

First-ever outbreaks of Marburg Virus Disease in Equatorial Guinea and Tanzania

Benjamin Mateus
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The outbreak of Marburg Virus Disease (MVD) spreading since it was first confirmed on February 12 in the northeastern rural province of Kié-Ntem of the West African country of Equatorial Guinea. It has now reached the coastal city and economic center, Bata, home to approximately half a million people. As of last week, four cases had been detected in the port city, which raised the threat for possible multi-country transmission of the disease, which has a fatality rate similar to Ebola.

In a social media update from last Wednesday on the first-ever epidemic of the “hemorrhagic fever” caused by the Marburg virus, Equatorial Guinea’s Ministry of Health and Social Welfare announced that thus far there had been 13 cases with nine confirmed deaths. Two are hospitalized and one has only shown mild symptoms. There are 825 contacts that are being followed.

However, at Wednesday’s World Health Organization press briefing, Director General Tedros Adhanom Ghebreyesus indicated that the agency is aware of “additional cases” and has asked the government to “report these cases officially to the WHO.” Twenty suspected but unconfirmed cases have all ended in death.

In his opening statement, Ghebreyesus remarked, “The WHO is on the ground with partners, supporting the Ministry of Health to respond to the outbreak. We have deployed teams to assist with case finding, clinical care, logistics, and community engagement. We have also helped establish treatment units in the affected areas. The number of officially reported cases remains at nine, with seven deaths in three provinces. However, these three provinces are 150 kilometers apart, suggesting wider transmission of the virus.”

Even more concerning is that on March 21, 2023, almost 3,000 kilometers to the east of Equatorial Guinea, Tanzania confirmed its first-ever cases of MVD in the country’s northwest Kagera region, on the western shore of Lake Victoria and adjacent to Uganda’s border. These

two recent outbreaks of infections with Marburg Virus do not appear to be epidemiologically related. However, viral sequencing is underway to confirm these are separate events.

It is also worth recalling that Uganda had recently faced one of the largest outbreaks of the Sudan variant of Ebola in two decades. Only on January 11, 2023, did Uganda’s Ministry of Health declare the end of the outbreak, which had affected nine districts and the country’s highly populated capital, Kampala, killing 77 of 164 infected people.

In Tanzania, five of eight confirmed cases have died, including a health care worker, while the other three are under treatment. The WHO noted that they have identified 161 contacts who are being monitored. Dr. Matshidiso Moeti, Regional Director for WHO in Africa, told the media, “The effort by Tanzania’s health authorities to establish the cause of the disease is a clear indication of the determination to effectively respond to the outbreak. We are working with the government to rapidly scale up control measures.”

Although the WHO is initiating “ring vaccination” trials in Equatorial Guinea with three experimental vaccines—produced by Sabin Vaccine Institute, Janssen, and Public Health Vaccines (PHV)—which are similar to Ebola Zaire vaccines but specifically developed for use against Marburg virus, there are currently no approved treatments or vaccines available to protect the people of the affected countries. And of the experimental vaccines, there are only a few hundred doses of Sabin and PHV while Janssen has a few thousand jabs available.

The International AIDS Vaccine Initiative (IAVI), which uses a recombinant vesicular stomatitis virus vector (VSV) technology for its candidate Marburg vaccine, currently has no available doses. IAVI was awarded \$35.7 million from the Defense Threat Reduction Agency, an arm of the US Department of Defense, in 2019.

It will be important to identify the safety and efficacy of these treatments, especially as GAVI (Global Alliance for Vaccines and Immunization) has warned that outbreaks of Marburg are increasing in frequency and geography. The fatality rate for infection with Marburg virus is quoted at 88 percent, although with a wide range from 22 to 90 percent.

The two largest outbreaks to date occurred in Democratic Republic of Congo (1998-2000) with 154 cases and 128 deaths (83 percent fatality rate) and Angola (2005) with 374 cases and 329 deaths (88 percent fatality rate). The present outbreak in Equatorial Guinea could be construed as the third largest, depending on the ability for public health officials in the field to contain its spread.

The appearance of such a deadly pathogen in a large city like Bata is significant in light of recent events with Ebola Sudan in Kampala. As Teresa Lambe, Professor of Vaccinology, and Immunology at Oxford's Pandemic Sciences Institute told the *Telegraph*, "Although Marburg virus has recently been detected in rural Tanzania and Equatorial Guinea, the spread of this deadly virus into a heavily populated city is very concerning."

Like SARS, MERS, Nipah and Hendra viruses, as well as Ebola, the Marburg virus is carried by bats, which are known to harbor more zoonotic viruses than other mammals. Due to an unusual adaptation of their immune systems, bats avoid the complications of the disease these viruses can cause and can therefore survive to transmit them to other species.

In particular, there is strong evidence that the Egyptian fruit bat is the natural animal reservoir for the Marburg virus, which explains the locations of these outbreaks. What scientists and researchers still don't understand is the mechanism of animal-to-human spread, but clearly human encroachment into previously undisturbed habitats and the impact of climate change on these areas has led to more human contact with wild animals and more frequent outbreaks.

Like Ebola, the Marburg virus is transmitted through infected body fluids once the person begins to show symptoms, which involve almost every organ system in the body. Typical signs include abdominal pain, loss of appetite, generalized fatigue and aches, nausea and vomiting, bloody diarrhea, electrolyte, liver, and blood abnormalities. Death comes as a result of multiorgan dysfunction and shock.

The incubation period can last usually between five to 10 days but may be as long as three weeks. Contact tracing and quarantining are critical in controlling the

spread of disease and in beginning to administer life supportive care to improve the odds of surviving. Those fortunate few who do survive can have a protracted recovery and long-term sequelae from their infection.

Much of the clinical information comes from the experience in 1967 when infected African green monkeys were shipped to the West German towns of Marburg and Frankfurt as well as Belgrade, Yugoslavia (now Serbia). In total, there were 25 primary Marburg virus infections, seven deaths, and six non-lethal secondary infections. Early recognition of the yet unknown infectious etiology that was causing these illnesses among laboratory workers led to rapid containment of the spread.

The turn of this century has already seen the appearance of multiple outbreaks of deadly viruses culminating in the current COVID pandemic that has led to the deaths of tens of millions of people. The highly pathogenic influenza virus, H5N1, poses a real threat to humanity should the virus learn to transmit efficiently between people. Add to this the recurrent outbreaks of filoviruses—Marburg, Ebola (both Zaire and Sudan versions)—into the mix and the already forgotten pandemic of monkeypox virus, the question isn't if, but when, the next significant pathogen will threaten millions of the world's population.

Even as a new variant of the coronavirus called XBB.1.16, which is more contagious and possibly more virulent than its predecessor XBB.1.5, has spread to more than 23 countries, the ruling class in every country across the globe is seeking to completely cover up the real status of the pandemic. Meanwhile, the interlinking of countries in an international public health effort is coming undone, at a time when international collaboration and cohesion are of utmost importance in pandemic preparedness.

The Marburg outbreaks in Equatorial Guinea and Tanzania, even if, in the best case, they are rapidly contained, should come as a dire warning to the working class. The COVID pandemic has already wrought immeasurable misery because finance capital deemed eradicating the coronavirus and saving lives an expense not worth undertaking.



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