

ZIKA VIRUS

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Updated January 28, 2016

The Zika virus, now being called ZikV following on the “ChikV” Chikungunya epidemic, is from a family of viruses called *Flaviviruses* - same family as the viruses that cause Dengue, Yellow Fever, St. Louis Encephalitis, Japanese Encephalitis and West Nile Virus Encephalitis. It was first identified in 1947 in a Rhesus monkey in Uganda’s Zika forest. The monkey was part of a research project on Yellow Fever and was a “sentinel” – that is kept in the forest to see if it would come down with that disease. It developed a fever, but it was found NOT to be Yellow Fever, but a “new” related virus. It was named “Zika Virus” after the forest.

(Note: Infectious diseases have traditionally been named after the location in which they were first identified. Most recently, the scientific community is moving away from this practice as it can really have a negative effect on the named area if the disease becomes widespread and causes serious or deadly illness! Also ZikV and ChikV are unrelated – different virus family altogether -ChikV is a *Togavirus*.)

It was found that the Zika virus was “vector-borne” – meaning that it was transmitted by an arthropod (insects, ticks etc.) – and that vector appeared to be *Aedes* sp. mosquitoes. Later in the 1950’s, 60’s and 70’s humans in various African countries (all in the continent’s “mid section”) tested positive for exposure to the virus. Those who had been ill had suffered body aches and/or joint pains, fever, a rash and sometimes conjunctivitis (inflammation of the lining of the eye). The symptoms generally lasted 2 to 7 days followed by complete recovery.

In 2007 there was an outbreak in the Yap Islands in the southwest Pacific (near the Philippines) – the first time the virus was seen outside Africa. There were about 100 confirmed cases with more suspected. Since 2013 it has been identified in other Pacific island states, many of them tourist meccas.

Now ZikV has spread to the western hemisphere, showing up in Brazil and spreading through other countries in South and Central America and has entered the Caribbean. Cases have been identified in the United States. Spread throughout the region seems inevitable. Wherever *Aedes aegypti* mosquitoes live, if the virus is introduced it can spread, compounded by the fact that the population is naïve to it – that is, no natural immunity exists.

An interesting aspect of ZikV is that there is evidence that it can be sexually transmitted as well! This is from a SINGLE case, documented in 2011, of a researcher who got infected in Africa, returned home to the US (in an area where there are NO *Aedes* mosquitoes) after which his wife, who had never left the US, got sick. Their two children did not get it. This may be the first case of sexual transmission of a mosquito-borne disease!

But one very ominous aspect of ZikV infection in pregnant women is evidence of its ability to cause harm to the developing foetus resulting in miscarriage or the birth of child with microcephaly – a smaller than normal head and, consequently, a small brain. The child may have a combination of mental and functional problems as a result. More research is needed on this effect, but as of late January 2016, over 3,000 cases of the birth defect have been diagnosed in Brazil in babies born to women who had ZikV during pregnancy. Some health officials have been advising women to delay getting pregnant until the outbreak has subsided. Travel advisories have been issued.

There is no vaccine, and it remains to be seen if one will be developed. (They have not made a human West Nile Virus vaccine, even though there is one for horses, despite WNV being a potentially deadly human disease!) There is no curative treatment – only the symptoms can be treated until the immune system of the infected person reacts and eliminates the virus.

The good news for most people is that, save for the threat to pregnant women and their babies, the general effect of ZikV so far is relatively mild compared to ChikV and it only makes about 25% of those people who are bitten by infected mosquitoes sick – rather than the 75% sickened by ChikV. There is always the concern that it could increase in virulence as it spreads and possibly mutates, but this remains to be seen. Hopefully this will not happen. Still...we don't want any "new" diseases! So...

Mosquito control, mosquito control, mosquito control!! And it's not just the Government or Ministry of Health that must deal with that. EVERYONE must do his or her part – at home, at work, anywhere required – to reduce breeding sites and protect from bites....because the MOSQUITO is nature's greatest disease "taxi"!

Zika Virus is NOT known to affect any domestic animal species so dogs, cats, cattle, goats, sheep, pigs, horses, chickens are safe.

References:

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