

Zika virus

Zika is an infectious disease caused by the Zika virus, transmitted to humans by infected mosquitoes of the genus *Aedes aegypti*. It is usually mild, 80% is asymptomatic, but it has been suspected that it causes child's microcephaly, when the mother is infected during pregnancy, and could cause the Guillain-Barré syndrome. The virus is currently spreading rapidly, especially in Latin America. Treatment is only symptomatic, there is no vaccination.^[1]

Originator

Zika virus is a **single-stranded RNA** (their RNA has an "antisense" character, so it must be translated into mRNA) virus of the genus **Flaviviridae**. The main reservoir is probably primates.^[1] It was first identified in Uganda, within the forest of the same name in 1947 within primates (rhesus macaques) and in 1952 within humans.^[2]

Transmission

Zika virus is transmitted to humans through stings by an infected mosquito of the genus *Aedes aegypti*. This species of mosquito also spreads dengue virus and chikungunya virus. Mosquitoes are active mainly **during the day**, live close to people, and lay eggs in stagnant waters and their surroundings. It is the only Flavivirus that can be transmitted sexually.

It is rare for a disease to be transmitted from a pregnant woman shortly before birth to a newborn. There is speculation about the possible transmission of the virus from a pregnant woman to a fetus during pregnancy. Transmission of this virus through breast-feeding **has not been described**.

One case of possible transmission by blood transfusion and one case of possible transmission through sexual contact were reported.

The incubation period is not known, but it is probably from several days to a week. An infected person is contagious in the first week of infection, so he should avoid mosquito bites to prevent further spread of the disease.^[1]

Occurrence

The Zika virus was originally widespread in Africa, Southeast Asia, and the Pacific Islands. In May 2015, the virus spread to Brazil, and has since spread to other countries. Countries currently active in the Zika virus (January 2016) include: Barbados, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Martinique, Mexico, Panama, Paraguay, Puerto Rico, Saint Martin, Suriname, Virgin Islands, Venezuela, Samoa, Cape Verde.^[1]

Symptoms

About 1 in 5 infected with Zika develop the disease. The most common manifestations include **fever, maculopapular rash, joint pain, or conjunctivitis**. Other symptoms include muscle aches and headaches. These are usually mild symptoms that last from few days to a week. Severe course is unusual, fatal course is rare. The symptoms of Zika are similar to dengue fever or chikungunya.^[1]

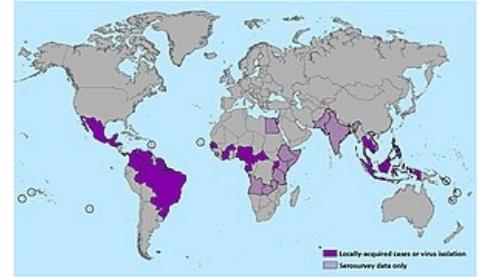
In 2013, cases of Guillain-Barré syndrome were reported in French Polynesia and Brazil in patients after probable Zika infection. The link between the spread of Zika virus and the increase in the incidence of newborns with microcephaly is currently being investigated in Brazil.^{[1][2]}

Diagnostics

Diagnosis is based on the clinical picture and epidemiological history – travel to sites with infection. PCR methods and serology are used. It is necessary to take into account the cross-reaction of dengue, CHIKV, or yellow fever.

In the first week after clinical manifestation, Zika virus can be detected in blood serum by **RT-PCR** (polymerase chain reaction associated with reverse transcription). Virus-specific IgM typically appears at the end of the first week of the disease. Cross-reactions with related flaviviruses (e.g. dengue viruses and yellow fever) make diagnosis difficult, and the detection of virus-specific neutralizing antibodies allows the differentiation.^[1]

Differential diagnostics



Countries with a reported incidence of Zika infection^[1]

The differential diagnosis is broad: dengue fever, leptospirosis, malaria, rickettsioses, group A streptococcal infections, rubella, measles, parvoviruses, enteroviruses, adenoviruses and alphaviruses (e.g. Chikungunya, Mayaro, Ross River, Barmah Forest, O'nyong-nyong, and Sindbis viruses).^[1]

Therapy

Treatment is only **symptomatic**, ie rest regime, sufficient fluids, analgesics, antipyretics. Aspirin and non-steroidal anti-inflammatory drugs should not be used until dengue has been ruled out due to the risk of bleeding.^[1]

Prevention

There is **no vaccine** against the Zika virus. The only possible prevention is to avert mosquito bites when traveling to countries, where mosquitoes occur, i.e., using repellents, mosquito nets, wearing long-sleeved clothes and long pants, etc.^[1]

Summary video



Links

Related articles

- Flaviviruses
- Prevention and prophylaxis of tropical diseases in travelers

External links

- <https://www.cdc.gov/zika/>

Reference

1. CDC,. *Zika Virus* [online]. [cit. 2016-01-27]. <<https://www.cdc.gov/zika/>>.
2. WHO,. *Zika Virus* [online]. [cit. 2016-01-27]. <<http://www.who.int/en/news-room/fact-sheets/detail/zika-virus>>.

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