

Ebola Disease



Causative agent

Ebola disease (EBOD; formerly known as Ebola haemorrhagic fever) is caused by infection with Ebola virus which belongs to the family *Filoviridae*. Under the genus *Orthoebolavirus* (*Ebolavirus*), six species have been identified, including Zaire, Bundibugyo, Sudan, Taï Forest, Reston and Bombali. EBOD outbreak in humans has an average case fatality rate of around 50% (varied from 25% to 90% in previous outbreaks). Ebola first appeared in 1976 in South Sudan and the Democratic Republic of the Congo, the latter in a village situated near the Ebola River, from which the disease took its name. The disease has appeared sporadically since then. Confirmed cases of Ebola have been reported mainly in sub-Saharan Africa including the Democratic Republic of the Congo, Gabon, South Sudan, Cote D'Ivoire, Uganda and Congo. The Ebola outbreak which occurred in West Africa from March 2014 to January 2016 was the largest outbreak since 1976, affecting mainly countries including Guinea, Liberia and Sierra Leone. After that, on and off Ebola outbreaks of various scales have been reported in the Democratic Republic of the Congo from 2017 to 2022. An Ebola outbreak was reported in Guinea in 2021. Ebola outbreaks caused by Sudan virus occurred in Uganda from September 2022 to January 2023, and from January to April 2025.

Clinical features

EBOD is a severe acute viral illness often characterised by sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding.

Mode of transmission

The virus is introduced into the human population through close contact with the blood, secretions, organs or other body fluids of infected animals. Some fruit bats are considered to be the natural host of the virus. In Africa, infection has been documented through the handling of infected chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines found ill or dead in the rainforest. It then spreads in the community through human-to-human transmission, with infection resulting from direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other body fluids of infected people, and indirect contact with environments contaminated with such fluids. People are infectious as long as their blood and secretions contain the virus. Burial ceremonies in which mourners have direct contact with the body of the deceased person can also play a role in the transmission of EBOD. Healthcare workers in affected countries have frequently been infected through close contact with patients suffering from EBOD when infection control measures are not strictly practised. Samples from patients are biohazardous and testing should be conducted under appropriate biological containment conditions. Although rare, sexual transmission of the EBOD has been reported.

Incubation period

It ranges from 2 to 21 days.

Management

Early supportive care with rehydration and symptomatic treatment improve survival. Patients must be managed in isolation facilities to prevent the spread of infection. Severely ill patients require intensive supportive care. Patients are frequently dehydrated and require oral or intravenous rehydration. Two monoclonal antibodies (Inmazeb and Ebanga) were approved for the treatment of Zaire virus infection in adults and children by the United States Food and Drug Administration in late 2020.

Prevention

There is currently no registered vaccine for EBOD in Hong Kong. An effective vaccine (the Ervebo vaccine) is prequalified by World Health Organization for use in the outbreaks caused by Zaire virus. Healthcare workers should put on appropriate personal protective equipment and adopt strict infection control measures when caring for suspected patients. To prevent the infection, it is important for travellers who go to affected areas to observe the following:

- Perform hand hygiene frequently, especially before and after touching the mouth, nose or eyes; before eating; after using the toilet, after touching public installations such as handrails or door knobs; or when hands are contaminated by respiratory secretion after coughing or sneezing. Wash hands with liquid soap and water, and rub for at least 20 seconds. Then rinse with water and dry with either a clean cotton towel or a paper towel. If hand washing facilities are not available, or when hands are not visibly soiled, hand hygiene with 70 to 80% alcohol-based handrub is an effective alternative.

- Avoid close contact with feverish or ill persons, and avoid contact with patients' blood and body fluids, and objects contaminated with blood or body fluids of patients.
- Avoid contact with animals.
- Cook food thoroughly before consumption.
- Travellers should seek medical advice promptly if they become ill within 21 days after returning from affected areas and inform doctor of recent travel history.

