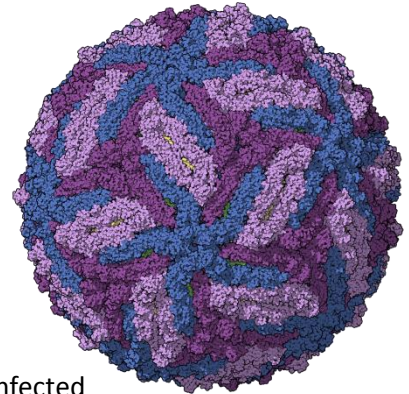


24th December 2018

A RELOOK AT ZIKA VIRAL INFECTION AND ITS LATEST OUTBREAK IN INDIA



BACKGROUND

Zika virus infection, which erupted on a large scale in 2015-2016, has infected more than 1.5 million people. To date, there are at least 90 countries and territories with active local Zika virus virus transmission. It is present in Asia, Central America, South America, North America, the Caribbean, Africa and the Pacific Islands. Travellers to these areas are at risk, especially long-term travellers and aid or missionary workers. The real concern is among pregnant women as the virus can cause microcephaly, a neurological disorder that results in babies being born with abnormally small heads, which in turn can cause severe developmental issues and sometimes death.

While Singapore currently has no Zika clusters and only one case reported so far in January 2018, India is fighting its third and biggest outbreak of Zika that started in September 2018; this time, in Jaipur, the capital of the western state of Rajasthan, reporting more than 150 cases to date. This current outbreak is of particular concern because Jaipur is a popular tourist destination in India hence putting many visitors or tourists at risk of getting the infection.

Halting the spread of Zika infection has been tough due to challenges in stemming the breeding of the Aedes mosquito which is widely prevalent in India. Further adding to the challenge is that the infection remains asymptomatic in about 80% of cases, allowing the Aedes mosquito to silently pass the Zika virus from one person to another without detection.

WHAT IS THE SITUATION IN SINGAPORE?



The number of Zika cases in Singapore has declined dramatically from more than 400 cases in 2016, to 67 cases in 2017 due to stepped-up control and surveillance efforts.

The last reported case in 2018 was in January 2018.



HOW IS THE ZIKA VIRUS TRANSMITTED?

1. Aedes Mosquito

The Zika virus is transmitted to humans by the bite of an infected *Aedes* mosquito (*Aedes aegypti* and *Aedes albopictus*). These are the same mosquitoes that spread dengue and chikungunya viruses. A mosquito is infected when it takes a blood meal from a Zika-infected person and later transmits the virus to other people it bites.



2. Pregnant mother to foetus

A pregnant woman already infected with Zika virus can pass the virus to her foetus during the pregnancy or around the time of birth.

Zika virus has been detected in breast milk but there is currently no clear evidence that the virus is transmitted to babies through breastfeeding.

3. Sexual contact

Zika can be passed from a person who has Zika to his or her partners through sex. It can be passed from a person with Zika before their symptoms start, while they have symptoms, and after their symptoms end.

Fortunately, once an infected person has recovered, he or she is likely to be protected from future infections.

WHO IS AT HIGHER RISK OF CONTRACTING THE ZIKA VIRAL INFECTION?

- People who have travelled to countries with reported Zika infections are at higher risk of contracting the Zika virus.
- Pregnant women who had sexual intercourse with their male partner that are tested positive for Zika infection are considered to have possible exposure to the virus. They should consult their obstetrician to arrange for testing.



WHAT ARE THE SYMPTOMS OF ZIKA VIRUS INFECTION?

Generally, the Zika virus causes 'mild' infections, with only **one in five** infected persons developing symptoms. The incubation period is 3 to 12 days after the infected mosquito bite. These symptoms which last between 2 to 7 days are often mild. They include:

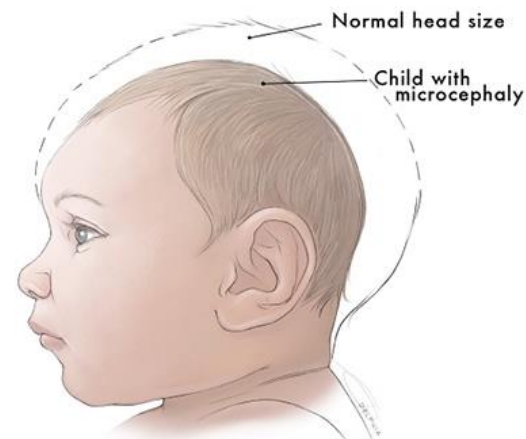
- Low grade fever
- Rashes
- Joint pains, muscle pain, headache
- Conjunctivitis (red eyes)

Travel history is important, and all returning travellers from areas with ongoing Zika virus transmission should inform their doctor about their travel history.

