

ACTASDermo-Sifiliográficas

Full English text available at www.actasdermo.org



LETTER TO THE EDITOR

[Translated article]
Anti-Vaccinia Immunoglobulin
and Post-exposure Prophylaxis
with Vaccinia-based Vaccine for
Management of the Monkeypox
Outbreak

Inmunoglobulina anti-Vaccinia y profilaxis postexposición mediante vacuna basada en Vaccinia para el control del brote de viruela símica (Monkeypox)

To the Editor,

Some time ago, we published a brief review of treatments available or in development that could be of use in the control of the then incipient outbreak of monkeypox. In that review, we highlighted the role of tecovirimat as the only antiviral drug approved by the European Medicines Agency (EMA) for the virus, given its good safety profile and proven efficacy in reducing mortality in animal models. ²

In response to that publication, Dr Sookaromdee and Dr Wiwanitkit published a letter entitled *Treatments for Monkeypox*, in which they shared their opinion on the use of tecovirimat and mentioned intravenous immunoglobulin as another potentially effective treatment for monkeypox, now declared a *Public Health Emergency of International Concern* by the World Health Organization (WHO).⁴

One of the affirmations by Dr Sookaromdee and Dr Wiwanitkit is that, although tecovirimat has demonstrated efficacy, it is not a widely used drug in countries in which the *Monkeypox virus* has traditionally been considered endemic.³ A possible reason for the limited use of tecovirimat in those countries is that their healthcare resources and structure are not comparable to those in European countries.⁵ In addition, we should add that approval by the EMA² is not applicable in Africa, and to date, it is the only health agency to have approved the drug for the indication of monkeypox.

The second aspect that we wanted to comment on is the possibility of using intravenously-administered anti-Vaccinia immunoglobulin, proposed by Sookaromdee and Wiwanitkit.3 This immunoglobulin is indicated only for the treatment of certain complications such as eczema vaccinatum, progressive Vaccinia, and severe generalized Vaccinia caused by administration of the vaccine derived from the Vaccinia virus.6 The regimen administered is 6000 U/kg as soon as possible after onset of the first symptoms of the disease, with possible dose repetitions according to the severity of the condition and response to the initial dose (doses can be increased to 9000 U/kg if the patient has not responded to the first dose). Although there are factors to support its use against monkeypox, such as the similarity of Orthopoxvirus genomes,8 to date, there have been no human trials on its use in this indication.

Finally, it is necessary to highlight the use of the *Vaccinia*-based vaccine as post-exposure prophylaxis. The WHO currently recommends administration of a second- or third-generation vaccine for case contacts in the first 4 days after exposure. It is estimated that the vaccine could provide cross-immunity against the *Monkeypox virus* with an efficacy of approximately 80%–85%, given the aforementioned genomic similarity among *Orthopoxvirus*.

Funding

None declared.

Conflict of interests

None declared.

References

- Rodríguez-Cuadrado FJ, Pinto-Pulido EL, Fernández-Parrado M. Potential treatments for monkeypox. Actas Dermosifiliogr. 2022;S0001-7310:00601-609, http://dx.doi.org/10.1016/j.ad.2022.06.013.
- European Medicines Agency. Tecovirimat SIGA (tecovirimat):
 an overview of tecovirimat SIGA and why it is authorised in
 the EU. European Medicines Agency; 2022. Available from:
 https://www.ema.europa.eu/en/medicines/human/EPAR/
 tecovirimat-siga#:~:text=the%20European%20Union.-,

DOI of original article: https://doi.org/10.1016/j.ad.2022.08.017

- Overview, happen%20following%20vaccination%20 against%20smallpox [accessed 20.07.22].
- Sookaromdee P, Wiwanitkit V. Treatments for monkeypox. Actas Dermosifiliogr. 2022, http://dx.doi.org/ 10.1016/j.ad.2022.07.022. S0001-7310(22)00769-4.
- 4. World Health Organization. Second meeting of the International Health Regulations (2005) (IHR) Emergency Committee regarding the multi-country outbreak of monkeypox. 2022. Available from: https://www.who.int/news/item/23-07-2022-second-meeting-of-the-international-health-regulations -(2005)-(ihr)-emergency-committee-regarding-the-multi-country-outbreak-of-monkeypox [accessed 24.07.22].
- 5. Tambo Ε, Al-Nazawi AM. Combating the spread of poverty-related Monkeypox outbreaks beyond. Poverty. 2022:11:80. and Infect Dis http://dx.doi.org/10.1186/s40249-022-01004-9.
- 6. Wittek R. Vaccinia immune globulin: current and safety policies, preparedness, product 2006;10:193-201, efficacy. Int J Infect Dis. http://dx.doi.org/10.1016/j.ijid.2005.12.001.
- Rizk JG, Lippi G, Henry BM, Forthal DN, Rizk Y. Prevention and treatment of monkeypox. Drugs. 2022;82:957–63, http://dx.doi.org/10.1007/s40265-022-01742-y.
- Shchelkunov SN, Totmenin AV, Babkin IV, Safronov PF, Ryazankina OI, Petrov NA, et al. Human monkeypox and smallpox viruses: genomic comparison. FEBS Lett. 2001;509:66–70, http://dx.doi.org/10.1016/s0014-5793(01)03144-1.

- World Health Organization. Vaccines and immunization for monkeypox: Interim guidance. 2022. Available from: https://www.who.int/publications/i/item/who-mpximmunization-2022.1 [accessed 24.07.22].
- Rimoin AW, Mulembakani PM, Johnston SC, Lloyd Smith JO, Kisalu NK, Kinkela TL, et al. Major increase in human monkeypox incidence 30 years after smallpox vaccination campaigns cease in the Democratic Republic of Congo. Proc Natl Acad Sci U S A. 2010;107:16262-7, http://dx.doi.org/10.1073/pnas.1005769107.

F.J. Rodríguez-Cuadrado^{a,*}, E.L. Pinto-Pulido^b, M. Fernández-Parrado^c

- ^a Servicio de Dermatología, Hospital Universitario Puerta de Hierro Majadahonda, Madrid, Spain
- ^b Servicio de Dermatología, Hospital Universitario Príncipe de Asturias, Madrid, Spain
- ^c Servicio de Dermatología, Hospital Universitario de Navarra, Pamplona, Spain
- *Corresponding author.

 E-mail address:
 franciscojose.rodriguezcuadrado@gmail.com
 (F.J. Rodríguez-Cuadrado).