

Tecovirimat for monkeypox

Sheliza Halani MD, Derek Leong RPh BScPhm, Peter E. Wu MD MSc

Cite as: CMAJ 2022 November 28;194:E1573. doi: 10.1503/cmaj.221210

1 Tecovirimat can be prescribed off label for treatment of monkeypox (MPXV) infection

Tecovirimat is an antiviral drug with activity against orthopoxviruses.¹ It was approved by Health Canada for the treatment of smallpox in November 2021 and approved in other jurisdictions for the treatment of cowpox, MPXV and smallpox.² Studies involving animals infected with smallpox showed improved survival, clinical symptoms and viral levels with tecovirimat treatment.^{1,3} Evidence of efficacy against MPXV derives from animal studies; human experience is limited to safety studies and case reports.^{3,4}

2 Treatment should be prioritized for patients with severe disease

In a review of 528 infections across 16 countries from April to June 2022, 13% of patients with MPXV were admitted to hospital for presentations that included severe anorectal pain, myocarditis, superimposed soft tissue infection or acute kidney injury.^{2,4} Encephalitis or hemorrhagic disease were other severe complications.²

3 Supplies are limited and access requires provincial application

Health care providers can request access to tecovirimat based on clinical judgment and patient consent.² Local resources and provincial processes to obtain tecovirimat are similar across Canada and provide helpful guidance to providers.² Reporting of outcomes to Health Canada is mandated upon treatment completion.²

4 The treatment duration is 14 days

Tecovirimat dosing is 200 mg (for patients 13–25 kg), 400 mg (for patients 25–40 kg) and 600 mg (for patients ≥ 40 kg) orally twice daily.² Tecovirimat should be prescribed with high-fat meals (25 g of fat) to increase its absorption by 40%–50%.⁵

5 Tecovirimat is generally well tolerated

There were no notable safety concerns and only mild adverse events reported in a placebo-controlled safety trial involving 449 adult volunteers (90 received placebo, 359 received tecovirimat).³ Common adverse effects include headache, nausea and gastrointestinal symptoms.² The risk of clinically relevant drug interactions is likely low owing to the limited treatment duration and because tecovirimat is only a weak inhibitor of CYP2C8 and CYP2C19, and a weak inducer of CYP3A4.¹ In the product monograph, QTc prolongation has been reported.⁵

References

- 1 Russo AT, Grosenbach DW, Chinsangaram J, et al. An overview of tecovirimat for smallpox treatment and expanded anti-orthopoxvirus applications. *Expert Rev Anti Infect Ther* 2021;19:331-44.
- 2 Monkeypox antiviral guidance for health care providers. Toronto: Ontario Ministry of Health; 2022. Available: <https://www.toronto.ca/wp-content/uploads/2022/07/8ed0-Monkeypox-Antiviral-Guidance-for-HCPENAODA.pdf> (accessed 2022 Aug. 15).
- 3 Grosenbach DW, Honeychurch K, Rose EA, et al. Oral tecovirimat for the treatment of smallpox. *N Engl J Med* 2018;379:44-53.
- 4 Thornhill JP, Barkati S, Walmsley S, et al.; SHARE-net Clinical Group. Monkeypox virus infection in humans across 16 countries: April–June 2022. *N Engl J Med* 2022;387:679-91.
- 5 Product monograph including patient medication information: ^{Pr}TPOXX®. Corvallis (OR): SIGA Technologies, Inc.; 2021. Available: https://pdf.hres.ca/dpd_pm/00063782.PDF (accessed 2022 Aug. 15).

Competing interests: None declared.

This article has been peer reviewed.

Affiliations: Department of Medicine (Halani, Wu), and Division of Clinical Pharmacology and Toxicology (Wu), University of Toronto; Department of Pharmacy (Leong), University Health Network, Toronto, Ont.

Content licence: This is an Open Access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY-NC-ND 4.0) licence, which permits use, distribution and reproduction in any medium, provided that the original publication is properly cited, the use is noncommercial (i.e., research or educational use) and no modifications or adaptations are made. See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>

Correspondence to: Sheliza Halani,
Sheliza.halani@mail.utoronto.ca

CMAJ invites submissions to “Five things to know about ...” Submit manuscripts online at <http://mc.manuscriptcentral.com/cmaj>