

Leading Article

Zika Virus Infection

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Zika virus is a member of the virus family Flaviviridae & the genus Flavivirus, transmitted by day time active Aedes mosquitoes. It's name comes from the Zika forest of Uganda, where the virus was first isolated in 1947.¹ It is an enveloped and a single stranded RNA virus.²

Zika virus is transmitted through the bite of an infected female mosquito from the aedes genus (vector) mainly Aedes aegypti and Aedes albopictus.³ These mosquitoes typically lay eggs in and near standing water in things like buckets, bowls, animal dishes, flower pots and vases. They prefer to bite people, and live indoors and outdoors near people.

A mother already infected with Zika virus near the time of delivery can pass the virus to her newborn around the time of birth, but this is rare. It is possible that Zika virus could be passed from a mother to her baby during pregnancy. There are no reports of infants getting Zika virus through breastfeeding.⁴

Zika virus could possibly be sexually transmitted as reported case investigated & found Zika in semen.⁵

The incubation period of Zika virus infection is about 3 to 12 days after the mosquito bite. The most common symptoms of Zika infection include: low-grade fever (<38.5 °C), transient arthritis/arthralgia, maculo-papular rash (that often starts on the face and then spreads throughout the body), conjunctival hyperaemia or bilateral non-purulent conjunctivitis, mild headache and malaise.⁶

Diagnosis of infection with zika virus can be made by high index of suspicion based on symptoms and recent history of travelling to Zika infected area. Zika virus diagnosis can only be confirmed by laboratory testing for the presence of zika virus RNA in the blood or other body fluids, such as urine or saliva. Zika-specific IgM/IgG antibodies can be detected by ELISA and

immunofluorescence assay in serum specimens, usually from day five or six of symptomatic illness.⁷

There is no specific treatment of Zika infection. Treatment is symptomatic: Bed rest, fluids to prevent dehydration, acetaminophen to relieve fever and pain, not to take aspirin and other non-steroidal anti-inflammatory drugs. Affected person should be kept isolated & use permethrin-impregnated mosquito net for 7 days.

Complications of the virus infection are rare, some can be life-threatening such as:

1. Severe dehydration
2. Neurological changes can occur; for example Guillain-Barré syndrome
3. In addition, a large increase in congenital malformations (mainly microcephaly) has been associated with these viral infections in Brazil and is currently under study.

Prevention: mosquito repellents should be used to drive away the vector from biting, body should be covered with clothes, windows & doors should be kept closed. One should sleep under mosquito-net. Breeding places of mosquitoes should be destroyed.

Vaccination: there is no vaccine against the Zika virus but an Indian company, Bharat Biotech International, reported in early February 2016 that the company only use this recombinant vaccine on animals till now.⁸

Zika virus can be spread from a pregnant woman to her unborn baby. There have been reports of a serious birth defect of the brain called microcephaly in babies of mothers who had Zika virus while pregnant.⁹ The highest risk to the fetus is believed to be when the mother is infected during the first trimester. It also appears that Zika infection during pregnancy may damage baby's vision including atrophied retinas, abnormal iris pigmentation and lenses that moved out of place. Currently, there is no evidence to suggest that Zika virus infection poses a risk of birth defects for future pregnancies.¹

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Recommendations for travelers: The only way to avoid infection is to prevent mosquito bites by using insect repellents and wearing appropriate clothing. There is no medicine or vaccine available that prevents Zika virus infection.

Women who are pregnant, or have planned to become pregnant, and who are considering travel to a country where zika virus (ZIKV) is circulating, are strongly urged to seek pre-travel advice from their health care provider. If the decision is made to travel, rigorous measures to avoid mosquito bites during both day time and night time hours should be emphasized. DEET - based insect repellents at a concentration of 50% should be applied regularly. DEET is appropriate for use in pregnancy.¹¹ Wearing loose, cover-up clothing is recommended. Insecticide-impregnated bed nets and air conditioning should be used in bedrooms.¹¹

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