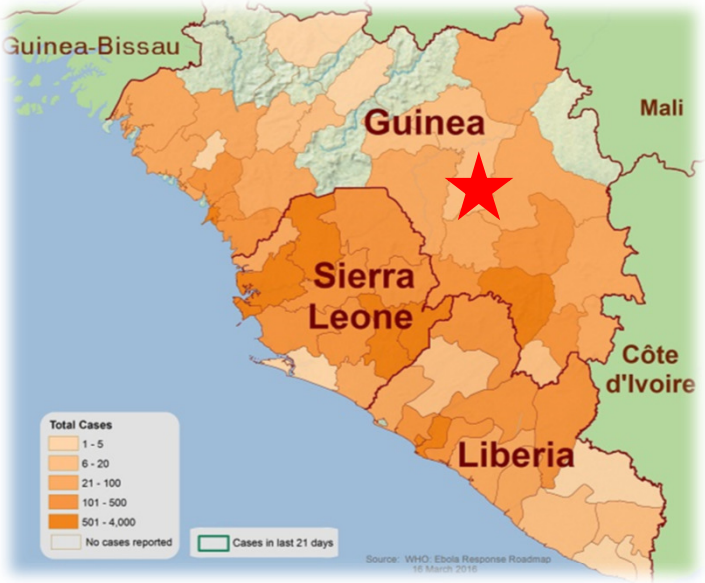
Un acuerdo entre Unicef y la mayor empresa de venta de vuelos internacionales permite anticipar brotes de enfermedades como el zika, el dengue o el ébola

Dos mosquitos Aedes aegypti, transmisores del zika. EFE

Ebola outbreak



País	Casos	Muertes	Final de los brotes
Liberia	10 675	4809	14 de enero de 2016[1] nota 1
Sierra Leona	14 124	3956	17 de marzo de 2016[3] nota 1
Guinea	3811	2543	29 de diciembre de 2015[1] nota 1
Nigeria	20	8	19 de octubre de 2014[4]
Malí	8	6	18 de enero de 2015[5]
Estados Unidos	4	1	21 de diciembre de 2014[6]
Italia	1	0	20 de julio de 2015[7]
Reino Unido	1	0	10 de marzo de 2015[8]
España	1	0	2 de diciembre de 2014[9]
Senegal	1	0	17 de octubre de 2014[4]
Total	**28 646**	**11 323**	**29 de marzo de 2016** nota 2
Fuente: Organización Mundial de la Salud[10]			



Nipah

Crimea-Congo

Ébola

OMS 2015*: "List of Blueprint priority diseases"*

Virus Marburg

SARS

MERS

Fiebre Valle Rift

Zika

Lassa

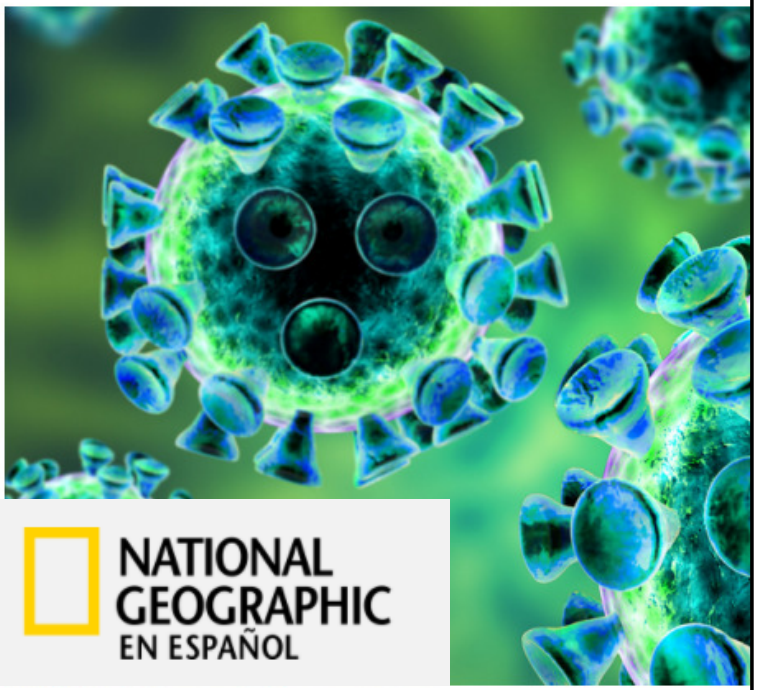
OMS 2015*: "List of Blueprint priority diseases"*

y… Enfermedad X

AGENDA

La OMS alerta al mundo ante una peligrosa «enfermedad X»

