



Analytical Method for Detecting Ebola Virus

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DESCRIPTION

Ebola is not as contagious as the more common viruses such as the common cold, flu, and measles. It spreads to humans by contact with the skin and body fluids of infected animals such as monkeys, chimpanzees and fruit bats. Then it moves from person to person in the same way. People who take care of sick people or bury people who have died of illness often receive it.

The virus spreads through direct contact with body fluids such as blood from infected humans and other animals or through contact with objects contaminated with recently infected body fluids. There are no documented cases of aerial transmission of disease between humans or other primates, either in natural or laboratory conditions. After recovering from Ebola, the semen or breast milk can carry the virus for weeks or months. Fruit bats are considered a normal carrier in nature. They can spread the virus unaffected. Symptoms of Ebola may resemble those of several other diseases, including malaria, cholera, typhoid fever, meningitis, and other viral hemorrhagic fever. Diagnosis is confirmed by examining blood samples for the presence of viral RNA, viral antibodies, or the virus itself. Another way to get Ebola is to touch a contaminated needle or surface [1].

Ebola virus causes a serious and often fatal disease known as Ebola Virus Disease (EVD); formerly known as Ebola Hemorrhagic Fever (EHF). The case fatality rate of EVD can be as high as 90%. Ebola virus causes hemorrhagic fever. This is a condition that can also be caused by other types of viruses, but the Ebola virus causes one of the most deadly forms. In addition to other symptoms of hemorrhagic fever (fever, headache, muscle pain, weakness, vomiting, diarrhea), in more severe cases, vascular damage and extensive internal and external bleeding (bleeding) can occur. EVD mortality ranges from 25% to 90%, with an average of 50%. Death usually occurs as a result of shock due to water loss rather than blood loss [2,3].

Currently, there are no approved treatments or vaccines for

Ebola virus disease, but vaccines and drug therapies are being developed and tested.

Areas with outbreaks should be isolated immediately and infected individuals should be isolated and treated in the intensive care unit. Because dehydration is common, water can be infused directly into a vein. While the human body is fighting infections, blood oxygen and blood pressure must also be maintained at appropriate levels to support the organs.

Healthcare professionals should wear protective equipment such as gloves, gowns, and masks to avoid contact with the body fluids of infected patients [4,5].

Ebola virus disease is often fatal, with one in two people dying from the disease. The sooner a person receives care, the more likely he is to survive.

Because of the risk of pregnancy, if we suspect Ebola, it is ideal to have a quick examination of pregnant women [6].

Confirmation that the symptoms are caused by an Ebola virus infection is made using the following diagnostic methods:

- Antibody-capture Enzyme-Linked Immunosorbent Assay (ELISA)
- Antigen-capture detection tests
- Serum neutralization test
- Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) assay
- Electron microscopy
- Virus isolation by cell culture

The choice of diagnostic test should be carefully considered, taking into account technical specifications, disease incidence and prevalence, and the social and medical implications of test results [7].

No drugs have been approved to treat Ebola virus. People diagnosed with Ebola receive supportive care and treatment for complications. Ebola virus vaccine has been approved. Scientists are studying other vaccines for these deadly diseases.

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