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EBOLA VIRUS DISEASE IN UGANDA: A GLOBAL EMERGENCY CALL

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ABSTRACT

After a patient who had contracted the rare Sudan strain of the Ebola virus (EBV) died in the Mubende district on September 20, 2022, the Ministry of Health of the Republic of Uganda proclaimed the Ebola virus disease (EVD) epidemic. Uganda has had numerous outbreaks of the Sudan strain of EVD since the year 2000, and it has been more than ten years since the last case of EVD (Sudan strain) was documented there. Humans and other primates are susceptible to the severe, frequently fatal disease known as EVD, which manifests as a variety of neurological and gastrointestinal symptoms. In order to coordinate outbreak planning and response, this article has examined several initiatives made by the World Health Organization and the Ministry of Health of the Republic of Uganda. To assist in the early management and prevention of the EVD, the government and individuals have received certain recommendations. Effective isolation, triage, and screening of symptomatic patients have also received additional attention.

KEYWORDS: Ebola, Epidemic, Gastrointestinal, Preventation, Screening, Isolation.

INTRODUCTION

The Republic of Uganda's Ministry of Health announced the Ebola Virus Disease (EVD) epidemic to the government and the World Health Organization (WHO) on September 20, 2022. This came after a case was confirmed at Mubende Regional Referral Hospital in the central country's Mubende area. The 24-year-old male from Ngabano village in Madudu sub-county was identified as a suspected case of viral hemorrhagic fever (VHF), according to the Permanent Secretary of the Ministry of Health (MoH) of Uganda. He presented with high-

grade fever, tonic-convulsions, blood-stained vomitus and diarrhoea, loss of appetite and pain while swallowing, dry cough, and bleeding in the eyes. His symptoms began on September 11th, 2022.

At Mubende Regional Referral Hospital, he was then placed in isolation. The test sample retrieved from the suspected patient was positive for EVD (Sudan strain) when it was evaluated at the Uganda Virus Research Institute (UVRI) laboratory, confirming the first Ebola outbreak in Uganda in ten years. Patient passed away on September 19, 2022. The National Rapid Response Team is still looking into six strange fatalities that have happened in Mubende and the neighbouring districts of Kiboga and Mityana so far in September. As of September 21st, eight suspected cases were being treated in a medical facility. Humans and other primates are susceptible to the severe, frequently fatal EBV disease. It has six different species, three of which (Bundibugyo, Sudan, and Zaire) have historically resulted in significant outbreaks (Forest virus, Reston virus, Bombali virus, Bundibugyo virus, Sudan virus, and Zaire virus). In the past, there have been seven ebolavirus epidemics in Sudan, with three happening in Sudan and four in Uganda. Although Uganda reported a Zaire ebolavirus outbreak in 2019 that was caused by cross-border movement from the Democratic Republic of the Congo (DRC), previously Zaire, the most recent known Sudan ebolavirus outbreak there occurred in Uganda in 2012. In Uganda, EVD outbreaks have been documented in the years 2000–2001, 2007, 2011, 2012, and 2019, with the greatest outbreak accounting for 425 cases and 224 reported fatalities.

The WHO reports that in past outbreaks, patient fatality rates of the Sudan virus species ranged from 41% to 100%. Early supportive treatment initiation has been shown to greatly reduce Ebola deaths. This essay tries to discuss the current state of the recently identified Ebola outbreak in central Uganda and to provide some lessons that may help with outbreak management.

Epidemiology and outbreak of Ebola Virus Disease in Uganda

The number of cases and fatalities from various strains of the Ebola virus (EBV) have been reported for roughly 20 years, starting in 2000, in Uganda. With a case fatality rate ranging from 36% to 100% in the past outbreaks, the Sudan ebolavirus strain has been documented about four times in Uganda. There are six known strains of the EBV. Following the confirmed death of a 24-year-old man from Ngabano village in Madudu Sub-County, whose sample tested positive for Sudan ebolavirus by the Uganda Virus Research Institute at

Mubende Regional Referral Hospital in Uganda, the Ugandan Ministry of Health (MoH) declared an EVD outbreak in Mubende District on September 20, 2022.

Eight probable instances of EVD have been found, according to the Ministry of Health, and they are all being treated at medical institutions. Uganda has experienced many Sudan ebolavirus outbreaks since the year 2000, and it has been more than ten years since the last case of the virus was discovered there). But in 2000–2001, Guru District in Uganda saw the country's first significant EVD outbreak, which resulted in 224 deaths that were confirmed.

Aetiology of Ebola Virus Disease

EBV is a microscopic parasite that is a member of the Filoviridae family and the Mononegavirales order, which also includes the Rhabdoviridae and Paramyxoviridae families. The word "filoviridae" is taken from Latin and means "thread" because, when viewed under an electron microscope, the shape of the virion resembles a twisted thread. Two separate Ebola Hemorrhagic Fever epidemics that occurred eight hundred kilometres apart in Southern Sudan (Nzara) and Northern Zaire in 1976 led to the discovery of this virus (Yambuku). A small river close to the Yambuku Catholic Mission, which served as the epicentre of the 1976 EHF outbreak, inspired the disease's name, "Ebola". An outbreak of 318 patients, with an 88% Ficase-fatality rate during a two-month period, was caused by the virus during its discovery in Zaire (the Democratic Republic of the Congo (DRC)). The zoonotic route of infection for the EBV in humans is through eating meat from infected animals, such as apes, chimpanzees, and monkeys. Some EBV strains have also been discovered in bats. Although fruit bats carrying filoviruses, which have a very high genetic variety, serve as the primary natural reservoirs, the main sources of transmission during an outbreak are ill people or contact with infected corpses. The geographically restricted occurrence and long-term genetic stability of strains originating in Sudan and Uganda, however, provide evidence that not all strains of the virus are thought to have an animal reservoir. In 2008, during an outbreak in Uganda, a new EBV called Bundibugyo ebolavirus (BDBV) was identified from clinical samples. The host may typically be non-contagious and asymptomatic for a period of time ranging from a few days to weeks once they have been infected and the virus has begun to incubate.[20] The virus may infect a new host through weakened mucosal membranes or damaged skin. The host may potentially become infected by the virus without the mucosal barrier being damaged. The virus may endure for unknown