NATIONAL GEOGRAPHIC - 9 AGOSTO, 2018

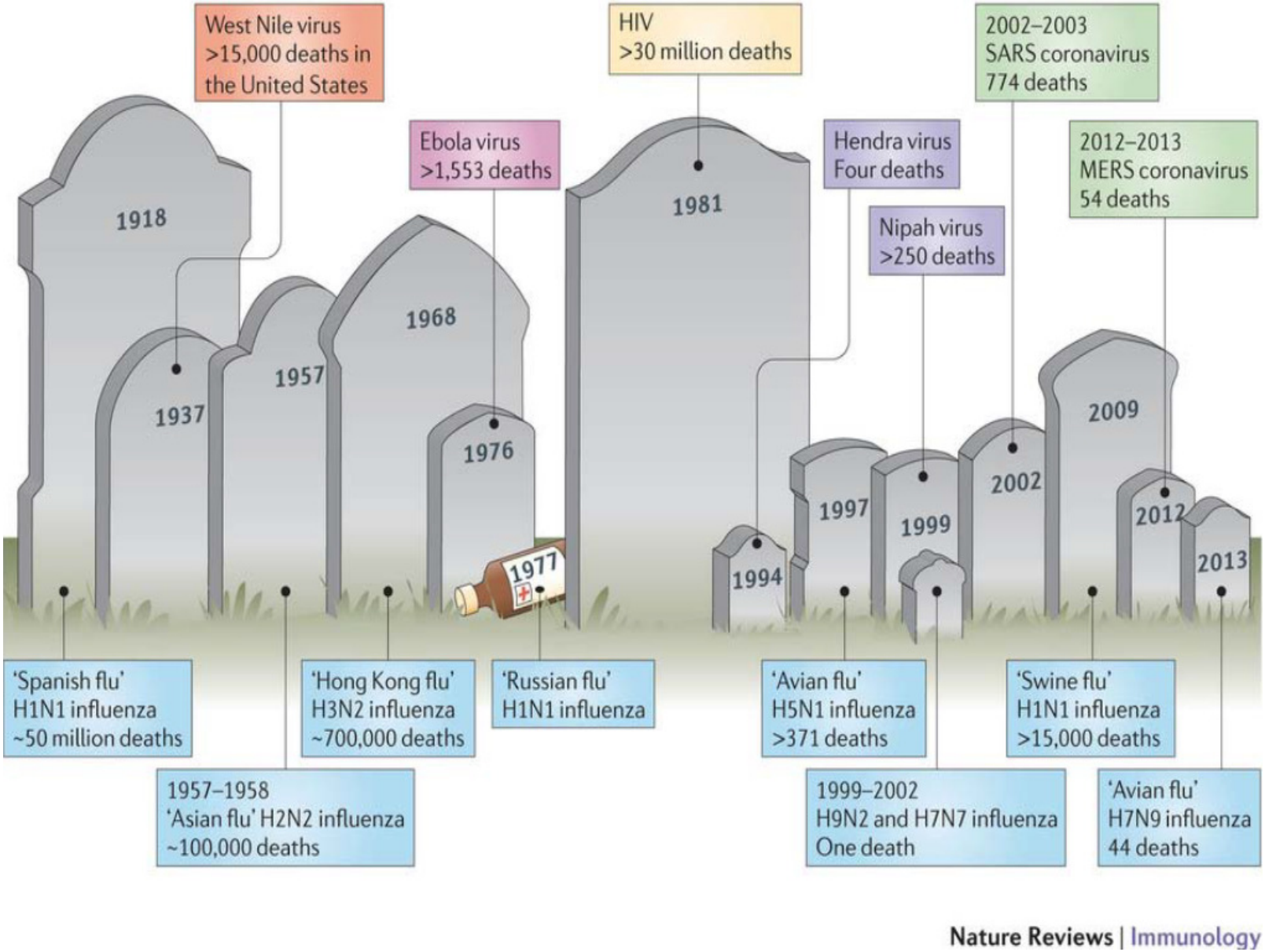


La OMS le pide a las autoridades correspondientes de cada país a que estén alertas sobre esta enfermedad.

La **Organización Mundial de la Salud** (OMS) ha puesto a los científicos y trabajadores de la salud en todo el mundo en alerta por un nuevo y potencialmente mortal agente patógeno: la "**enfermedad X**".

Cada año esta organización, que se encarga de monitorear y salvaguardar la salud mundial, convoca una reunión convoca a una reunión con los científicos más prominentes para **enumerar enfermedades que puedan provocar una gran emergencia internacional de salud pública**. Un ejemplo es el ébola, que provocó la muerte de más de 11 mil personas tras una epidemia en el oeste de África entre 2013 y 2016.

En este **2018 a la lista se ha agregado un patógeno misterioso.** "Una epidemia devastadora puede comenzar en cualquier país y en cualquier momento, y matar a millones de personas, porque no estamos preparados, porque aún somos vulnerables", ha reconocido el director general de la OMS, **Tedros Adhanom Ghebreyesus**.



2014- 2016 – Ebola
2020- SARS-COV2
Enfermedad X, Y, Z…

"Lessons learned during the responses to AIDS and Covid-19 should help us to marshal a more efficient and effective response to monkeypox, and the response to monkeypox should, in turn, help to inform our response to the inevitable next emerging or reemerging infectious disease of pandemic potential".

ONE HEALTH
ANIMAL HEALTH
HUMAN HEALTH
ENVIRONMENTAL HEALTH

Gracias