health

Department:
Health
REPUBLIC OF SOUTH AFRICA

ZIKA VIRUS

The Zika virus was first isolated from a rhesus monkey in the Zika forest in Uganda in 1947 and from humans in Nigeria in 1968.

How is it transmitted?

Zika virus is transmitted to humans by certain daytime-active *Aedes aegypti* mosquitoes. These mosquitoes are also important in transmitting viruses such as dengue, yellow fever and chikungunya viruses in certain settings.

What are the symptoms?

Symptoms of Zika fever are usually mild and include an acute onset of fever, rash, joint and muscle pain, conjunctivitis and headache. About 1 in 4 infected persons are symptomatic. Symptoms are self-limited and may persist for 2-7 days.

What is the treatment?

Severe disease requiring hospitalization is rare and to date, no deaths due to Zika have been reported. Treatment is nonspecific and supportive.

What is the difference between Zika, Dengue and Chikungunya

Zika, dengue and chikungunya present with similar clinical signs and symptoms, and have a similar geographical distribution. Molecular tests such as PCR tests reliably detect and differentiate between these viruses. Persons with Zika virus are only viraemic for 2-4 days during the first week of illness, so PCR may not reliably identify older infections.

When was the last Zika virus outbreak?

Prior to 2015, Zika virus outbreaks were intermittently reported in a narrow equatorial band extending from Central Africa through Southeast Asia to the Pacific Islands. In May 2015, the Pan American Health Organization issued an alert regarding the first confirmed Zika virus infections in Brazil. Since then, 18 countries in the Americas have confirmed local circulation of Zika virus. The Pan American Health Organization (PAHO) and the World Health Organization acknowledged an increase of congenital anomalies (microcephaly, unilateral eye abnormalities and cerebral calcifications). Presently, no definite causality can be attributed to Zika virus infection, but investigations are ongoing.

What are the World Health Organization (WHO) recommendations?

On 17 January 2016 the WHO made specific recommendations to member states to establish and maintain the capacity to detect and confirm Zika virus cases, prepare healthcare facilities to respond to a possible increased demand of specialized care for neurological syndromes and to strengthen antenatal care.

How can the transmission of the Zika virus be prevented?
In the light of the possible association with congenital anomalies, prevention of Zika virus infection is critical. Mosquito exposure during the first few days of illness should be avoided to prevent other mosquitoes from becoming infected; this will also reduce the risk of local transmission. Personal protection to avoid mosquito bites is essential for travellers visiting areas where the Zika virus is circulating. As a further precaution, pregnant women should delay travel to areas with current outbreaks of Zika virus.

What are the risks for the Zika virus being introduced into South Africa?
It is important to emphasize that Zika virus has not to date been found further south than Uganda in Africa. The vector species, *Aedes aegypti* is common in South Africa, particularly in the eastern coastal plain but also in the cities of the inland plateau. In the urban centres, the mosquito breeds in small collections of water such as discarded tyres and buckets, or the leaf axils of *Strelitzia nicolae* ("banana trees"). Aedes aegypti is made up of 2 subspecies, only one of which occurs predominantly outside of Africa. The typical African subspecies tends not to bite humans and may well be less susceptible to Zika virus when compared to the South American ones. Even though the possibility of an infected traveller introducing Zika virus to South Africa obviously does exist, the short viraemic period (virus present in blood) would lessen the chance of being transferred to a susceptible mosquito, particularly because local *Aedes aegypti* mosquitoes have very limited flight ranges (measured in a few metres) and tend not to enter buildings. The Brazilian outbreak appears to be associated with lack of piped water and the resultant storage of water in indoor vats and pails, all ideal habitats for *Aedes aegypti* mosquitoes to breed in.

There may well be imported cases of Zika in travellers returning to South Africa but they don't pose any risk to the local population. These viruses are not contagious and usually require the assistance of a mosquito vector between hosts. Testing for the Zika virus is available at the NICD and will be performed only on returning travellers with an illness compatible with Zika. Laboratory testing will be offered to all pregnant women who have travelled to an area with a current outbreak of Zika. This will be done in consultation with their attending obstetricians.

The question is, why has Zika virus spread to Indonesia and Brazil but not to Southern Africa? We don't have a definitive answer but believe that the reason is probably the same as for yellow fever and the dengue viruses, which also don't occur this far south. One could speculate that numerous introductions of either infected mosquitoes or infected travellers are necessary before a foreign arbovirus can become established in a new area, because the virus needs to be introduced into a capable vector population as well as host population.

For more information visit: www.nicd.ac.za / www.who.int.

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