DC HEALTH
GOVERNMENT OF THE DISTRICT OF COLUMBIA

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MURIEL BOWSER, MAYOR

May 8, 2023

Health Notice for District of Columbia Health Care Providers
Marburg Virus Disease Outbreaks in Equatorial Guinea and Tanzania

SUMMARY

The Centers for Disease Control and Prevention (CDC) recently reported two confirmed outbreaks of Marburg virus disease (MVD) – one in Equatorial Guinea and one in Tanzania. These two outbreaks are not epidemiologically linked and are considered to represent two independent animal-to-human spillover events. As of May 8, 2023, **no suspected, probable, or confirmed cases related to these outbreaks have been reported in the United States (US) or the District of Columbia**. Healthcare professionals should be aware of the risk of imported cases in the United States. To ensure timely identification and public health follow-up of suspected cases, the District of Columbia Department of Health (DC Health) asks that facilities and providers assist us in our surveillance by promptly reporting suspected cases of patients who travelled to these countries in the last 21 days and present with symptoms consistent with MVD. Facilities and providers should ensure their infection prevention and control precautions for preventing MVD transmission align with CDC and DC Health recommendations.

BACKGROUND

On February 12, 2023, Equatorial Guinea declared an outbreak of Marburg virus disease (MVD) after one of several recent viral hemorrhagic fever deaths tested positive for Marburg virus. As of May 1, 2023, there have been a total of 17 confirmed and 23 probable cases, including 12 fatalities[1]. Tanzania also declared an outbreak of MVD after samples tested positive for Marburg virus. As of April 30, 2023, a total of 8 confirmed cases and 1 probable case have been reported, with 6 fatalities[1]. Neither of these two countries have previously reported MVD outbreaks and evidence suggests that these outbreaks are unrelated and result from two separate animal to human spillover events. To date, no confirmed cases related to these outbreaks have been reported in the US or other countries.

Marburg virus disease

Marburg virus, a zoonotic filovirus closely related to Ebolaviruses, causes a hemorrhagic fever which is highly fatal (up to 88% case fatality rate[2]). Marburg virus was first identified in 1967 during simultaneous outbreaks in Marburg and Frankfurt, Germany and in Belgrade, Serbia. Initial cases were linked to laboratory research on African green monkeys imported from Uganda. Since that time, there have been outbreaks and sporadic cases in multiple sub-Saharan African countries. The animal reservoir for Marburg virus is the Egyptian fruit bat, which is found widely across Africa.

Once animal-to-human spillover occurs, Marburg virus can spread between humans via **direct contact** (through broken skin or mucous membranes) with infectious blood or body fluids (such as urine, saliva, sweat, feces, vomit, breast milk, amniotic fluid, and semen) of infected people or animals (living or deceased), and from needles or other surfaces and materials contaminated with the virus. **MVD is not spread through airborne transmission and a person is not contagious until symptoms appear**. With an incubation period ranging from 2 to 21 days, MVD has a similar presentation to Ebola virus disease (EVD) typically starting with the abrupt onset of high fever, severe headache, and severe malaise. Other symptoms follow including severe watery diarrhea and other gastrointestinal symptoms (like abdominal pain, nausea and vomiting) and spontaneous bleeding from multiple sites. Other common symptoms include muscle and joint

pains, neurological symptoms, and a non-itchy rash. Fluid losses from diarrhea and blood loss can lead to shock and death by day 8 or 9 after symptom onset. There are currently no licensed treatments or vaccines for MVD and supportive care is the mainstay of treatment.

KEY INFORMATION FOR HEALTHCARE PROVIDERS

While the overall risk of MVD in US is low, healthcare providers should be aware of the potential for imported cases. A systematic triage and assessment for possible viral hemorrhagic fevers (both MVD and EVD) that includes a detailed travel history is essential for early detection and prevention of viral spread. Facilities and providers should review their relevant infection control policies and update them to align with recommendations by the CDC and DC Health. This should include a review of the exposure control plan and waste management plan as part of the Occupational Safety and Health Administration's (OSHA's) Bloodborne Pathogens Standard. Healthcare workers can become exposed by coming into direct contact with a patient's body fluids, or indirectly from surfaces, medical equipment, or supplies contaminated with infected body fluids. Splashes and sprays to unprotected mucous membranes (such as the eyes, nose, or mouth) are particularly hazardous.