lengths of time outside the human body. Patients' blankets, clothes, and medical supplies are burned or thrown away as medical trash to prevent contamination and spread.

Ebola virus disease outbreak in uganda

ORIGIN

Order: Mononegavirales

Family: Filovirdae

Genus: ebolavirus

Species: sudan ebolavirus

MODE OF TRANSMISSION

Direct Contact

Blood or Body fluids

Infected fruits bats

Contaminated objects

SYMPTOMS

Fewer

Joint pain

Headache

Weakness

Sore thorat

Weight loss

Loss of Appittee

RECOMMENDATION

Vaccination

Multiple intervention

Public awareness

Community involvement

Reduce risk of transmission

Personal protective equipment

Current efforts to mitigate Ebola Virus Disease in Uganda

Due to the mobility of infected people over domestic and international borders, the EBV is a fast proliferating virus that has the potential to spread globally. Seven cases, one of which resulted in death in the Mubende district, have so far been linked to one of the six EBV species, the Sudan strain. Ten likely virus-infected patients are being treated at the regional referral hospital where the sickness was confirmed this week, and 43 contacts have been noted. Since 2012, Uganda has not experienced the Sudan strain of the EBV till now. This has caused authoritie to take various steps to try and stop the spread of this new strain.In an effort to help the Ugandan authorities contain the infection, WHO is assisting with medical supply deliveries, manpower deployments, and the deployment of isolation tents. Six viral hemorrhagic fever kits have already been distributed to Uganda, one of which was dispatched to Mubende. Although there is no known therapy for the Sudan strain, early infection discovery and symptom management greatly increase the likelihood of survival. A national task force, an emergency operations centre, and a national rapid reaction team team have all been established by the Ministry of Health to coordinate preparedness and response actions. The national task force, which is also co-chaired by the WHO, includes representatives from numerous partner organisations as well as ministries, agencies, and departments. To ensure that the numerous outside organisations offering financial and technical support did not duplicate efforts or leave large gaps unfilled, this task group also designed a matrix for collaboration. Only the Zaire strain of the disease is protected against by the Ervebo (rVSV-ZEBOV) vaccination. There are now at least six possible vaccines being developed, three of which are in the preclinical testing stage while the other three have Phase 1 data (safety and immunogenicity data in people).

Recommendations to curb the ebola virus disease outbreak

For individuals

It is imperative to routinely wash your hands with soap and clean water. Before feeling well and having tested negative for EBV, people should avoid contact with infected people's blood and bodily fluids (such as saliva and semen). The handling of Ebola victims' bodies should only occur when all required precautions have been taken and the correct process has been followed. Sharing objects and spaces with others, such as clothing and needles, is also discouraged. Someone displaying infection signs needs to be referred for isolation, triage, and screening. According to the most recent WHO guidelines, males who have survived EVD

should engage in safe sexual activity for a year after the onset of symptoms or until the semen tests negative for EBV twice.

For government

Accination awareness campaigns may be able to successfully stop epidemics in other regions as a result of vaccines' success in reducing the Ebola outbreak in Guinea in 2021. Authorities may also temporarily impose immigration restrictions on citizens of high-risk countries in order to curb the international spread of EBV. It's also crucial to have access to clean water, enough open space to reduce crowding, better communication and transit alternatives, and telemedicine integration into the healthcare system. Although implementing these changes in remote areas may be difficult, doing so can lead to a cost-effective improvement in disease identification, treatment, and immunisation. Health facilities should also stock up on extra personal protective equipment (PPE), hygiene products, PCR kits, and medical supplies like masks and syringes. Additionally, we advocate teaching medical personnel on EBV symptoms and indicators, as well as how to recognise and treat those who are infected. The CDC should also be prepared to hire epidemiologists, authorities on infectious diseases, and nurses with ICU training.

CONCLUSION

The Republic of Uganda proclaimed an EBV epidemic after a case of the uncommon Sudan EBV serotype was found in the Mubende, nearly ten years after it had been eradicated. The symptoms of EVD, a serious, frequently fatal sickness that affects humans and other primates, include high-grade fever, tonic convulsions, and diarrhoea. Through the provision of equipment and supplies, the WHO is assisting the Ugandan government in its efforts to contain this infection. The Ministry of Health is seeking to create viable vaccinations against the Sudan strain in addition to coordinating readiness and response. There are several suggestions for people and governments to assist stop the ongoing catastrophe.

It has been advised that people practise good hygiene and abstain from exchanging contaminated items of clothes or needles. Effective isolation, triage, and screening of symptomatic patients have received additional attention. The government ought to work on low-cost enhancements for EVD early management and prevention. Finally, assistance from international organisations is crucial to stop the disease from spreading further across the border.

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