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# Dengue and Dengue Haemorrhagic Fever

**What is dengue?**
Dengue (pronounced den' gee) is a disease caused by any one of four closely related viruses (DEN-1, DEN-2, DEN-3, or DEN-4). The viruses are transmitted to humans by the bite of an infected mosquito. In the Western Hemisphere, the Aedes aegypti mosquito is the most important transmitter or vector of dengue viruses.

**What is dengue haemorrhagic fever (DHF)?**
DHF is a more severe form of dengue. It can be fatal if unrecognised and not properly treated. DHF is caused by infection with the same viruses that cause dengue. With good medical management, mortality due to DHF can be less than 1%.

**How are dengue and dengue hemorrhagic fever (DHF) spread?**
Dengue is transmitted to people by the bite of an Aedes mosquito that is infected with a dengue virus. The mosquito becomes infected with dengue virus when it bites a person who has dengue or DHF and after about a week can transmit the virus while biting a healthy person. Dengue cannot be spread directly from person to person.

**What are the symptoms of the disease?**
The principal symptoms of dengue are high fever, severe headache, backache, joint pains, nausea and vomiting, eye pain, and rash. Generally, younger children have a milder illness than older children and adults.

Dengue hemorrhagic fever is characterized by a fever that lasts from 2 to 7 days, with general signs and symptoms that could occur with many other illnesses (e.g., nausea, vomiting, abdominal pain, and headache). This stage is followed by hemorrhagic manifestations, tendency to bruise easily or other types of skin haemorrhages, bleeding nose or gums, and possibly internal bleeding. The smallest blood vessels (capillaries) become excessively permeable ("leaky"), allowing the fluid component to escape from the blood vessels. This may lead to failure of the circulatory system and shock, followed by death, if circulatory failure is not corrected.

**What is the treatment for dengue?**
There is no specific medication for treatment of a dengue infection. Persons who think they have dengue should use analgesics (pain relievers) with acetaminophen and avoid those containing aspirin. They should also rest, drink plenty of fluids, and consult a physician.

**Is there an effective treatment for dengue hemorrhagic fever (DHF)?**
As with dengue, there is no specific medication for DHF. It can however be effectively treated by fluid replacement therapy if an early clinical diagnosis is made. Hospitalisation is frequently required in order to adequately manage DHF.

**What can be done to reduce the risk of acquiring dengue?**
There is no vaccine for preventing dengue. The best preventive measure for residents living in areas infested with Aedes aegypti is to eliminate the places where the mosquito lays her eggs, primarily artificial containers that hold water.
Items that collect rainwater or are used to store water (for example, plastic containers, big drums, buckets, or used automobile tires) should be covered or properly discarded. Pet and animal watering containers and vases with fresh flowers should be emptied and scoured at least once a week. This

will eliminate the mosquito eggs and larvae and reduce the number of mosquitoes present in these areas.

Tests for Dengue
CBC - WBC Count, Platelet Count, Haematocrit
S. Protien, S. Albumin
Liver Function Tests
Urine - microscopic haematuria
Dengue IgG & IgM.

**The tests for diagnosis of dengue infection are time dependent.**
If the patient presents within the first 5 days after onset of symptoms, which is the acute phase of the illness, a blood sample should be drawn immediately, to be tested for virus isolation. Virus can be isolated most easily in samples drawn in the first days after onset of symptoms, although it has been isolated as long as 12 days after onset.

A convalescent-phase sample should also be drawn to test for IgM antibody. This sample should be drawn between 6 and 21 days after symptom onset.

If the patient presents six or more days after symptom onset, the blood sample should be drawn as soon as possible. This sample should then be tested for serum IgM antibody.

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