Dengue

• Dengue virus infection: how platelet-leukocyte crosstalk shapes thrombotic events and inflammation

Platelet Transfusion: 2025 AABB and ICTMG International Clinical Practice Guidelines

- Post-Dengue Parsonage-Turner Syndrome: A Case Report
- Global, regional, and national burden of stroke and its risk factors, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021
- Postdengue Acute Disseminated Encephalomyelitis
- Neurological or Psychiatric Disorders After Dengue Fever
- Modulation of immune responses in the central nervous system by Zika virus, West Nile virus, and dengue virus

Dengue fever is a viral infection caused by the dengue virus, which is primarily transmitted by the Aedes mosquito. The virus belongs to the Flaviviridae family and has four different serotypes: DEN-1, DEN-2, DEN-3, and DEN-4. Dengue is prevalent in tropical and subtropical regions, particularly in urban and semi-urban areas.

Symptoms of dengue fever typically appear within 4 to 7 days after a person is bitten by an infected mosquito. They can range from mild to severe and may include high fever, severe headache, joint and muscle pain, rash, nausea, vomiting, and in some cases, bleeding manifestations.

Dengue is a mosquito-borne viral infection caused by the dengue virus, which belongs to the Flaviviridae family. The virus is primarily transmitted to humans through the bites of infected female mosquitoes, mainly Aedes aegypti and, to a lesser extent, Aedes albopictus. Dengue fever is a major public health concern in tropical and subtropical regions, particularly in urban and semi-urban areas where these mosquito vectors thrive.

Key features of dengue include:

Symptoms:

Dengue fever typically presents with symptoms such as high fever, severe headache, pain behind the eyes, joint and muscle pain, rash, and mild bleeding. In severe cases, the infection can progress to dengue hemorrhagic fever or dengue shock syndrome, which can be life-threatening. Transmission:

Mosquitoes become infected with the dengue virus when they bite an infected person. Subsequently, these infected mosquitoes can transmit the virus to other individuals through their bites. Vector:

Aedes mosquitoes, particularly Aedes aegypti, are the primary vectors for dengue transmission. These mosquitoes breed in standing water, making urban and peri-urban environments with water storage containers, discarded tires, and other potential breeding sites particularly susceptible to dengue transmission. Geographical Distribution:

Dengue is prevalent in tropical and subtropical regions around the world. Regions with a warm and humid climate provide suitable conditions for the Aedes mosquitoes to breed and the virus to circulate. Four Serotypes:

There are four distinct serotypes of the dengue virus (DEN-1, DEN-2, DEN-3, and DEN-4). Infection with one serotype provides immunity to that particular serotype, but not to the others. Sequential infections with different serotypes increase the risk of severe dengue. Diagnosis:

Laboratory tests, such as polymerase chain reaction (PCR) and serological tests, are used to diagnose dengue. Clinical symptoms, along with laboratory findings, aid in confirming the diagnosis. Treatment:

There is no specific antiviral treatment for dengue. Supportive care focuses on relieving symptoms and preventing complications. Severe cases may require hospitalization and close monitoring. Prevention:

Dengue prevention primarily involves vector control measures, such as eliminating breeding sites for mosquitoes, using insecticides, and using protective measures like bed nets and repellents. There is also ongoing research into dengue vaccines. Global Impact:

Dengue is a significant global health concern, with an estimated 390 million infections occurring annually. The incidence of dengue has increased dramatically in recent decades, making it a major cause of morbidity and mortality in several parts of the world. Efforts to control dengue involve a combination of public health measures, community engagement, and research into effective vaccines and treatments. Public awareness and education play a crucial role in preventing the spread of the disease, emphasizing the importance of individual and community-level actions to reduce mosquito breeding sites and protect against mosquito bites.

## Complications

Intracranial hemorrhage from Dengue.

## **Case series**

For the period 2000-2022, dengue cases and death data from Bangladesh's Ministry of Health and Family Welfare's website, and meteorological data from the Bangladesh Meteorological Department were analyzed. A Poisson regression model was performed to identify the impact of meteorological parameters on the monthly dengue cases. A forecast of dengue cases was performed using an autoregressive integrated moving average model. Over the past 23 yr, a total of 244,246 dengue cases were reported including 849 deaths (CFR = 0.35%). The mean annual number of dengue cases increased 8 times during the second decade, with 2,216 cases during 2000-2010 vs. 18,321 cases during 2011-2022. The mean annual number of deaths doubled (21 vs. 46), but the overall CFR has decreased by one-third (0.69% vs. 0.23%). Concurrently, the annual mean temperature increased by 0.49 °C, and rainfall decreased by 314 mm with altered precipitation seasonality. Monthly mean temperature (Incidence risk ratio [IRR]: 1.26), first-lagged rainfall (IRR: 1.08), and second-lagged

rainfall (IRR: 1.17) were significantly associated with monthly dengue cases. The increased local temperature and changes in rainfall seasonality might have contributed to the increased dengue cases in Bangladesh<sup>1)</sup>

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Hasan MN, Khalil I, Chowdhury MAB, Rahman M, Asaduzzaman M, Billah M, Banu LA, Alam MU, Ahsan A, Traore T, Uddin MJ, Galizi R, Russo I, Zumla A, Haider N. Two decades of endemic dengue in Bangladesh (2000-2022): trends, seasonality, and impact of temperature and rainfall patterns on transmission dynamics. J Med Entomol. 2024 Jan 22:tjae001. doi: 10.1093/jme/tjae001. Epub ahead of print. PMID: 38253990.

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