



## Acute chikungunya: emergence of a new, viral pathogen in the Caribbean

To the Editor:

As a physician in the Dominican Republic in an outpatient clinic that specializes in treatment and clinical trials involving viruses, the February 2014 conference by one of the moderators of Promed Mail about the imminent arrival of the arbovirus chikungunya in the country interested me, but I never thought I would number among its "victims" (1). At that time, the virus, which had historically been a problem in Africa and Asia, was in St. Martin and was moving up the lower Antilles.

My acute episode started with sudden fatigue, severe headache, fever of 40° C, and chills and pain in my left knee, which had received a replacement 6 weeks earlier. Up until that moment I had had no post-surgery knee pain, except while exercising. But with chikungunya, I not only had a relapse in my knee's mobility, but also severe pain. Arthralgia was also present in my hand and wrist joints, and I could not move my body, not even to change positions in bed. I also had difficulty walking.

These symptoms made clear to me what "chikungunya" means in Makonde, a tribal language spoken in southeastern Tanzania and northern Mozambique: "He who is hunched over" (2). The term refers to how the infected person moves about in a curved position due to debilitating body pain. After sweating profusely on the second night, I seemed to have conquered it. Only my operated knee continued to have occasional pain at rest. Unfortunately, 3 weeks later, I began to have joint pain in the neck, ankles, and toes, which continued for two weeks. My husband, also infected, had lingering fatigue, and pain in the hands that prohibited him from performing simple tasks, such as opening a bottle.

My clinical history of chikungunya was relatively mild compared to what I have read about and seen around me. When the virus hit Santo Domingo, 10% or more clinic employees were absent with the illness. Some had prolonged swelling of the joints, or arthralgia. Even though the number of cases is now reduced, it is too soon to know what the chronic effects will be.

The vectors, *Aedes aegypti* and *A. albopicti* (2, 3), have long been problematic here, transmitting dengue to the population. A mutation in the chikungunya virus seems to have widened its infection to *A. albopicti*, so that now both *Aedes* types transmit the agent (3). The rains have now begun and the population does not keep the streets clean, so the mosquitoes easily find

breeding sites. Posters with suggestions to clean patios and cover water tanks are displayed in hospitals, clinics, and other public places. The government has a fumigation program, but if the streets remain dirty, its success will be limited. Dengue has not been widespread in the past, probably because there is more than a 50% asymptomatic rate; whereas reports indicate that this rate with chikungunya will be only 3%–28% (2). On 17 September 2014, the Ministry of Public Health estimated 486,306 cases (4), or two-thirds of all cases in the Caribbean (5) with 6 registered deaths in the country. However, the number of cases is probably higher as many are not reported.

Knowing I am a physician, friends and associates call me to confirm that indeed this virus is transmitted by a mosquito. I predict that it will be even more widely spread since Dominicans, like all people in the Americas, have never been exposed to this agent. Although we do not know how long the outbreak will last, we know it has led to the absence of hospital staff and employees from local businesses, and that its effect will obviously have an impact on the tourism industry that is so vital to the Caribbean. Most resorts fumigate against mosquitoes more heavily than the government and keep their surroundings free of debris, but no Caribbean island or country in the Americas has escaped the pathogen (5).

This public health challenge is yet another reminder of how an infectious disease can greatly affect a country's people and economy. Moreover, because the Caribbean population is extremely mobile, traveling to family and friends in the United States of America and Europe, the virus' emergence in the United States (5) was not surprising and its appearance in Europe is highly probable (6). Raising public awareness is the key to vector control because to be effective, fumigation efforts must be coupled with maintaining debris-free surroundings and the latter is mostly up to the public. Improving efforts on both of these fronts will reduce transmission not only in the Caribbean, but beyond.

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