

Fever and Prominent Arthralgia in a Traveler who Returned from Amazonia: Differentiating between Dengue Fever and Chikungunya Fever

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Dear Editor,

We read the case of Chikungunya fever (CF) reported by doctors Hwang and Lee with interest [1]. We report a similar case, but from western South America. CF cases have been reported in western Europe, South America, Africa, and most recently in the Caribbean. Clinically, CF is characterized by persistent severe arthralgia [2].

In South America, CF, Mayaro fever (MF), and dengue fever (DF) share a similar geographic distribution and may resemble each other. CF, MF, and DF present with fever, chills, headache, myalgias/arthralgias, and rash. Arthralgias in CF typically persist for months, while those in MF and DF are usually transient and self-limited [3]. Serum transaminase and erythrocyte sedimentation rate (ESR) elevations are common in CF, MF, and DF [2, 4-6].

A 37-year-old man travelled to western South America, including Ecuador, Colombia, Peru, Bolivia, and the Peruvian Amazon for 8 months (fall 2012 to spring 2013). He suffered many mosquito bites during his travels. Subsequently, he developed a fever of 39.5 °C, chills, headache, myalgias, and se-

vere arthralgias in June 2013. His fever abated within 6 days, but severe joint pains, involving the hands and wrists, persisted. Laboratory tests included a normal white blood cell count, platelet count, and ESR. Serum transaminases were unelevated. *Leptospira* spp., *Rickettsia* spp., and *Brucella* spp. titers were negative. Dengue immunoglobulin (Ig) G and IgM titers were negative. The mayaro virus (MV) IgM titer was negative and the MV IgG titer was positive (untitred enzyme-linked immunosorbent assay by US CDC). The chikungunya virus (CV) IgM titer was negative and the CV IgG titer was elevated to 1:320. Severe small joint arthralgias persisted for months.

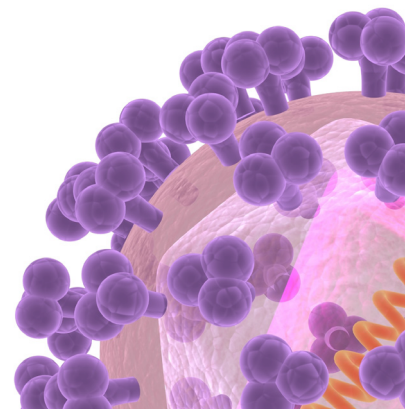
MF is endemic in South American countries (e.g., Peru and Brazil). Clinically, MF presents as a dengue-like illness with fever, myalgias, arthralgias, and rash, or may resemble CF. Arthralgias in MF are usually of short duration, i.e., 3-5 days, but may last weeks. Although our patient had elevated MV IgG and CV IgG titers, which are typically found in CF, severe arthralgias persisted for months [7-10]. Although MV IgG titers were positive, we believed that the patient's clinical course was characteristic of CF. CF had not been reported previously

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in western South America.

We believe our patient contracted CF during his stay in western South America. Given the distribution of the *Aedes aegypti* and *Aedes albopictus* mosquito vectors, it is not surprising that CF was discovered in western South America. While the clinical presentation in our case is characteristic of CF, we cannot completely exclude MF, since MV titers may cross-react with CV titers. Although MV arthralgias may be prolonged in some cases, e.g., for weeks, the typical duration of severe CF arthralgias is months [7, 9]. While a definitive diagnosis cannot be made from elevated CV IgG titers alone, the clinical presentation is typical of CF because of months of severe arthralgias. We believe that this is the first reported case of imported CF in a returned US traveler.

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