

Marburgvirus: A Global Virus, not just an African problem

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Abstract

The Marburg virus (MBV) phylogenetically belongs to the filovirus family and its clinical picture, spread and virulence resemble the Ebola virus very closely. The marked virulence of MBV is of great concern for not only the African region, but the globe in its entirety as a recent outbreak of the virus from a lab handling African green monkeys has rapidly spread to Uganda, South Africa, Kenya and Angola. On contamination of the virus the individual develops a plethora of symptoms with haemorrhage, seizures and shock being the most profound and deadly. No drug nor vaccine or cure is available against the deadly progression and course of the virus, and thus it often disseminates through households, between close loved ones and ultimately leaving a trail of death in its wake. It is now of utmost importance that international funding, knowledge and expertise become unified for the greater good; to develop treatments and vaccines to such viruses a likened to Ebola and Marburg virus to not only protect oneself, but humanity across all borders around the world.

LETTER TO EDITOR

The Marburg virus phylogenetically belongs to the filovirus family and its clinical picture, spread and virulence resemble the Ebola virus very closely. The Marburg virus (MBV) was discovered over half a century ago and is predominantly isolated to Sub-Saharan Africa where it harbours a high case mortality rate of nearly 88%.¹

The marked virulence of MBV is of great concern for not only the African region, but the globe in its entirety as a recent outbreak of the virus from a lab handling African green monkeys has rapidly spread to Uganda, South Africa, Kenya and Angola.² It is believed that the virus undergoes transmission through close contact, most notably bodily fluids. On contamination of the virus the individual develops a plethora of symptoms with haemorrhage, seizures and shock being the most profound and deadly. No drug nor vaccine or

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cure is available against the deadly progression and course of the virus, and thus it often disseminates through households, between close loved ones and ultimately leaving a trail of death in its wake.³

The epidemic potential of the virus has been dissuaded and negated by many as the African fruit bat is its animal source and thus it is only localized to select parts of Africa. It is this premise which has retarded the further study and investigation of the Marburg virus. It is unfortunate that little new information and understanding surrounding the virus has been gained with an apparent lack of novel strides being made in the direction of vaccine or drug development.⁴ If the virus were to undergo a mutation and have a sustained and prolonged mode of human-to-human transmission like the COVID-19 virus, it could spell global catastrophe. It is therefore vital for the world of medical research to stop viewing the virus as an “African” virus and disease, but acknowledge that through globalization, now more than ever we are all one. If it poses a threat to one country, it poses a universal threat to all of them.⁵ It is now of utmost importance that international funding, knowledge and expertise become unified for the greater good; to develop treatments and vaccines to such viruses a likened to Ebola and Marburg virus to not only protect oneself, but humanity across all borders around the world.

References:

1. Kortepeter MG, Dierberg K, Shenoy ES, Cieslak TJ; Medical Countermeasures Working Group of the National Ebola Training and Education Center's (NETEC) Special Pathogens Research Network (SPRN). Marburg virus disease: A summary for clinicians. *Int J Infect Dis.* 2020 Oct;99:233-242. doi: 10.1016/j.ijid.2020.07.042.
2. Marburg virus: Deadly disease outbreak, everything you need to know ... (n.d.). Retrieved March 03, 2023, from <https://www.arabianbusiness.com/industries/healthcare/marburg-virus-deadly-disease-outbreak-everything-you-need-to-know>
3. Mehedi M, Groseth A, Feldmann H, Ebihara H. Clinical aspects of Marburg hemorrhagic fever. *Future Virol.* 2011 Sep;6(9):1091-1106. doi: 10.2217/fvl.11.79.
4. World Health Organization. (n.d.). Marburg virus disease. World Health Organization. Retrieved March 3, 2023, from <https://www.who.int/news-room/fact-sheets/detail/marburg-virus-disease>
5. Frenk J, Gómez-Dantés O, Knaul FM. Globalization and infectious diseases. *Infect Dis Clin North Am.* 2011 Sep;25(3):593-9, viii. doi: 10.1016/j.idc.2011.05.003.