ARE THERE ANY SERIOUS CONSEQUENCES OF ZIKA VIRAL INFECTION?

a. Microcephaly in Foetus

There is increasing evidence that Zika virus infection in pregnant women can cause microcephaly in the foetus. A study published in the *New England Journal of Medicine* found that the risk of an infected mother giving birth to a child with microcephaly is between 1 to 13 percent. Microcephaly is a birth defect where a baby's head is smaller than expected when compared to babies of the same sex and age. It can be an isolated condition, meaning that it can occur with no other major birth defects, or it can occur in combination with other birth defects. Microcephaly has been associated with developmental delay, fits, eye defects, hearing loss, and impaired growth, learning disabilities and other disabilities in the affected infant.



b. Congenital Zika Syndrome

Congenital Zika syndrome is a unique pattern of birth defects found among fetuses and babies infected with Zika virus during pregnancy. Congenital Zika syndrome is described by the following five features:

1. Severe microcephaly where the skull has partially collapsed
2. Decreased brain tissue with a specific pattern of brain damage
3. Damage (i.e., scarring, pigment changes) to the back of the eye
4. Joints with limited range of motion, such as clubfoot
5. Too much muscle tone restricting body movement soon after birth

Zika infection in pregnancy also results in pregnancy complications such as fetal loss, stillbirth, and preterm birth. Zika virus infection does not pose a risk of birth defects for future pregnancies. The virus will not cause infections in a baby that is conceived after the virus is cleared from the blood.



c. Guillain-Barré syndrome

Guillain-Barré syndrome (GBS) is an uncommon sickness of the nervous system in which a person's own immune system damages the nerve cells, leading to weakness of the arms and legs and, in severe cases, the muscles that control breathing.

Several countries that have experienced Zika outbreaks recently have reported increases in people who have Guillain-Barré syndrome (GBS). Research suggests that GBS is strongly associated with Zika, although only a small proportion of people (mostly adults and older children) with recent Zika virus infection get GBS.

WHAT ARE THE TESTS AVAILABLE TO DIAGNOSE ZIKA VIRAL INFECTION?

Currently, the only reliable test available for Zika is the reverse transcriptase-polymerase chain reaction (RT-PCR) test which looks for genetic material of the virus in clinical specimens such as urine and blood. However, RT-PCR test is only able to detect Zika infection within 7-14 days of symptom onset. A negative test outside this period does not definitely mean that one was not infected.



At present, there is no reliable serological test (which looks for antibodies in the blood) for Zika.

WHAT IS THE TREATMENT AND MANAGEMENT OF PATIENTS WITH ZIKA INFECTION?

There is no treatment available for Zika virus infection.

However, symptoms of Zika virus infection are usually mild and most patients can be treated as outpatients. People with symptoms such as fever, rash, or arthralgia should get plenty of rest, drink fluids, and treat pain and fever with common medicines. If symptoms worsen, they should seek medical care and advice.

Pregnant women living in areas with Zika transmission or who develop symptoms of Zika virus infection should seek medical attention for laboratory testing and other clinical care.

Similar to the advice given to patients with dengue or chikungunya infection, they should also protect themselves and their household members from mosquito bites, and prevent sexual transmission of the infection.





WHAT CAN YOU DO TO PROTECT YOURSELF IF YOU ARE PREGNANT?

