Dengue And Dengue Hemorrhagic Fever

Dengue and dengue hemorrhagic fever (DHF) are caused by four different, but closely related, viruses. Recovery from infection by one provides lifelong immunity against that serotype. But it gives only partial protection against later infection by the other three viruses. People living in a dengue-endemic area can have four dengue infections during their lifetime. One infection does not give immunity to the others. Dengue is primarily a disease of the tropics. **The viruses that cause it are spread by the Aedes aegypti** mosquito.

Mosquito (Aedes aegypti) feeding and maybe transmitting the Dengue virus

Dengue viruses are transmitted to humans through the bites of infective female *Aedes* mosquitoes. Mosquitoes generally get the virus while feeding on the blood of an infected person. Virus incubation is 8 to 10 days. After that time, an infected mosquito, while feeding, may spread the virus to individuals for the rest of its life. Infected female mosquitoes may also spread the virus to their offspring through their eggs. But the role of this in giving the virus to humans is not completely understood.

These viruses and their mosquito carriers have now spread across the globe.

SYMPTOMS

Infection with dengue viruses produces a variety of problems. These range from a nonspecific viral syndrome to a severe and fatal *hemorrhagic* (producing bleeding) disease. It is a severe, flu-like illness. It affects infants, young children and adults. But it seldom causes death. Important risk factors for DHF include:

- The type of infecting virus.
- The patient`s age, immune status, and genetic (inborn) predisposition.

The clinical (apparent or observable) signs of this fever vary according to the age of the patient. Infants and young children may have a nonspecific fever producing (*febrile*) illness with rash. Older children and adults may have a mild febrile syndrome. Or they may have the classical incapacitating disease with:

- Sudden onset.
- High fever.
- Severe headache.
- Pain behind the eyes.
- Muscle and joint pains.
- Rash.

Dengue hemorrhagic fever is a potentially deadly complication. It is causes:

- High fever.
- Hemorrhagic phenomena. Often there is enlargement of the liver.
- In severe cases, circulatory failure.

The illness commonly begins with a sudden rise in temperature. Facial flush and other nonspecific constitutional symptoms of dengue fever also happen. The fever usually lasts for 2 to 7 days. It can be as high as 104° to 106° F (40° to 41° C). Febrile convulsions and hemorrhagic (bleeding) problems may also occur.

In moderate DHF cases, all signs and symptoms lessen and go away after the fever subsides. In severe cases, the patient's condition may suddenly get worse after a few days of fever. The temperature drops. This is followed by signs of circulatory failure. The patient may quickly go into a critical state of shock and die within 12 to 24 hours. Or he/she may quickly recover following appropriate volume replacement therapy (replacing lost fluids).

TREATMENT

There is no specific treatment for this fever. But careful clinical management by experienced physicians and nurses often saves the lives of DHF patients. With appropriate intensive supportive therapy, the death rate (*mortality*) may be reduced to less than 1%. Maintenance of the circulating fluid volume is the central feature of

DHF case management.

PREVENTION

- The only method of controlling or preventing dengue and DHF is to combat the infected mosquitoes.
- Vaccine development for dengue and DHF is difficult. Any of four different viruses may cause disease. Protection against only one or two dengue viruses could actually increase the risk of more serious disease. Progress is being made in the development of vaccines that may protect against all four dengue viruses. Such products may become available for public health use within several years.

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