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PUBLIC HEALTH ADVISORY
OUTBREAK OF EBOLA VIRUS DISEASE DUE TO SUDAN VIRUS IN CENTRAL UGANDA
OCTOBER 25, 2022

Situation Update

On September 20, 2022, Uganda declared an outbreak of Ebola virus disease (EVD) caused by Sudan virus (species Sudan ebolavirus) following laboratory confirmation of a patient from Mubende district in Central Uganda. No suspected, probable, or confirmed cases have been reported in the United States.

The California Department of Public Health (CDPH), in collaboration with the U.S. Centers for Disease Control and Prevention (CDC), has been closely monitoring the outbreak in Central Uganda.

As of October 6, 2022, a total of 44 confirmed cases and 30 deaths (10 confirmed and 20 probable) have been identified in Uganda. The CDC, World Health organization (WHO), and other partners are working closely with Uganda Ministry of Health (MOH) to respond to this outbreak.

Spread of the outbreak within the region is possible due to several factors. These include:

- The likelihood that EVD was spreading several weeks before identification of the index case.
- Not all early transmission chains were able to be traced; patients initially presented to healthcare facilities with suboptimal infection, prevention and control (IPC) practices.
- Individuals who died were traditionally buried with large ceremonies; and the location of the origin of the outbreak was in a mining region along a main highway two hours away from Uganda's capital city of Kampala and leading to the Democratic Republic of Congo.

While there are no direct flights from Uganda to California or elsewhere in the United States, travelers from or passing through affected areas in Uganda can enter the United States on flights connecting from other countries. Riverside County Public Health will be monitoring potentially exposed individuals returning from Uganda for development of signs and symptoms of EVD.

Background

Four species of the genus Ebolavirus cause disease in humans:

• Ebola virus (species Zaire ebolavirus)

• Sudan virus (species Sudan ebolavirus)

• Taï Forest virus (species Taï Forest ebolavirus, formerly Côte d'Ivoire ebolavirus)

• Bundibugyo virus (species Bundibugyo ebolavirus)

The Zaire ebolavirus was associated with several large outbreaks in Central Africa and Western Africa, including the 2014–2016 West African EVD epidemic during which there were more than 28,000 cases and 11,000 deaths. Eleven people were treated for Ebola in the United States during the 2014-2016 epidemic, the majority of whom were medical workers who had traveled to West Africa, but also including two healthcare workers who acquired EVD in the US while caring for a patient and subsequently recovered. Sudan virus (species Sudan ebolavirus) has caused seven previous outbreaks in Sudan and Uganda. The most recent Ebola outbreak due to Sudan virus occurred in Uganda in 2012.

Previous outbreaks of Sudan virus have had a mortality rate of approximately 50%. Person-to-person transmission of Ebola, including Sudan virus, occurs through direct contact with blood and other body fluids (e.g., urine, feces, saliva, vomit, sweat, semen, droplets, and other secretions) of a person who is sick with or died from Ebola. Ebola can also spread through direct contact with contaminated objects (like needles or syringes) or semen from a man who recently recovered from Ebola. Ebola is not spread through airborne transmission.

Signs and symptoms of EVD include fever, severe headache, muscle pain, weakness, fatigue, vomiting, diarrhea, stomach pain, and unexplained bleeding. A person can only spread Ebola to other people after developing signs and symptoms of Ebola. Risk factors for EVD include traveling to an EVD-affected area and having an exposure which may include taking care of an ill patient or a sick loved one, attending a funeral, or having unprotected sex (oral, vaginal, anal) with a man who has recently recovered from EVD. The incubation period for EVD is up to 21 days. EVD is a disease with a high mortality rate, however early supportive care increases the chances of recovery.

Recommendations for Healthcare Providers

- Clinicians should consider EVD in their differential diagnosis for any patient who has signs and symptoms consistent with Ebola virus infection (fever, severe headache, muscle pain, weakness, fatigue, vomiting, diarrhea, stomach pain, and unexplained bleeding) and has traveled to affected areas of Uganda within 21 days before the onset of symptoms. Healthcare and Emergency Medical System providers should routinely ask patients with acute and possibly infectious illness about recent international travel.
- Returned travelers from Sub-Saharan Africa are at risk of acquiring other diseases that are endemic in the region (e.g., malaria, yellow fever, dengue, rickettsial infections, typhoid, hepatitis A), so workup of other diseases should be undertaken concurrently.

- If there is suspicion for EVD in a patient based on symptoms and travel within the last 21 days to affected areas in Uganda, healthcare providers should immediately notify Riverside County Department of Public Health during business hours at Disease Control (951) 358-5107 or after hours at (951) 782-2974 and take EVD specific infection prevention and control precautions. These precautions include immediate isolation of the patient in a private room with an in-room bathroom or covered bedside commode. Healthcare provider's contact with the patient should be limited to providing essential patient care; any persons having contact with the patient should practice appropriate precautions and use appropriate Personal Protective Equipment (PPE). Procedures that could create splashes or increase environmental contamination with infectious material or create aerosols should be minimized. If aerosol generating procedures are needed, they should be conducted in an Airborne Infection Isolation Room (AIIR) when feasible. All healthcare provider contacts should be rigorously documented.
- The mainstay of treatment for EVD involves supportive care to prevent intravascular volume depletion, avoiding complications of shock, and correcting electrolyte abnormalities.
- No vaccines or therapeutics have been approved for prevention or treatment of EVD due to Sudan virus. The Ebola vaccine licensed in the United States (ERVEBO,® Ebola Zaire Vaccine, Live, also known as V920, rVSVΔG-ZEBOVGP or rVSV-ZEBOV) is indicated for the prevention of EVD due to Ebola virus (species Zaire ebolavirus), and is not expected to protect against Sudan virus or other viruses in the Ebolavirus genus

Laboratory and Biosafety Considerations

- The Biofire FilmArray NGDS Warrior Panel is the only assay available for detection of Sudan virus (it can also detect Ebola, Tai Forest, Bundibugyo, and Reston viruses). This test is not available at commercial or clinical laboratories. California laboratories currently using the BioFire Warrior Panel include the Los Angeles County Public Health Laboratory (PHL) and Cedars-Sinai Medical Center, a Regional Treatment Center for Ebola. The California Department of Public Health Viral and Rickettsial Disease Laboratory is working closely with the CDC to implement the Biofire Warrior Panel.
- The decision to test for EVD must be made in conjunction with the patient's clinical care team, Riverside County Public Health Disease Control, CDPH, and CDC's Viral Special Pathogens Branch (VSPB).

Disease Reporting

A patient suspected of having EVB, should be reported immediately to Disease Control at (951) 358-5107 during business hours or (951) 782-2974 after hours.

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