Ebola Haemorrhagic Fever Fact Sheet

What is Ebola Haemorragic Fever?

Ebola hemorrhagic fever (Ebola HF) is a severe, often-fatal disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees) that has appeared sporadically since its initial recognition in 1976. The disease is caused by infection with Ebola virus, named after a river in the Democratic Republic of the Congo (formerly Zaire) in Africa, where it was first recognized. The virus is one of two members of a family of RNA viruses called the Filoviridae. There are five identified subtypes of Ebola virus. Four of the five have caused disease in humans with high case fatality ratio (25–90%): Ebola-Zaire, Ebola-Sudan, Ebola-Ivory Coast and Ebola-Bundibugyo. The fifth, Ebola-Reston, has caused disease in nonhuman primates, but not in humans.

Where is Ebola Virus found in nature?

The exact origin, locations, and natural habitat (known as the "natural reservoir") of Ebola virus remain unknown. However,on the basis of available evidence and the nature of similar viruses, researchers believe that the virus is zoonotic (animalborne) with four of the five subtypes occurring in an animal host native to Africa (African rain forests). Confirmed cases of Ebola HF have been reported in the Democratic Republic of the Congo, Gabon, Sudan, the Ivory Coast, Uganda, and the Republic of the Congo. A similar host, most likely in the Philippines, is probably associated with the Ebola-Reston subtype, which was isolated from infected cynomolgous monkeys that were imported to the United States and Italy from the Philippines. The virus is not known to be native to other continents, such as North America.

There is evidence that bats are involved, but much work remains to be done to definitively describe the natural transmission cycle. Laboratory observation has shown that bats experimentally infected with Ebola do not die, and this has raised speculation that these mammals may play a role in maintaining the virus in the tropical forest.

How is Ebola transmitted?

- The Ebola virus is transmitted by direct contact with the blood, secretions, organs or other body fluids of infected persons.
- Burial ceremonies where mourners have direct contact with the body of the deceased person can play a significant role in the transmission of Ebola.
- The infection of human cases with Ebola virus through the handling of infected chimpanzees, gorillas, and forest antelopes – both dead and alive – has been documented in Côte d'Ivoire, the Republic of Congo and Gabon. The transmission of the Ebola Reston strain through the handling of cynomolgus monkeys has also been reported.
- Health care workers have frequently been infected while treating Ebola patients, through close contact without correct infection control precautions and adequate barrier nursing procedures.

What is the incubation period for Ebola

The incubation period is 2 to 21 days.

What are the symptoms of Ebola?

Ebola is characterized by the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is often followed by abdominal pain, vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding. Laboratory findings show low counts of white blood cells and platelets as well as elevated liver enzymes.

What is the Laboratory Diagnosis of Ebola?

Antigen-capture enzyme-linked immunosorbent assay (ELISA) testing, IgM ELISA, polymerase chain reaction (PCR), and virus isolation can be used to diagnose a case of Ebola HF within a few days of the onset of symptoms. Persons tested later in the course of the disease or after recovery can be tested for IgM and IgG antibodies; the disease can also be diagnosed retrospectively in deceased patients by using immunohistochemistry testing, virus isolation, or PCR.

Tests on samples present an extreme biohazard risk and are only conducted under maximum biological containment conditions. New developments in diagnostic techniques include non-invasive methods of diagnosis (testing saliva and urine samples) and testing inactivated samples to provide rapid laboratory diagnosis to support case management during outbreak control activities.

What is the treatment of Ebola?

There is no standard treatment for Ebola HF. Patients receive supportive therapy. This consists of balancing the patient's fluids and electrolytes, maintaining their oxygen status and blood pressure, and treating them for any complicating infections.

Several potential vaccines are being tested but it could be several years before any is available. A new drug therapy has shown some promise in laboratory studies and is currently being evaluated. Experimental studies using hyper-immune sera on animals have shown no protection against the disease.

How should suspected Ebola cases be handled?

- Suspected cases should be isolated from other patients and strict barrier nursing techniques implemented.
- Tracing and follow up of people who may have been exposed to Ebola through close contact with patients are essential.

All hospital staff should be briefed on the nature of the disease and its transmission routes. Particular emphasis should be placed on ensuring that invasive procedures such as the placing of intravenous lines and the handling of blood, secretions, catheters and suction devices are carried out under strict barrier nursing conditions. Hospital staff should have individual gowns, gloves, masks and goggles. Non-disposable protective equipment must not be reused unless they have been properly disinfected.

- Infection may also spread through contact with the soiled clothing or bed linens from a patient with Ebola. Disinfection is therefore required before handling these items.
- Communities affected by Ebola should make efforts to ensure that the population is well informed, both about the nature of the disease itself and about necessary

outbreak containment measures, including burial of the deceased. People who have died from Ebola should be promptly and safely buried.

How should contacts be handled?

- As the primary mode of person-to-person transmission is contact with contaminated blood, secretions or body fluids, people who have had close physical contact with patients should be kept under strict surveillance. Their body temperature should be checked twice a day, with immediate hospitalization and strict isolation in case of the onset of fever.
- Hospital staff who come into close contact with patients or contaminated materials without barrier nursing attire must be considered as contacts and followed up accordingly.

How to Investigate a Suspected Ebola Case

1. Inform the District Disease Surveillance Cordinator (DDSC) immediately
2. For laboratory testing, either Serum (For Elisa) or whole blood (For PCR) can be collected.
3. However, in order to minimize infection through lengthy processing, the health workers are advised to collect 5-10mls of whole blood into a plain bottle under strict barrier nursing. This should then be packaged well using the triple packaging concept and sent to KEMRI Virology lab using a cooler box (Temp 2-8 degrees celcius). The specimen should not be frozen and should be sent immediately.
4. Fill the integrated case based surveillance form(MOH 502) to accompany the specimens

For more information please refer to the IDSR Technical guidelines on Viral Hemorrhagic Fevers and Ebola in Section 9 (available on www.ddsr.or.ke under resources.

Or contact: Head DDSR,
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References

1. WHO Fact sheet N°103 – Ebola Hemorrhagic Fever
2. CDC Ebola Hemorrhagic Fever Fact sheet