- a) You should avoid travelling to areas with active transmission of Zika virus. If you need to travel to affected countries, you should undertake strict precautions against mosquito bites.
- b) If you need to travel to affected areas, take steps to prevent mosquito bites by wearing long, covered clothing, applying insect-repellent (DEET), and sleeping under mosquito nets or in rooms with wire-mesh screens or air-conditioned rooms to keep out mosquitoes.
- c) Consult a doctor if you develop a fever, rash, joint pain, or red eyes during the trip or within 2 weeks after traveling to an area where Zika has been reported. You should tell the doctor where you have travelled or the location of your residence.
- d) Pregnant couples at risk for Zika should use condoms or not have sex for their entire pregnancy.

WHAT DO TRAVELLERS WHO ARE PLANNING FOR A CHILD NEED TO TAKE NOTE OF AFTER POSSIBLE EXPOSURE IN ZIKA-ENDEMIC AREA?

- a. Wait for 3 months after you return (or from the start of symptoms) before attempting conception if you are a man or a couple traveling together.
- b. Wait for 2 months after you return (or from the start of symptoms) before attempting conception if you are a woman and your male partner does not travel.

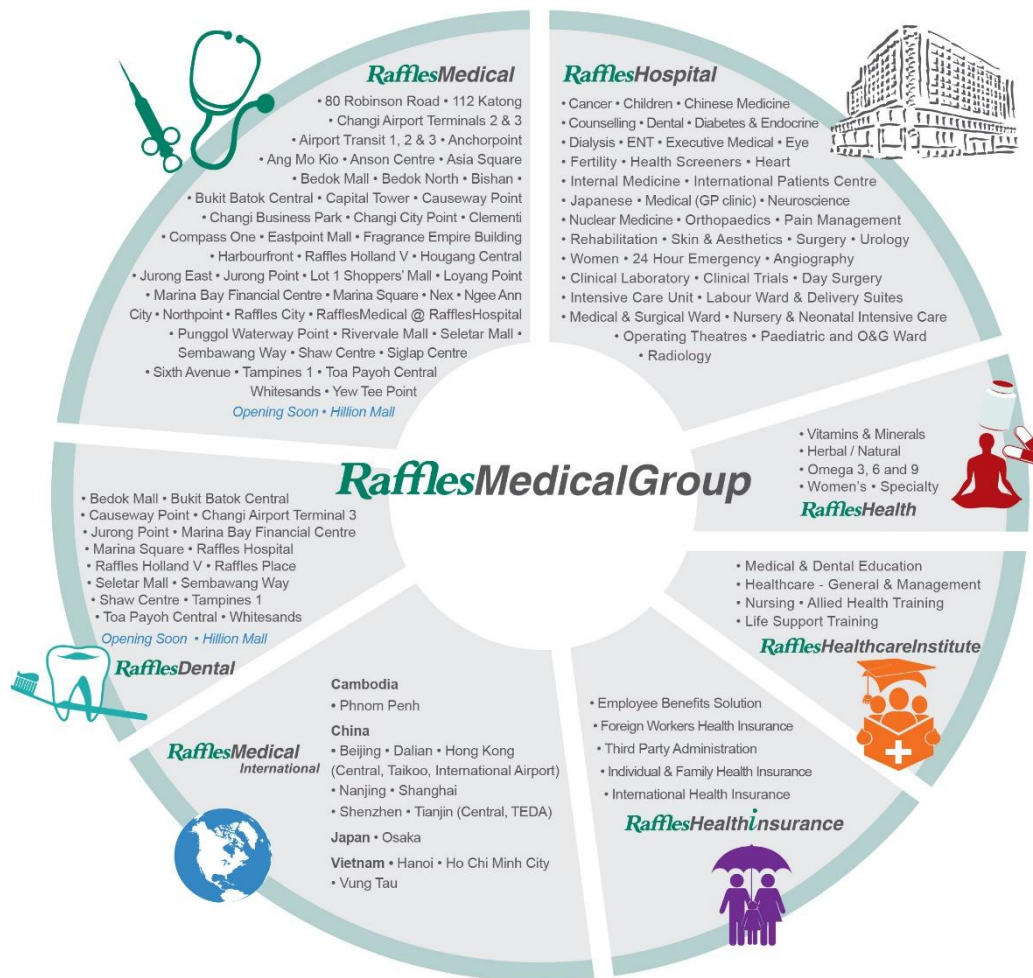


The timeframes that men and women can pass Zika through sex are different because Zika virus can stay in semen longer than in other body fluids



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