Clinical Strategies and Therapeutics for Human Monkeypox Virus: A Revised Perspective on Recent Outbreaks

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Abstract

An enveloped double-stranded DNA monkeypox virus (MPXV) is a causative agent of zoonotic viral disease viz. Human monkeypox (HMPX). MPXV belongs to the genus Orthopoxviridae, a family of notorious smallpox viruses, and so it shares similar clinical pathophysiological features. The recent multi-country HMPX outbreak (May 2022 onwards) is recognized as an emerging global public health emergency by WHO, shunting its endemic status as opined over the past few decades. Re-emergence of HMPX raises concern to re-assess the present clinical strategy and therapeutics as its outbreak evolves further. Keeping a check on these developments, here we provide insights into the HMPX epidemiology, pathophysiology, and clinical representation. Weighing on its early prevention, we reviewed the strategies that are being enrolled for HMPX diagnosis. In the line of expanded MPXV prevalence, we further reviewed its clinical management and the diverse employed preventive/therapeutic strategies, including vaccine (JYNNEOS, ACAM2000, VIGIV) and antiviral drugs/inhibitors (Tecovirimat, Cidofovir, Brincidofovir). Taken together, with a revised perspective of HMPX re-emergence, the present report summarizes new knowledge on its prevalence, pathology, and prevention strategies.

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