

FactSheet

Para Su Información

Viral Hemorrhagic Fevers

Viral hemorrhagic fevers (VHFs) refer to a group of illnesses that are caused by several distinct families of viruses.

In general, the term “viral hemorrhagic fever” is used to describe a severe multi-system syndrome (multi-system in that multiple organ systems in the body are affected). Characteristically, the overall vascular system is damaged, and the body’s ability to regulate itself is impaired. These symptoms are often accompanied by bleeding, which is rarely life-threatening. While some types of hemorrhagic fever viruses can cause relatively mild illnesses, many of these viruses cause severe, life-threatening disease.

VHFs are caused by viruses of four distinct families:

- Arenaviruses: Lassa Fever
- Filoviruses: Ebola, Marburg
- Bunyaviruses: Crimean Congo, Rift Valley
- Flaviviruses: Dengue, yellow fever

Each of these families share a number of features:

- They are all RNA viruses, and all are covered, or enveloped, in a fatty (lipid) coating.
- Their survival is dependent on an animal or insect host, called the natural reservoir.
- The viruses are geographically restricted to the areas where their host species live.
- Humans are not the natural reservoir for these viruses, and are infected when they come into contact with infected hosts. However, with some viruses, after the accidental transmission from the host, humans can transmit the virus to one another.

Why are VHFs a bio-terrorism threat?

The high rate of death and illness caused by VHFs make them a serious threat as biological weapons.

How are VHFs spread?

Viruses causing hemorrhagic fever are initially transmitted to humans when the activities of infected reservoir hosts or vectors (person, animal or microorganism that carries and transmits a disease) and humans overlap.

The viruses carried in rodent reservoirs are transmitted when humans have contact with urine, fecal matter, saliva or other body excretions from infected rodents. The viruses associated with arthropod vectors are spread most often when the vector mosquito or tick bites a human, or when a human crushes a tick.

However, some of these vectors may spread virus to animals or livestock. Humans then become infected when they care for or slaughter the animals.

Some viruses that cause hemorrhagic fever can spread from one person to another, once an initial person has become infected. For example, Ebola, Marburg, Lassa and Crimean-Congo hemorrhagic fever viruses can be spread from person to person.

This type of secondary transmission can occur directly, through close contact with infected people or their body fluids. It can also occur indirectly, through contact with objects contaminated with infected body fluids, such as contaminated syringes and needles.

VHFs do not occur naturally in the United States.

What are the symptoms of VHFs?

Specific signs and symptoms vary by the type of VHF, but initial signs and symptoms often include: fever, fatigue, dizziness, muscle aches, loss of strength and exhaustion.

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Patients with severe cases of VHF often show signs of bleeding under the skin, in internal organs, or from body orifices like the mouth, eyes, or ears. However, although they may bleed from many sites around the body, patients rarely die because of blood loss.

Severely ill patient cases may also show shock, nervous system malfunction, coma, delirium, and seizures. Some types of VHF are associated with renal (kidney) failure.

Is there a treatment for VHFs?

Patients receive supportive therapy, but generally speaking, there is no other treatment or established cure for VHFs.

Ribavirin, an anti-viral drug, has been effective in treating some individuals with Lassa fever or HFRS.

Treatment with convalescent-phase plasma has been used with success in some patients with Argentine hemorrhagic fever.

Is there a vaccine for VHFs?

With the exception of yellow fever and Argentine hemorrhagic fever, no vaccines exist that can protect against these diseases.

How can these illnesses be prevented?

Prevention efforts must concentrate on avoiding contact with host species. If prevention methods fail and a case of VHF does occur, efforts should focus on preventing further transmission from person to person, if the virus can be transmitted in this way.

Because many of the hosts of hemorrhagic fever viruses are rodents, disease prevention efforts include:

- Controlling rodent populations

- Discouraging rodents from entering or living in homes or workplaces
- Encouraging safe cleanup of rodent nests and droppings.

For hemorrhagic fever viruses spread by arthropod vectors (spiders, scorpions, etc.), prevention efforts often focus on community-wide insect and arthropod control.

In addition, people are encouraged to use insect barriers to avoid being bitten, such as:

- Insect repellent
- Proper clothing
- Bed nets
- Window screens

For those hemorrhagic fever viruses that can be transmitted from one person to another, avoiding close physical contact with infected people and their body fluids is the most effective way of controlling the spread of disease.

Barrier nursing or infection control techniques include isolating infected individuals and wearing protective clothing. Other infection control recommendations include proper use, disinfection, and disposal of instruments and equipment used in treating or caring for patients with VHF, such as needles and thermometers.

Where can I get more information?

Additional information about viral hemorrhagic fever can be found on the Centers for Disease Control and Prevention's website at www.cdc.gov.



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