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LABORATORY ALLIANCE
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To: All Clients of Laboratory Alliance

From: Paul Granato, PhD
Director of Microbiology

Date: January 28, 2016

Re: Screening Pregnant Women for Zika Virus Infection

The CDC has issued guidelines for screening pregnant women who have had a recent history of travel to an area endemic for Zika virus. Endemic areas include, but are not limited to, the Caribbean including Puerto Rico, Central and South America, Hawaii, India and various areas of Asia.

The New York State Department of Health (NYSDOH) offers a serologic screening test and a confirmatory real-time PCR assay for establishing the diagnosis of Zika virus infection.

If you have a patient that needs to be screened (e.g., any pregnant woman with a history of travel to an endemic area), collect a blood specimen in a red-topped vacutainer tube. Complete the patient's history form required by New York State (copy attached or go to http://www.wadsworth.org/divisions/infdis/DOH-4463_060209.pdf) and arrange transport of the completed form and specimen to the Operations Center of Laboratory Alliance of CNY. Laboratory Alliance will then ship the specimen to the NYSDOH for serologic screening for Zika virus and subsequent confirmatory real-time-PCR testing, if indicated.

NOTE: Any questions regarding the potential for a patient having Zika virus infection should be directed to the New York State Division of Communicable Diseases (518-473-4437) who will advise on the indication for testing.

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enc.

Infectious Diseases Requisition

NYS Accession Number _____

Date received ____ / ____ / ____

Shipping address: www.wadsworth.org/wcinfo.htm

Telephone: (518) 474-4177

Patient Demographics				*denotes required information	
Last Name *	First Name *	MI	DOB *	Sex	<input type="checkbox"/> Male <input type="checkbox"/> Female
Street Address	City	State	Zip Code		
NYS County of Residence *	NYS DOH Outbreak Number	CDESS Case Number	Submitter's Reference Number		
Submitter (Laboratory report will be sent to)				*denotes required information	
Name and Address *				Laboratory PFI	
				Contact Person	
				Telephone Number (____) ____ - ____	
Specimen Information				*denotes required information	
Specimen is:	<input type="checkbox"/> Isolate <input type="checkbox"/> Primary Specimen <input type="checkbox"/> Autopsy Specimen	Collection Date *	____ / ____ / ____		
Source / Specimen Type *		Time Collected (if applicable for test)	____ : ____		(HH : MM)
Laboratory Examination Requested				www.wadsworth.org/IDtesting	
<input type="checkbox"/> Bacterial <input type="checkbox"/> Fungal <input type="checkbox"/> Mycobacterial <input type="checkbox"/> Parasitic <input type="checkbox"/> Serology <input type="checkbox"/> Viral					
Suspected Organism / Agent _____					
<input type="checkbox"/> Identification / Confirmation <input type="checkbox"/> Susceptibility (specify antimicrobial(s)) _____					
<input type="checkbox"/> TB Fast Track www.wadsworth.org/mycobac/fasttrack.htm <input type="checkbox"/> Serology (specify test and define onset date) _____					
<input type="checkbox"/> Viral Encephalitis Panel www.wadsworth.org/divisions/infdis/enceph/form.htm <input type="checkbox"/> Other (specify) _____					
Submitting lab findings: Smear/Stain/Other results _____ Comments _____					
Specimen submitted on/in: Media _____ Preservative _____ Tissue cell line _____					
Relevant Exposure: <input type="checkbox"/> Contact known case <input type="checkbox"/> Food/water <input type="checkbox"/> Nosocomial					
<input type="checkbox"/> Travel _____ <input type="checkbox"/> Animal _____ <input type="checkbox"/> Arthropod _____					
Location & Dates _____ Type _____ Type _____					
Clinical History					
Name of patient's healthcare provider _____ Telephone Number _____					
Diagnosis: _____ Hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If hospitalized, hospital name: _____					
Pregnant (trimester): _____ Symptoms: <input type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Other _____ Onset of symptoms: ____ / ____ / ____					
Fever: max _____ duration _____ CSF: Glu _____ Prot _____ RBC _____ WBC _____					
Relevant Treatment: _____ Date ____ / ____ / ____ Relevant Immunization: _____ Date ____ / ____ / ____					
Symptoms/Clinical Epidemiology (check all that apply):					
Central Nervous System: <input type="checkbox"/> Altered Mental Status <input type="checkbox"/> Coma <input type="checkbox"/> Encephalitis <input type="checkbox"/> Headache <input type="checkbox"/> Meningitis <input type="checkbox"/> Paralysis <input type="checkbox"/> Seizures					
Gastrointestinal: <input type="checkbox"/> Diarrhea <input type="checkbox"/> Blood/Mucus <input type="checkbox"/> Nausea <input type="checkbox"/> Vomiting					
Respiratory: <input type="checkbox"/> Bronchitis <input type="checkbox"/> Bronchiolitis <input type="checkbox"/> Cough <input type="checkbox"/> Pneumonia <input type="checkbox"/> Upper Respiratory Infection					
Skin/hair/nails: <input type="checkbox"/> Hemorrhagic <input type="checkbox"/> Maculopapular Rash <input type="checkbox"/> Petechial Rash <input type="checkbox"/> Vesicular					
Cardiovascular: <input type="checkbox"/> Endocarditis <input type="checkbox"/> Myocarditis <input type="checkbox"/> Pericarditis					
Miscellaneous: <input type="checkbox"/> Arthralgia <input type="checkbox"/> Conjunctivitis <input type="checkbox"/> Cystitis <input type="checkbox"/> Hepatitis <input type="checkbox"/> Hepatomegaly <input type="checkbox"/> Immunocompromised <input type="checkbox"/> Jaundice					
<input type="checkbox"/> Keratitis <input type="checkbox"/> Lymphadenopathy <input type="checkbox"/> Malaise <input type="checkbox"/> Myalgia <input type="checkbox"/> Pleurodynia <input type="checkbox"/> Splenomegaly <input type="checkbox"/> Ulcer(s) <input type="checkbox"/> Urethritis					
Other Symptoms: _____					



