Zika, dengue, and chikungunya: get the facts

Vector-borne viral diseases transmitted to humans by hemagoglyphic insects—such as mosquitoes—are caused by arthropod-borne viruses, also known as arboviruses. Out of the approximately 150 arboviruses that are known to cause human diseases,1 three mosquito-borne arboviruses have led to large-scale outbreaks in recent years.2 These three viruses—Zika virus (ZIKV), dengue virus (DENV), and chikungunya virus (CHIKV)—share similar epidemiology, are transmitted by the same mosquito species, and can result in overlapping clinical symptoms.3 There is no specific treatment, but early and accurate diagnosis is crucial to support proper patient management and adequate public health measures.

Zika

Zika virus is an RNA virus in the family Flaviviridae. Zika virus infections have been reported in over 60 countries and territories worldwide.4

How people get infected

- Through sex
- Through blood transfusion
- From contaminated blood
- Through mosquito bites

Other ways people get infected

- Mosquitoes that carry the virus
- Other people who have been infected

Clinical symptoms

Patients infected with any of the three viruses are often asymptomatic or present with mild and nonspecific symptoms. Early symptoms can include fever, headache, muscle pain, and joint stiffness. Patients infected with any of the three viruses are often asymptomatic or present with mild and nonspecific symptoms. Early symptoms can include fever, headache, muscle pain, and joint stiffness. Zika virus infection can include fever, rash, headache, conjunctivitis, and nonspecific symptoms. Early symptoms can include fever, headache, muscle pain, and joint stiffness.

Management

Although there is no specific treatment, timely and accurate diagnosis is crucial in order to provide proper patient education and to monitor for signs of complications. Zika and chikungunya diseases are rarely life-threatening, but monitoring for signs of severe dengue, such as bleeding, can be life-saving.4 As Zika virus can be sexually transmitted even months after the infection, proper patient education can protect partners.5 Given the inherent risk of arbovirus outbreaks, the WHO has launched a global initiative focused on detection, prevention, and control of arboviruses.6 Testing and differentiating Zika, dengue, and chikungunya viruses can help identify outbreaks or increased incidence of infections and enable rapid public health responses.

References

7. Centers for Disease Control and Prevention (2022) Zika virus. cdc.gov/chikungunya/transmission/