

Zika Virus—Near Pandemic Proportions?

Urgent message: The clinical manifestations of Zika virus infection are generally mild in adults; the primary concern is the potential link to microcephaly in children of infected pregnant women. There is no cure, so prevention is paramount.

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Introduction

The Zika virus epidemic is gaining a lot of media attention, deservedly so; there have been large outbreaks of infection in Brazil, South America, and the Caribbean, with numbers of cases anticipated to increase, even in nontropical parts of North America.¹⁻³

The Zika virus is a single-stranded RNA virus from the Flaviviridae family. This flavivirus is similar to other tropical viruses such as dengue, chikungunya, and yellow fever. It is transmitted to humans through the bites of infected mosquitoes, most notably the *Aedes aegypti* mosquito.¹⁻³

Zika virus was first identified among rhesus monkeys in the late 1940s in the Ugandan forests of Africa, and was later discovered to exist in human hosts as well.² *Aedes* mosquitoes typically breed in water-holding containers and are known to be aggressive daytime biters.^{1,2} Roughly 1 in every 5 patients infected with Zika virus by mosquitoes will become symptomatic.¹



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Clinical Presentation

Clinical symptoms are relatively mild in adults, lasting a few days to 1 week. Common symptoms include¹

- Fever
- Maculopapular rash
- Arthralgias and myalgias
- Headache
- Conjunctivitis

Complications

The primary concern in Zika infection is the potential link to neurologic sequelae. In 2015, nearly 4000 infants born in Brazil were reported to have microcephaly and severe neurologic compromise.^{2,4-6} Our current understanding of Zika is still limited, and causation has yet to be established, but it is known that Zika virus can cross transplacental barriers, presumably infecting fetuses in utero.^{4,6-8} Rare cases of Guillain-Barré, potentially linked to Zika, have also been reported in adults, but this is far less common than its effects on newborns and its risk to pregnant women.

In January 2016, the Hawaii State Department of Health reported the first U.S. case of microcephaly in a newborn; the infant's mother had traveled from Brazil. Shortly thereafter, cases of Zika-infected patients were reported in Texas, Florida, and the U.S. Midwest.^{2,4}

Sexual Transmission

In February 2016, the Centers for Disease Control and Prevention (CDC) reported three probable cases of Zika virus transmitted via sexual intercourse and/or infected semen. In all three cases, male patients who had developed symptomatic Zika illness were noted to have infected semen. It is currently unknown whether asymptomatic men can transmit Zika virus to their sex partners. Sexual transmission of Zika virus from infected women to their sex partners has yet to be reported.⁴

On February 5, 2016, the CDC recommended that patients who reside in or who have traveled to areas with active Zika virus transmission either abstain from sexual activity or consistently use a protective barrier method (condoms), particularly if their female partner is pregnant. Pregnant women with potential exposure should be evaluated. Health-care providers are advised to follow the CDC's guidelines for evaluation and testing of pregnant women.^{4,6,7}

Treatment

There is no specific antiviral medication or treatment for Zika infection.¹⁻³ Management should be aimed at symptomatic relief, similar to treating other viral syndromes. This includes consuming fluids, resting, and taking analgesics and antipyretics such as acetaminophen.^{1,2} Avoid nonsteroidal anti-inflammatory drugs until dengue infection is ruled out, owing to the risk of possible hemorrhagic complications. Zika-endemic areas are geographically similar to areas where dengue and

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chikungunya are endemic, and thus all three viruses must be considered in the differential diagnosis.

Current State of Affairs

As of early February 2016, a total of 35 travel-associated cases of Zika had been reported in the United States, and with summer approaching there, this number is expected to increase dramatically.^{2,3,5}

Zika virus infection is now a nationally reportable condition, and health-care providers are encouraged to report suspected cases to their local or state health departments.^{1,6-8} Unfortunately, testing for Zika at point of care is currently not available. However, the CDC and a few U.S. state health department laboratories are capable of polymerase chain reaction testing.^{2,3,8}

Prevention

Because there is no specific treatment, prevention is the best approach to limiting the spread of the virus.^{1-4,7,9} Travel to endemic areas should be avoided if possible, particularly for pregnant women and those women actively trying to get pregnant. If travel to endemic areas is mandatory, it is advisable to wear protective clothing and use mosquito repellent. Given the high suspicion for sexual transmission, barrier protection during sexual intercourse should be used.^{2-5,9} ■

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