

Dengue

The dengue virus is a major cause of acute febrile illness in India especially during and after monsoons. This virus is transmitted by a female mosquito- *Aedes aegypti*. This is a day biting mosquito. This mosquito is also an efficient vector of yellow fever and chikungunya viruses. It has been estimated that worldwide 100-200 million cases of dengue fever occur every year.

Cause

Dengue fever can be caused by any of four different types of dengue viruses. A person can be infected by at least two if not all four types at different times during his lifetime but only once with the same virus.

Transmission

Dengue is transmitted by the bite of an infected *Aedes* mosquito. Mosquitoes become infected when they bite infected humans, and later transmit infection to other people they bite. Dengue is not contagious from person to person.

Symptoms

Classic Dengue

Symptoms of typical uncomplicated (classic) dengue usually start with fever within 4 to 7 days after a person has been bitten by an infected mosquito and include

- High fever, up to 105°F
- Severe headache
- Retro-orbital (behind the eye) pain
- Severe joint and muscle pain
- Nausea and vomiting
- Rash

The rash, usually a flat, red rash may appear over most part of the body 3 to 4 days after the fever begins, and then subsides after 1 to 2 days. There may be a second rash a few days later.

Dengue Hemorrhagic Fever

Symptoms include all of the symptoms of classic dengue plus:

- Marked damage to blood and lymph vessels
- Bleeding from the nose, gums or under the skin causing purplish bruises.

This form of dengue disease can cause death.

Dengue Shock Syndrome

Symptoms of dengue shock syndrome-the most severe form of dengue disease include all of the symptoms of classic dengue and dengue hemorrhagic fever, plus:

- Fluids leaking outside of blood vessels
- Massive bleeding
- Shock (very low blood pressure)

This form of the disease usually occurs in children (sometimes adults) experiencing their second dengue infection. It is sometimes fatal. Second infection with a type of dengue virus different from the one involved in primary infection leads to DHF with shock. Prior immunity to a different dengue virus type is important in the production of this severe disease.

Diagnosis

Serological diagnosis is a well recognized and well established method for diagnosing the dengue infection depending upon the duration of illness, Dengue antibodies, Dengue Antigen (NS 1) or both may be performed.

The combination of these three markers – IgM, IgG and Ns1 provides most comprehensive rapid method of detection of active dengue infection.

Treatment

There is no specific treatment for classic dengue fever, and most people recover within 2 weeks. To help with recovery, it is recommended that patients :

- Get plenty of bed rest
- Drink lots of fluids
- Take medicine (Paracetamol) to reduce fever

For severe dengue symptoms, including shock and coma, early and aggressive emergency treatment with fluid and electrolyte replacement may be lifesaving.

Prevention

The best way to prevent dengue virus infection is to take special precautions to avoid being bitten by mosquitoes. Several dengue vaccines are being developed, but none is likely to be licensed in the next few years.

When outdoors in an area where dengue fever has been found

- Use a mosquito repellent
- Dress in protective clothing-long sleeved shirts, long pants, socks and shoes.
- Get rid of areas where mosquitoes breed, such as standing water in flower pots, containers, discarded tyres etc.

Because *Aedes* mosquitoes usually bite during the day, be sure to take precautions, especially during early morning hours before daybreak and in the late afternoon before dark.

Recovery

Most people who develop dengue fever recover completely within 2 weeks. Some, especially adults, may be tired and / or depressed for several weeks to months after being infected with the virus.

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