

CHIKUNGUNYA VIRUS: AN EMERGING DISEASE IN LATIN AMERICA.

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INTRODUCTION:

As in the days of the first microbe hunters, when several diseases desolated many populations around the world, these days here in Latin America especially in some states of Mexico, a relative “new” disease for the zone has been emerging with certain strength. It has become a popular topic in the TV news, newspaper articles, social media, radio, etc.

I mean CHIKUNGUNYA, a vector transmitted disease. The difference between these days and the days when the great microbe hunters worked is that today we can give thanks to the work of those marvelous men such as Theobald Smith and Walter Reed. Now the virus is already identified as well as the vector, so it is easy to deal with this kind of sickness and obviously with less impact on the affected population.

CHIKUNGUNYA is a mosquito-borne viral disease caused by a virus of the family *Togaviridae*, genus *Alfavirus*. It's a disease originally found in Africa where the name in the Kimakonde language means “to become contorted” referring to the intense pain caused on body articulations that make the patient literally being stooped.

The virus has been spread around the world by the mosquito which belongs to the genus *Aedes* especially *Aedes aegypti*.



Image from Roland Mortimer's 1998 Micscape article '[Aedes aegypti and Dengue fever](#)'.

and *Aedes albopictus*,



Taken just for educative purpose from the page : https://en.wikipedia.org/wiki/Aedes_albopictus

It had reached places such as Europe and the Americas by eight years ago where it was found in north-eastern Italy, although it has also caused the disease in France and Croatia.

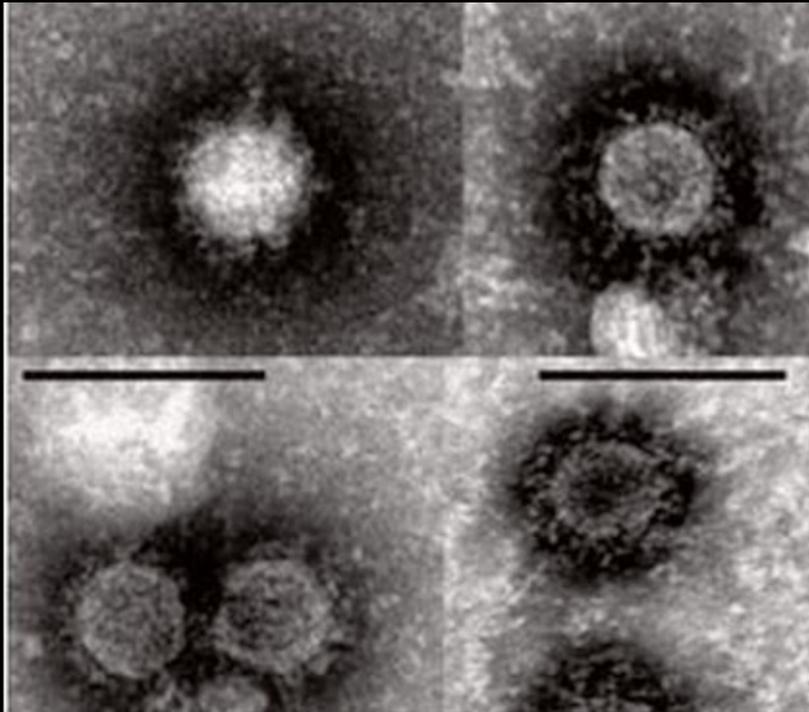
Nowadays it is present in Mexico where thousands of cases have been reported in less than a year and affecting at least 15 states of the Mexican Republic. The most affected state is Guerrero with 1277 cases.

Togaviridae family:

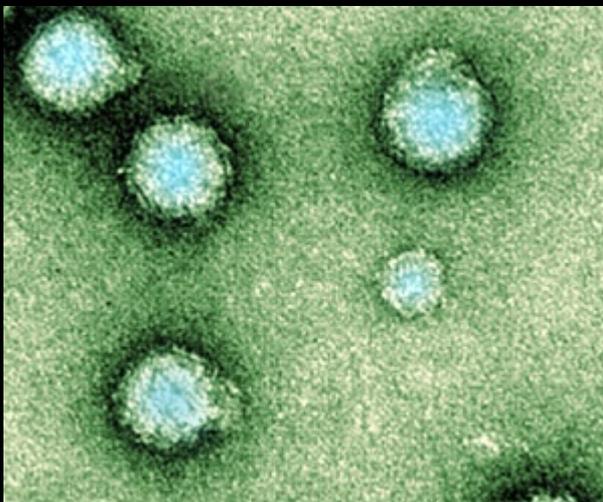
This family of virus is made up by two genera alphavirus and rubivirus they are ARN viruses with a diameter of 60-70 nm and it's only possible to see them with an electron microscope. They are icosahedral which means that the viral particle seems to have 20 sides, spherical, with a linear genome in a positive sense of 10,000- 12000 nucleotides long.

Alphavirus genus: This genus has the particularity of being transmitted indirectly, that is they need a vector to reach the definite host that becomes sick with the presence of the virus. Generally arthropods are the main vectors of this genus such as mosquitoes.

Chikungunya virus:



Taken just for educative purpose from the page: <http://www.tolucanoticias.com/2014/06/confirman-primer-caso-del-virus.html>



Taken just for educative purpose from the page: http://www.cubadebate.cu/noticias/2014/03/03/viruschikungunya-se-extiende-en-el-caribe-unos-6-000-casos-sospechosos/#.VdZPIJ_Oko

CONCLUSION:

The most probable cause of the increase in such vector borne diseases is global warming. We have to deal with these worldwide emerging health concerns, but now with the difference that microbiology and medicine have answers and treatments and that is thanks to the work of all the microbiologists of history.

References:

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<http://www.eluniversal.com.mx/articulo/estados/2015/08/20/guerrero-confirma-mil-277-casos-de-chikungunya>

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