

Rash in a Returning Traveler

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Ryan K. Rader, MS-IV¹; Benjamin D. Breazile, MS-IV¹; Kapil Vyas, DO²; Christian Rojas-Moreno, MD²

¹University of Missouri School of Medicine, Columbia, MO 65212

²Department of Internal Medicine, Division of Infectious Diseases, Columbia, MO 65212

Case Presentation:

A 28-year-old African American female presented with five days of a pruritic rash. The rash was mainly on the upper and lower extremities, sparing her palms and soles. She stated that she had recently returned from a 7-day trip to Jamaica to see her husband's family, where she had multiple mosquito bites, and encountered local food and tropical flora. No one she was in contact with developed similar symptoms. Her past medical history was significant for asthma and allergic rhinitis. She initially sought evaluation at Urgent Care, where rapid strep and monospot tests were negative. She was diagnosed with dermatitis and prescribed hydroxyzine for itching and triamcinolone cream. The next day, the rash worsened and progressed to her face. She also noticed swollen lymph nodes behind her left ear and on her neck bilaterally. She denied any bleeding diathesis, shortness of breath, chest pain, nausea, vomiting, abdominal pain. She went to her primary care provider, who referred her to the Infectious Disease clinic. She had a temperature of 37.9 °C. Physical exam was significant for a morbilliform-like rash on her face and extremities, bilateral conjunctivitis, and non-tender lymph nodes in the left post-auricular and bilateral anterior cervical lymph nodes. A complete blood count revealed leukopenia (WBC = 3.09K, 46% neutrophils, 42.7% lymphocytes, 10% monocytes, 1% eosinophils). She had a normal platelet count (198K), aspartate transaminase (23 units/L), and alanine transaminase (12 units/L). Testing for Human Immunodeficiency Virus, syphilis and Epstein-Barr infection were negative.

Due to her recent travel to Jamaica, the state lab was contacted and testing was performed for Chikungunya and Zika virus. Reverse Transcription polymerase chain reaction (RT-PCR) for Zika virus came back positive in serum and urine. The patient was contacted and informed of the results at which time she was provided education and counselling. During the conversation, she commented that her husband started to develop a similar rash.

Discussion:

This case represents the first known Zika diagnosis within our institution and the 21st in the state of Missouri. The Zika virus is a flavivirus that first reached the Western hemisphere in

Brazil in 2015 [1]. Primarily transmitted by inoculation via the *Aedes* mosquito or through sexual, perinatal, or congenital exposure [2-4], the incubation period following Zika exposure is 3-12 days, after which commonly reported symptoms include a maculopapular pruritic rash, low-grade fever, arthralgia, conjunctivitis, myalgia, headache, and retro-orbital pain [5]. Symptoms are generally mild and resolve within 2 weeks.

There are reports of adults developing meningoencephalitis and acute myelitis believed to be associated with Zika infection, and there is increasing evidence that Zika is associated with the development of Guillain-Barré syndrome [6-7]. The population at greatest risk from Zika is developing fetuses, as Zika has been associated with congenital Central Nervous System (CNS) abnormalities including microcephaly [3]. For this reason, the Center for Disease Control (CDC) recommends pregnant women avoid areas with Zika and also recommends safe sex practices during the duration of the pregnancy if a partner has traveled to endemic regions. The CDC also recommends that all men with possible Zika virus exposure who are considering attempting conception with their partner, regardless of symptoms status, wait to conceive until at least 6 months after symptom onset (if symptomatic) or last possible Zika virus exposure (if asymptomatic). Women with possible Zika virus exposure are recommended to wait to conceive until at least 8 weeks after symptom onset (if symptomatic) or last possible Zika virus exposure (if asymptomatic). Couples with possible Zika virus exposure, who are not pregnant and do not plan to become pregnant, and want to minimize their risk for sexual transmission of Zika virus, should use a condom or abstain from sex for the same periods for men and women described above [5].

The diagnosis of Zika is based on RT-PCR, serological testing, and plaque reduction neutralization test, with specific testing recommendations varying depending on timeline of symptom development and pregnancy status. RT-PCR is most useful for patients who present less than 7 days from onset of symptoms. Testing for Dengue virus and Chikungunya should also be considered as these can have similar clinical manifestations. If virus serologic testing is pursued caution must be taken as there is known cross-reactivity with other flaviviruses.

Management for Zika is limited to supportive care. Education should be provided to diagnosed patients on prevention of mosquito bites as to prevent spread of disease.

Given the increasing incidence in the United States, it is important for health care providers to consider Zika virus in the differential diagnosis of symptomatic patients who present after travel to an endemic region or after sexual contact with individuals who traveled to endemic regions. The list of endemic countries is likely to continue to grow as the *Aedes* mosquitos are common in many countries and are the primary vector of spread.

References:

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