Evaluation of patients

Facilities and providers should:

- Ask about and document international travel histories for patients with clinical symptoms such as fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or unexplained bleeding, and consider MVD or other viral hemorrhagic fevers in the differential diagnosis.
    - Alternative diagnoses such as malaria, typhoid, or common causes of gastrointestinal and febrile illnesses in a patient with recent international travel should be considered, evaluated, and managed appropriately.
    - Patients with suspected MVD or other viral hemorrhagic fever should be immediately moved to a private room with a private bathroom or covered bedside toilet.
- Post contact information for infection control personnel and DC Health, for reporting of suspected cases, in easily visible locations.

Infection prevention and control recommendations

Current CDC infection prevention and control guidance for U.S. healthcare facilities for EVD may also be used for MVD. Specific guidance and tools that may be useful include:

- General infection prevention and control recommendations for patients under investigation (PUI) for EVD in hospitals.
- There is separate personal protective equipment (PPE) guidance for the management of Clinically Stable PUIs and Confirmed Ebola Patients or Clinically Unstable PUIs.
- A PPE Calculator Tool is available to assist healthcare facilities in determining the appropriate supply of PPE to have on hand to manage a PUI or patient with confirmed MVD.

Isolation, Reporting, and Testing

Providers should take the following steps if a patient presents with symptoms consistent with MVD with a travel history to Equatorial Guinea or Tanzania in the last 21 days **OR** has had close contact with a confirmed MVD case:

1. Isolate the patient and ensure appropriate infection control precautions are in place. Staff must wear the appropriate PPE if in close contact with the patient.

- **Aerosol generating procedures (AGPs) should be avoided if possible.** If required, AGPs for patients with MVD should be conducted in a private room, ideally in an Airborne Infection Isolation Room (AIIR).

2. Interview patient to further evaluate risk using the CDC's Guide for Clinicians Evaluating an Ill Person for Marburg Virus Disease.
3. If MVD is suspected, **immediately notify DC Health by phone at 844-493-2652**.
4. Submit a Notifiable Disease and Condition Case Report Form online using our online reporting system DC Reporting and Surveillance Center (DCRC): dchealth.dc.gov/service/infectious-diseases.
5. DC Health will assist with coordinating clinical sample testing by the DC Public Health Laboratory (PHL) and consultation with CDC, as needed. Guidelines for testing are as follows:
   - All test requests **must be approved by DC Health and DC PHL prior to submission.**
   - Upon approval, collect two samples of whole blood in **plastic** EDTA tubes for testing at DC PHL and (if necessary) confirmatory testing at the CDC.
     - The minimum volume necessary for testing in each tube is 4ml.
     - **Do not** centrifuge blood samples.
     - **Do not** use any pneumatic tube system for transporting specimens within the facility.
     - Specimens should be stored at 2-8°C until transport.
   - Detailed guidelines for safe specimen transport and test ordering will be provided upon approval.

REFERENCES

1. Marburg virus disease - Equatorial Guinea and the United Republic of Tanzania (who.int), 5/8/23
2. Marburg virus disease (who.int)

ADDITIONAL RESOURCES

- CDC HAN Health Advisory: Marburg Virus Disease Outbreaks in Equatorial Guinea and Tanzania. (CDC, 2023)
- Guidance for U.S. Hospitals and Clinical Laboratories on Performing Routine Diagnostic Testing for Patients with Suspected Marburg Virus Disease. (CDC, 2023)
- Guidance for Malaria Diagnosis in Patients with Suspect Ebolavirus or Marburgvirus Infection in the United States. (CDC, 2023).
- Guide for Clinicians Evaluating an III Person for Marburg Virus Disease. (CDC, 2023)
- Marburg (Marburg Virus Disease**).** (CDC, 2023)
- Marburg Virus Disease. (WHO, 2021)

Please visit the DC Health - Health Notices website (dchealth.dc.gov/page/health-notices) regularly for the most current information.

For more information, or to report suspected MVD cases, please contact the Division of Epidemiology – Disease Surveillance and Investigation:
Phone: 1-844-493-2652 | Fax: (202) 442-8060 | Email: doh.epi@dc.gov