



MARBURG VIRUS DISEASE – SCIENCE & TECHNOLOGY

NEWS: Public health officials around the world are monitoring the spread of a deadly virus in Rwanda, which is responsible for causing what is ominously known as ‘bleeding eye disease’.

WHAT’S IN THE NEWS?

Nature of the Disease

- Often referred to as the “bleeding eye virus,” MVD is one of the most lethal viral diseases affecting humans.
- MVD belongs to the *filovirus* family, which also includes the Ebola virus.

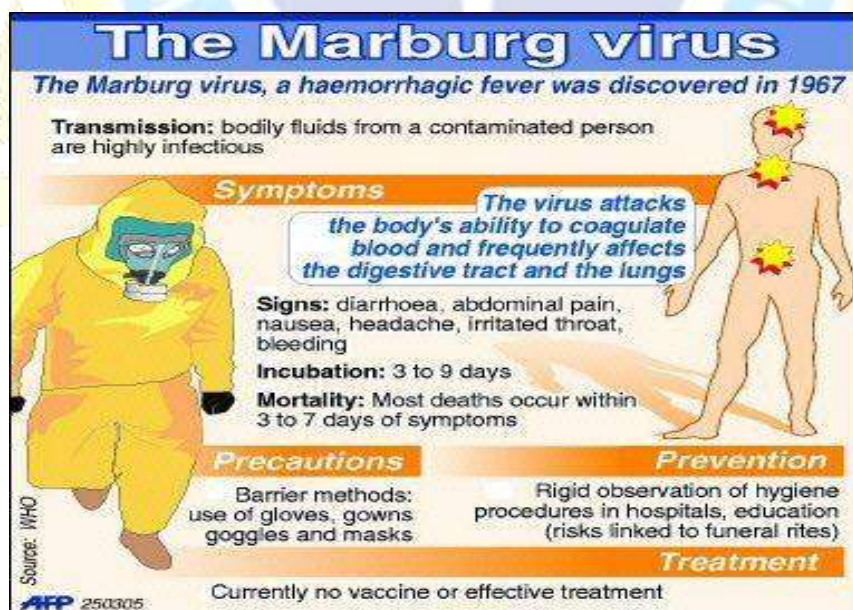
Fatality Rates

- Case fatality rates for MVD range from 24% to 88%, depending on the virus strain and quality of medical response.
- This high mortality rate places it among the deadliest human pathogens.

Historical Context

1. First Outbreak

- The first recognized MVD outbreak occurred in 1967 in Marburg, Germany, where the disease was linked to laboratory exposure to infected African green monkeys.



2. Subsequent Outbreaks



- Most outbreaks have occurred in Africa, with recent cases reported in Tanzania, Ghana, and now Rwanda.

3. Global Health Concern

- The World Health Organization (WHO) lists MVD as a high-priority pathogen due to its potential for outbreaks and lack of effective treatments or vaccines.

Transmission

1. Primary Source: Bats

- Initial human infections often occur from prolonged exposure to caves or mines inhabited by *Rousettus* bats, specifically the Egyptian fruit bat (*Rousettus aegyptiacus*).

2. Human-to-Human Transmission

- The virus spreads through direct contact with bodily fluids of infected individuals, contaminated surfaces, or materials like bedding and clothing.

Current Response Efforts

1. Experimental Vaccines and Treatments

- Rwanda has received 700 doses of an experimental Marburg vaccine developed by the US-based Sabin Vaccine Institute.
- These doses have been administered primarily to frontline healthcare workers. However, the vaccine's efficacy remains under evaluation.

2. Rwanda's Health Measures

- The Ministry of Health is actively pursuing other experimental treatments and international support to contain the outbreak.

Challenges in Containment

1. Lack of Established Treatments

- There are currently no approved drugs or vaccines specifically designed for MVD.
- Existing treatments are primarily supportive, focusing on managing symptoms and preventing complications.

2. High Fatality Rate and Stigma

- The high mortality associated with MVD exacerbates public fear and stigma, potentially discouraging early medical consultation

Global Implications



1. Public Health Risk

- MVD's inclusion in WHO's list of critical pathogens highlights the need for accelerated research and international collaboration.
- The ongoing outbreak underscores the risk of zoonotic diseases with pandemic potential.

2. Research and Development

- Development of effective countermeasures, including vaccines and antivirals, remains a top global priority.
- This outbreak presents an opportunity to test new interventions in real-world conditions, which could benefit future outbreak responses.

Conclusion

The MVD outbreak in Rwanda is a stark reminder of the persistent threat posed by zoonotic pathogens. While the immediate focus remains on containment and treatment, the event also highlights the critical need for global investments in research and healthcare infrastructure to combat such high-risk diseases.

Source: <https://indianexpress.com/article/explained/explained-health/marburg-outbreak-in-rwanda-why-bleeding-eye-disease-is-a-global-concern-9704244/>