

INTRODUCTION

Dengue is the most important arthropod-borne viral infection of human. The infection causes flu-like illness, and occasionally develops into a potentially lethal complication called severe dengue.

GLOBAL BURDEN:

The annual average number of dengue fever cases reported to the World Health Organization (WHO) has increased dramatically in recent years. The actual numbers of dengue cases are underreported and many cases are misclassified. According to WHO update in 2016, an estimated 500000 people with severe dengue require hospitalization each year and about 2.5% of those affected die.

DENGUE VIRUS

Dengue viruses belong to the genus flavivirus within the *Flaviviridae* family. It has four serotypes DENV-1–4. Recently fifth serotype DEN -5 was discovered in 2013 in Bangkok.

VECTOR

Aedes aegypti is the principle vector followed by *Aedes albopictus*. They are day time feeder. *Aedes* become infective only when it feeds on patients with virus inside their blood.

CLINICAL FEATURES

- Dengue fever is a severe, flu-like illness that affects infants, young children and adults, but seldom causes death.
- Dengue should be suspected when a high fever (40°C/104°F) is accompanied by 2 of the following symptoms: severe headache, pain behind the eyes, muscle and joint pains, nausea, vomiting, swollen glands or rash.
- Symptoms usually last for 2–7 days.
- Incubation period of 4–10 days after the bite from an infected mosquito.
- Severe dengue is a potentially deadly complication due to plasma leaking, fluid accumulation, respiratory distress, severe bleeding, or organ impairment.

- Warning signs occur 3–7 days after the first symptoms in conjunction with a decrease in temperature (below 38°C/100°F) and include: severe abdominal pain, persistent vomiting, rapid breathing, bleeding gums, fatigue, restlessness and blood in vomit. The next 24–48 hours of the critical stage can be lethal, proper medical care is needed to avoid complications.

HOW TO DIAGNOSE DENGUE?

- NS1 antigen detection –by ELISA and ICT kit
- IgM titres
- IgG titres
- MAC-ELISA
- Virus detection- by Real time-PCR

TREATMENT

Treatment is symptomatic and supportive.

For severe dengue, medical care by physicians is required and supportive treatment should be given to patient such as:

- Replacement of plasma losses.
- Correction of electrolyte and metabolic disturbances.
- Platelet infusion if needed.

PREVENTION AND CONTROL

Vector control:

- Disposing of solid waste properly and removing artificial man-made habitats
- Applying insecticides to water storage outdoor containers.
- Using of personal household protection such as window screens, long-sleeved clothes, insecticide treated materials, coils and vaporizers.

Vaccine:

- In early 2016, the first dengue vaccine, Dengvaxia (CYD-TDV) by Sanofi Pasteur, was registered in several countries for use in individuals 9-45 years of age living in endemic areas. The Strategic Advisory Group of Experts

(SAGE) on immunization reviewed CYD-TDV in April 2016 and recommended countries consider introduction of the vaccine in geographic settings (national or subnational) with high endemicity.