

CUBA: OROPOUCHE VIRUS AND RESEARCH

The Oropouche virus is an illness that causes fever, nausea, vomiting, muscle pain, joint pain, headache, and more. Sometimes, it can cause infection, affecting the blood and nervous systems and cause brain inflammation. Often, the oropouche virus is misdiagnosed, as symptoms present similarly to other diseases such as chikungunya and Zika.

WHERE IS OROPOUCHE VIRUS FOUND?

This virus is most commonly found in South America and the Caribbean. The majority of cases have been reported close to the Amazon rainforest. However, as of December of 2023, the disease has been found in other regions, including Cuba.

WHO IS IMPACTED?

It is possible that a pregnant individual could pass the virus to the fetus. A person who is pregnant may be at higher risk of miscarriage and newborn microcephaly.

People at higher risk for complications related to this disease include those 65 and older, and those with other chronic conditions, such as diabetes and cardiovascular disease.

TRANSMISSION

The Oropouche virus is transmitted through infecting midges biting humans. It is all possible that virus can be transmitted through *Culex Quinquefasciatus*, *Aedes Serratus* and *Coquillettidia venezuelensis* mosquitoes.

ENVIRONMENTAL CONDITIONS INCREASING THE LIKELIHOOD OF OROPOUCHE VIRUS

Deforestation and climate change could be reasons for the increase in transmission of oropouche virus. When forested areas are cleared, other animal hosts are no longer available to the virus, leading to the infection of more humans. High temperatures speed up the maturation process for insects, and more standing bodies of water due to increased rainfall lead to an increase in reproduction. This leads to more midges who carry the virus available to bite humans.

PREVENTION AND TREATMENT

There is no vaccine or treatment for the disease. Most will recover on their own, but death can occur. Serious complications, such as aseptic meningitis, also happen on occasion. To avoid obtaining the virus, one should take precautions against insects, including using repellent and mesh bed nets. Since the disease cannot be treated itself, symptoms are treated instead through pushing fluids, fever management, and rest.



TAKING ACTION: RESEARCH ON THE OROPOUCHE VIRUS

Currently, the main action any group is taking is through research, specifically entomological research. This does not decrease the transmission of oropouche virus, but it does help scientists understand the relationship between the environment, midges, and the disease. The CDC Emerging Infectious Diseases group has published research on the oropouche virus in Cuba in May of 2024. Confirmed cases of the oropouche virus in Cuba, due to this research, lead to increased surveillance for the oropouche virus, biolarvicide on breeding sites, adulticide treatment, and other forms of environmental management were implemented. It is unclear if these methods in treatment led to positive results, both due to the difficulty of diagnosing oropouche disease and the possibility of an increase in cases no matter the preventative measures. The CDC states that more research needs to be done to determine vectors responsible for the outbreak in Cuba.

CDC ENVIRONMENTAL CONNECTION

Research does not decrease the transmission of oropouche virus, but it does help scientists understand the relationship between the environment, midges, and the disease. The CDC also has an Environmental Public Health tracking program, which keeps individuals and scientists in the know about environmental related disease. This programs helps health professionals and environmental scientists alike understand these issues.