



Short note on dengue fever

Taehwan Wang*

Department of Veterinary Pathology, Seoul National University, Seoul, Korea

*Corresponding author. E-mail: wanhawang@snu.ac.kr

Received: 10-Jan-2022, Manuscript no. JFTD-22-59714; **Editor assigned:** 12-Jan-2022, PreQC no. JFTD-22-59714 (PQ); **Reviewed:** 24-Jan-2022, QC no. JFTD-22-59714; **Revised:** 31-Jan-2022, Manuscript no. JFTD-22-59714 (R); **Published:** 07-Feb-2022, DOI: 10.15651/JFTD.22.2.10.

DESCRIPTION

Dengue fever is a mosquito-borne tropical disease caused by the dengue virus. Symptoms usually begin 3 to 14 days after infection. These may include high fever, headache, vomiting, pain in muscles and joints, and a characteristic rash. Dengue fever causes a high fever 104°F (39.5°C). Recovery usually takes 2-7 days. In a few cases, the disease progresses to more severe dengue hemorrhagic fever, causing hemorrhage, thrombocytopenia and plasma loss or progressing to dengue shock syndrome, causing dangerous hypotension (Sangkhawibha, et al. 1984).

Dengue is distributed by several types of female mosquitoes of *Aedes* genus. Viruses have five serotypes. Type of infection usually gives lifetime immunity with this type, but it is only the immunity of reduction. Different types of infections increase significant risk of complications. There are several tests available to confirm the diagnosis, including the detection of antibodies against the virus or its RNA (Bhatt, et al. 2013).

Vaccines against dengue have been approved and are commercially available in many countries. As of 2018, this vaccine is recommended only for people who have been previously infected or who have a high proportion of previously infected by the age of 9. Other preventative measures include reducing mosquito habitat and limiting exposure to bites. This can be achieved by removing or covering the standing water and by wearing clothing that covers most of the body. Treatment of acute dengue is supportive and includes oral or intravenous fluid administration for mild or moderate illness. In more severe cases, blood transfusions may be required. Using paracetamol (acetaminophen) instead of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) can reduce the fever of dengue and relieve pain because NSAIDs increase

the risk of bleeding (Dejnirattisai, et al. 2010).

If *Aedes aegypti*, bites a person infected with the dengue virus, mosquitoes can become carriers of the virus. If this mosquito is bitten by another person, that person can become infected with the dengue virus and develop dengue fever. The virus cannot be transmitted directly from person to person. In rare cases, dengue fever can lead to a more serious illness called Dengue Hemorrhagic Fever (DHF). DHF can be life-threatening and requires urgent treatment. Severe dengue is a major cause of serious illness and death in some Asian and Latin American countries (Chen, et al. 2011), (Pinto, et al. 2016).

There is no specific treatment for dengue/severe dengue. Early detection of disease progression associated with severe dengue and appropriate medical care reduce mortality from severe dengue to less than 1%. The global incidence of dengue has increased dramatically, with about half of the world's population now at risk. An estimated 100.4 trillion infections occur each year, but over 80% are generally mild and asymptomatic. Prevention and control of dengue relies on effective vector management measures. Continued involvement in the community can significantly enhance vector control efforts. Many DENV infections cause only mild illnesses, but DENV can cause acute flu-like illnesses. Occasionally, this develops into a potentially fatal complication called severe dengue (Huang, et al. 2003), (Ubol, et al. 2010).

Many people experience no signs or symptoms of a dengue infection.

Symptoms can be mistaken for other illnesses such as the flu and usually begin 4-10 days after being bitten by an infected mosquito.

Mostly people recover within a week after dengue fever. In some cases, the symptoms may worsen and be

life-threatening. This is known as severe dengue fever, dengue hemorrhagic fever or dengue shock syndrome. Severe dengue fever occur when the blood vessels are damaged and leak, and the number of blood clot-forming cells (platelets) in the bloodstream decreases. This can lead to shock, internal bleeding, organ failure and even death (Danko, et al. 2011), (Mustafa, et al. 2015).

Most cases in the United States, dengue fever occurs in people who have an infection while traveling abroad. However, there is an increased risk for people living along the Texas-Mexico border and elsewhere in the southern United States. Outbreaks of dengue were detected in Hawaii in 2014 and more in 2013 in Brownsville, Texas and Key West and Florida (Gubler, 2006).

To treat severe cases of dengue fever in the hospital, doctors administer intravenous fluid and an electrolytic salt to replace what was lost due to vomiting and diarrhea. If started early, this is usually sufficient to effectively treat the disease. In more advanced cases, the doctor may need a blood transfusion.

In all cases of dengue infection, efforts should be made to prevent infected persons from being bitten by mosquitoes. This will prevent the disease from spreading to others.

REFERENCES

Bhatt S, Gething PW, Brady OJ, et al. The global distribution and burden of dengue. *Nature*. 2013; 496(7446):504-507.

Chen R, Vasilakis N. Dengue-Quo Tu et Quo Vadis? *Viruses*. 2011; 3(9):1562-1608.

Danko JR, Beckett CG, Porter KR. Development of dengue DNA vaccines. *Vaccine*. 2011; 29(42):7261-7266.

Dejnirattisai W, Jumnainsong A, Onsirakul N, et al. Cross-reacting antibodies enhance dengue virus infection in humans. *Science*. 2010; 328(5979):745-748.

Gubler D J. Dengue haemorrhagic fever: history and current status. *Novartis Found Symp*. 2006; 277:3-16.

Huang CYH, Butrapet S, Tsuchiya KR, Bhamarapavati N, Gubler DJ, Kinney RM. Dengue 2 PDK-53 virus as a chimeric carrier for tetravalent dengue vaccine development. *J Virol*. 2003; 77(21):11436-11447.

Mustafa M, Rasotgi V, Jain C, Gupta V. Discovery of fifth serotype of dengue virus (DENV-5). A new public health dilemma in dengue control. *Med J Armed Forces India*. 2015; 71(1):67-70.

Pinto R, Castro D, Albuquerque B, Sampaio V, Passos R, Costa C. Mortality predictors in patients with severe dengue in the State of Amazonas, Brazil. *Plos One*. 2016; 11(8): e0161884.

Sangkhawibha N, Rojanasuphot S, Ahandrik S, Viriyapongse S, Jatanansen S, Salitul V. Risk factors in dengue shock syndrome. *Am J Epidemiol*. 1984; 120:653-669.

Ubol S, Phuklia W, Kalayanaroj S, Modhiran N. Mechanisms of immune evasion induced by a complex of dengue virus and preexisting enhancing antibodies. *J Infect Dis*. 2010; 201:923-934.