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Zika Virus – The Newest Kid on the Block

By Paul A. Granato, Ph.D., Director of Microbiology

Health Advisory: Zika Virus

On Jan. 15, 2016, the Centers for Disease Control & Prevention (CDC) issued a Health Advisory for pregnant women traveling to areas of the world where Zika

disease is endemic. This alert resulted because babies born of mothers infected with Zika virus are at increased risk of having microcephaly (small heads) and/or brain damage or being miscarried. This concern increased in importance for the continental U.S. because the World Health Organization has now documented widespread infection in at least 14 Central and South American countries as well as the Caribbean islands. Most recently, infection has been diagnosed in individuals returning to the U.S. following travel to endemic areas. As a result, Zika virus may become endemic to the U.S. and is emerging as the “new kid on the block” to receive national media attention by being a serious health concern.

Background

Over the last decade, there has been a continual emergence of viruses that have caused serious infectious diseases of global importance. Some of these include West Nile Virus, enterovirus D68, influenza H1N1 (more commonly known as the swine flu), and Ebola virus. Zika virus represents the latest virus that has attracted national attention because of its ability to cause microcephaly and brain damage in newborns of infected mothers. Because infections have now been diagnosed in individuals returning to the United States from endemic areas, Zika virus is the newest viral agent that poses an infectious disease threat of potentially national importance.

History and Biology

Zika virus was isolated in 1947 from a rhesus monkey in the Zika forest of Uganda but it was not until 1967 that the first cases of human disease were documented in Nigeria. From 1951 to 1981, evidence of human infection was reported in other African countries, Egypt, and parts of Asia including India, Malaysia and the Philippines. Zika virus is now considered endemic in these areas of the world. Zika virus is a RNA-containing virus belonging to the *Flaviviridae* family. The infection is transmitted to humans following the bite from an infected mosquito. As such, Zika virus infection is closely related to other mosquito-borne diseases, such as dengue and chikungunya, both of which are also infectious disease threats of increasing global importance.

Epidemiology

Human infection generally results from the bite of an infected *Aedes aegypti* mosquito although several other *Aedes* species may also transmit the disease. Only 20% of infected individuals will develop symptomatic disease following an incubation period of about 10 days. Uninfected mosquitoes acquire the virus by taking a blood meal from an infected individual. The infected mosquito then bites another uninfected individual that perpetuates the disease resulting in

endemic and potentially epidemic outbreaks of infection. Although disease transmission occurs almost exclusively following the bite of an infected mosquito, rare infections have been documented following blood transfusion and unprotected sexual activity.

Clinical Presentation

Zika virus causes a mild illness called Zika, Zika disease or Zika fever. Common symptoms of infection include mild headache, maculopapular rash, fever, malaise, conjunctivitis with extreme light sensitivity and joint pain. Thus far, Zika fever has been a relatively mild infection of limited scope with no fatalities reported but its true potential as a viral agent of disease is unknown. Zika disease has attracted recent national attention because newborns of mothers infected with Zika virus are at increased risk of miscarriage or having the baby born with small heads (microcephaly) and/or brain damage.

Because of this, the CDC has issued a travel alert to pregnant individuals who might be visiting endemic areas. The endemic areas have now increased to include Central and parts of South America especially Brazil as well as many of the Caribbean islands including Puerto Rico. Of particular concern is that infection has been documented in individuals returning to the U.S. from travel to an endemic area. If these infected individuals are bitten by mosquitoes, the infection can become endemic in the area as other individuals are bitten by infected mosquitoes. Given the recent outbreaks of disease that have been reported in Central and South America, the Caribbean, and the Pacific rim islands including Hawaii, more imported cases are likely, resulting in the spread of the virus in some, if not many, areas of the U.S.

Diagnosis and Treatment

Zika disease should be considered in any patient who presents with acute onset of fever, maculopapular rash, arthralgia, and/or conjunctivitis and had a recent history of travel to an endemic area. A serum specimen is collected and tested for the presence of the virus RNA using a PCR assay that is currently only performed in specialized reference laboratories. Once diagnosed, no specific treatment is available for Zika virus disease. Treatment is generally supportive and includes bed rest, fluids, and the use of antipyretics and analgesics. The use of aspirin and other non-steroidal, anti-inflammatory drugs should be avoided until dengue has been ruled out to reduce the risk of hemorrhage. In particular, pregnant women who have a fever should be treated with acetaminophen.

Prevention

No vaccine is available to prevent Zika disease. The best way to prevent infection is to: 1. avoid mosquito bites; and, 2. use insect repellents when outdoors. People infected with Zika virus should be protected from further mosquito exposure during the first few days of illness to reduce the risk of local transmission.

Learn more at www.laboratoryalliance.com or call 315-461-3008.