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## A Case Study On Dengue Fever.

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### ABSTRACT

Dengue fever is a tropical disease caused by a virus carried by mosquitoes. The virus can cause fever, headaches, rashes, and pain throughout the body. Most cases of dengue fever are mild and go away on their own after about a week. Dengue (DEN-gee) fever is caused by four similar viruses spread by mosquitoes of the genus *Aedes*, which are common in tropical and subtropical areas worldwide. When an *Aedes* mosquito bites a person who has been infected with a dengue virus, the mosquito can become a carrier of the virus. If this mosquito bites someone else, that person can be infected with dengue fever. The virus can't spread directly from person to person. In rare cases, dengue fever can lead to a more serious form of the disease called dengue hemorrhagic fever (DHF). DHF can be life threatening and needs to be treated right away.

**Keywords:** Dengue fever, *Aedes*, Dengue hemorrhagic fever.

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### Case study of Master X

Master X, 8-year-old male, presented with history of intermittent fever of 39°C for the past 3 days. He had pneumonia when he was two years old and had been admitted and stayed to the hospital for 1 and a half month. Dengue NS 1 test was positive for him.



### Incidence [2]

The first and second epidemics of Dengue hemorrhagic fever occurred in Manila in 1954 and 1956, followed by the third in Bangkok in 1958. Since then, Dengue has spread throughout tropical Asian countries and has expanded globally.

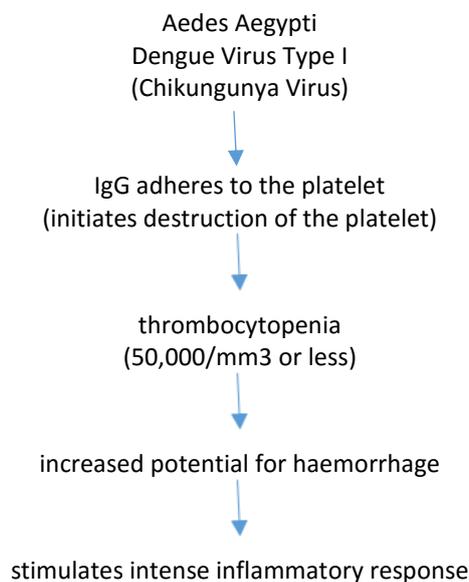
Dengue fever is found mostly during and shortly after the rainy season in tropical and subtropical areas of Africa, Southeast Asia and China, India, Middle East, Caribbean and Central and South America, Australia and the South and Central Pacific. Worldwide, more than 100 million cases of dengue infection occur each year. This includes 100 to 200 cases reported annually to the Centres for Disease Control and Prevention (CDC), mostly in people who have recently travelled abroad.

### Etiology [5, 6]

Dengue fever can be caused by any one of four types of dengue virus: DEN-1, DEN-2, DEN-3, and DEN-4. You can be infected by at least two, if not all four types at different times during your lifetime, but only once by the same type. We can get dengue virus infections from the bite of an infected Aedes mosquito. Mosquitoes become infected when they bite infected humans, and later transmit infection to other people they bite. Two main species of mosquito, Aedes aegypti and Aedes albopictus, have been responsible for all cases of dengue transmitted in this country. Dengue is not contagious from person to person.

Master X got from the bite of an infected Aedes mosquito

### Pathophysiology [7]





petechial rash, high fever, headache  
(epistaxis, vomiting, conjunctival infection, abdominal pain, shock, death)

**Clinical features [3]**

Book Picture	Patient Picture
The child has high fever – up to 105.8°F joint aches Frequent headaches and chills Pain behind eyes Mild body rash or a red and white patchy rash Flu-like condition – cough and cold Symptoms of Dengue	Fever- 39°C Skin is warm, dry & marks of petechial rashes in right foot
Severe symptoms of dengue in kids may include: Abdominal pain Bleeding from nose and gums Low blood pressure Vomiting or nausea Dehydration and loss of appetite Difficulty breathing itchiness on the soles of the feet shock	

**Diagnostic Evaluation [8]**

Book Picture	Patient Picture
History collection Physical Examination Complete Blood count	Dengue NS1 - positive

**Management [4]**

Fortunately, this viral disease is usually self-limited and usually adequate hydration and pain control will help the person through the infection. IV hydration, blood transfusions, platelet transfusions, blood pressure support, and other intensive-care measures may need to be utilized in these patients. Consultation with infectious-disease and critical-care specialists is often advised to optimize patient care. Oxygen should be administered to patients in shock.

**Management of Master X**

Paracetamol 500mg bd  
 Complications  
 febrile convulsions  
 dehydration

A small percentage of individuals who have dengue fever can develop a more serious form of disease, dengue hemorrhagic fever

Master X developed no complications

**Nursing intervention [1]**

Ineffective tissue perfusion related to decreased HgB concentration in the blood secondary to DHF

- Monitor Vital Signs
- Assess patient's condition
- Perform blanch test
- Note presence of bleeding
- Encourage quiet & restful atmosphere
- Instruct to avoid tiring activities
- Encourage light ambulation

Hyperthermia related to the process of dengue virus infection.

- Provide / encourage patients to drink plenty of 1500-2000 cc / day (as tolerated)
- Instruct the patient to wear clothing that is thin and easy to absorb sweat.
- Observation of intake and output, vital signs (temperature, pulse, blood pressure) every 3 hours once or more often.
- Intravenous fluids and appropriate drug delivery program.

Risk for Fluid Volume Deficit related to intravascular fluid into the extravascular migration

- Monitor vital signs every 3 hours / more often.
- Observation of capillary refill.
- Observation of intake and output. Note the color of urine / concentration.
- Suggest to drink 1500-2000 ml / day (as tolerated).
- intravenous fluid administration

#### **SUMMARY**

Master X was cooperative with health personnel. Although his symptoms were well responding to treatment, it was recurring. But he did not further complications during the hospital stay.

#### **CONCLUSION [2]**

Prevention of disease is of fundamental importance. When prevention of disease is not possible prevention of further complication is a priority. the only method to control or prevent the transmission of dengue virus is to combat vector mosquitoes through: preventing mosquitoes from accessing egg-laying habitats by environmental management and modification; disposing of solid waste properly and removing artificial man-made habitats; covering, emptying and cleaning of domestic water storage containers on a weekly basis; applying appropriate insecticides to water storage outdoor containers; using of personal household protection such as window screens, long-sleeved clothes, insecticide treated materials, coils and vaporizers; improving community participation and mobilization for sustained vector control; applying insecticides as space spraying during outbreaks as one of the emergency vector-control measures; active monitoring and surveillance of vectors should be carried out to determine effectiveness of control interventions.

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