Communicable Disease Service

The Emergence of Chikungunya Virus in the Western Hemisphere

Guidance for Clinicians

01/19/2016

Since its emergence in the Western Hemisphere in late 2013, chikungunya virus (CHIKV) has quickly become another significant source of travel-related arboviral infection among New Jersey residents along with dengue infection, the most common arboviral infection worldwide. Now over 45 countries in the Americas, particularly in tropical and subtropical regions, have ongoing local transmission of CHIKV. Previously, CHIKV outbreaks mostly occurred in tropical and subtropical regions of Africa, India and Southeast Asia.

In most infected persons (72%–97%), CHIKV virus causes acute febrile illness with severe arthralgia that involves two or more joints, is usually symmetric, and affects the hands and feet. Rash, headache, nausea, vomiting, myalgia, fatigue, and/or lymphopenia may also occur. Although acute illness usually resolves in 7–10 days and fatalities are rare, polyarthralgia may continue for months.

In the US, limited local transmission of CHIKV has only occurred in southern Florida during 2014. The potential for limited local transmission in temperate regions exists as demonstrated by an outbreak on the northeastern coast of Italy in 2007. In New Jersey, *Aedes albopictus* (Asian tiger mosquito) but not *A. aegypti* are present and active during warmer months. A. aegypti does not yet overwinter in New Jersey competently. Factors, such as competence of *A. albopictus* in transmitting specific CHIKV types and use of air conditioned or screened environments by residents, will influence whether local transmission occurs here.

The New Jersey Department of Health (NJDOH) will continue to closely monitor surveillance data to promptly identify local transmission, since control entails educating patients and reducing mosquito breeding sites around infected persons' homes. With local transmission of CHIKV established throughout tropical and subtropical regions of the Americas, NJDOH encourages area healthcare providers to become familiar with the recognition, diagnosis, and treatment of both CHIKV and dengue infections.

Testing: If either CHIKV or dengue is suspected, collect serum and test for both pathogens.
Testing is available through Focus Diagnostics. Quest Diagnostics and LabCorp also will forward orders to Focus.

- Order polymerase chain reaction (PCR) between day 1 and 8 of illness
  Order IgM & IgG if ≥ day 4 of symptom onset

Treatment: Patients with suspected CHIKV infection should be managed as dengue with acetaminophen used for initial fever and pain control. If initial treatment is inadequate and dengue has been ruled out, narcotics or NSAIDs may be considered to manage pain.

Control and Prevention:

・ Encourage patients traveling to areas with local transmission of CHIKV to take personal prevention measures such as using mosquito repellent, staying in well-screened, air-conditioned accommodations, and wearing long pants and sleeves when weather permits.

・ Adults > 65 years of age and persons with underlying conditions (e.g., hypertension, diabetes, etc.) who are at risk for severe disease, and women late in pregnancy (due to the risk to neonates) should consider not traveling to areas with ongoing CHIKV outbreaks.

・ Advise patients with suspected CHIKV or dengue infections to stay indoors and avoid mosquito bites for the first 7 days of illness to prevent transmission to local mosquitoes.

Reporting: Currently, it is not required that suspected and confirmed cases of CHIKV are reported to NJDOH. However, it is strongly encouraged.

Reference: Philadelphia Department of Health document, "The Emergence of Chikungunya Virus in the Western Hemisphere," in the ACD Newsletter, 6/30/15, accessed online 12/31/15.