

Dengue encephalitis

By Prav Prathapan, Encephalitis International and reviewed by Dr Angela Philips, Department of Internal Medicine, Sri Guru Ram Rai Institute of Medical and Health Sciences, Dehradun, India

What is dengue encephalitis?

Dengue encephalitis is a rare and severe complication of dengue fever, a mosquito-borne viral disease caused by the dengue virus. Between 0.5% and 21% of patients with dengue fever exhibit neurological symptoms and signs. The World Health Organization (WHO) reclassified dengue syndromes in 2009, incorporating neurological signs as a marker of severe dengue.

Dengue virus has increased dramatically within the last 20 years, becoming one of the worst mosquito-borne human pathogens that tropical countries must deal with. From 2000 to 2019 the WHO documented a 10-fold increase in reported cases worldwide from 500,000 to 5.2 million.

Symptoms

Symptoms include high fever, severe headache, neck stiffness, seizures, altered consciousness or coma, confusion or disorientation, vomiting, and muscle weakness or paralysis.

Diagnosis

Blood tests are used to detect the dengue virus or reactive IgM dengue antibodies. In addition, a lumbar puncture (spinal tap) is used to analyse the cerebrospinal fluid (CSF). Finally, brain imaging tests such as CT scans or MRI scans detect inflammation or brain lesions.

Treatment

There is no specific treatment for dengue encephalitis. Supportive care is provided to manage symptoms and complications. Medications are prescribed to control fever, seizures, and brain swelling. In severe cases, respiratory support (oxygen or mechanical ventilation) may be required.

Outcomes

The prognosis of dengue encephalitis varies depending on severity and time to diagnosis and treatment. Some patients may recover completely, while others may experience long-term neurological complications or even death. Potential long-term effects include cognitive impairment, movement disorders or permanent brain damage.

Prevention

Effective mosquito control measures are important, such as eliminating breeding sites and using insect repellents. Moreover, it is advised to avoid areas with high dengue transmission. As of 2023, there are two commercially available dengue vaccines. One of these, Dengvaxia, is only recommended in those who have previously had dengue fever due to a phenomenon known as antibody-dependent enhancement. It is important to be careful as it may increase the risk of severe dengue in those who have not been previously infected.

Date created: May 2024 / Last updated: July 2024 / Review date: July 2027

Disclaimer: We try to ensure that the information is easy to understand, accurate and up to date as possible. If you would like more information on the source material and references the author used to write this document, please contact Encephalitis International. None of the authors of the above document has declared any conflict of interest, which may arise from being named as an author of this document.

Support our information

With our support, no one has to face encephalitis alone. Our advice and information are available free of charge to everyone affected but we are truly grateful when supporters feel able to contribute a little to the cost of these resources. Please donate today by visiting www.encephalitis.info/donate or text the word DOCTOR to 70085 to donate £5.

Thank you!

Encephalitis International, 32 Castlegate, Malton, North Yorkshire, YO17 7DT, UK

Administration: +44 (0) 1653 692583 **Support:** +44 (0) 1653 699599

Email: mail@encephalitis.info **Website:** www.encephalitis.info

Encephalitis International is the operating name of the Encephalitis Support Group.

Registered Charity England and Wales No: 1087843; Registered Charity in Scotland No: SC048210

Charitable Company registered in England and Wales No: 04189027