

# A young woman presenting with acute rash, diarrhea, and fever : A case report of Chronic Fatigue Syndrome in the setting of Zika and Dengue Coinfection

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## BACKGROUND

Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) is a poorly understood condition characterized by substantial reduction in the ability to engage in pre-illness activities **lasting > 6 months**, with **post-exertional malaise** and **unrefreshing sleep**. To meet IOM criteria, individuals also must have either orthostatic intolerance or cognitive impairment.

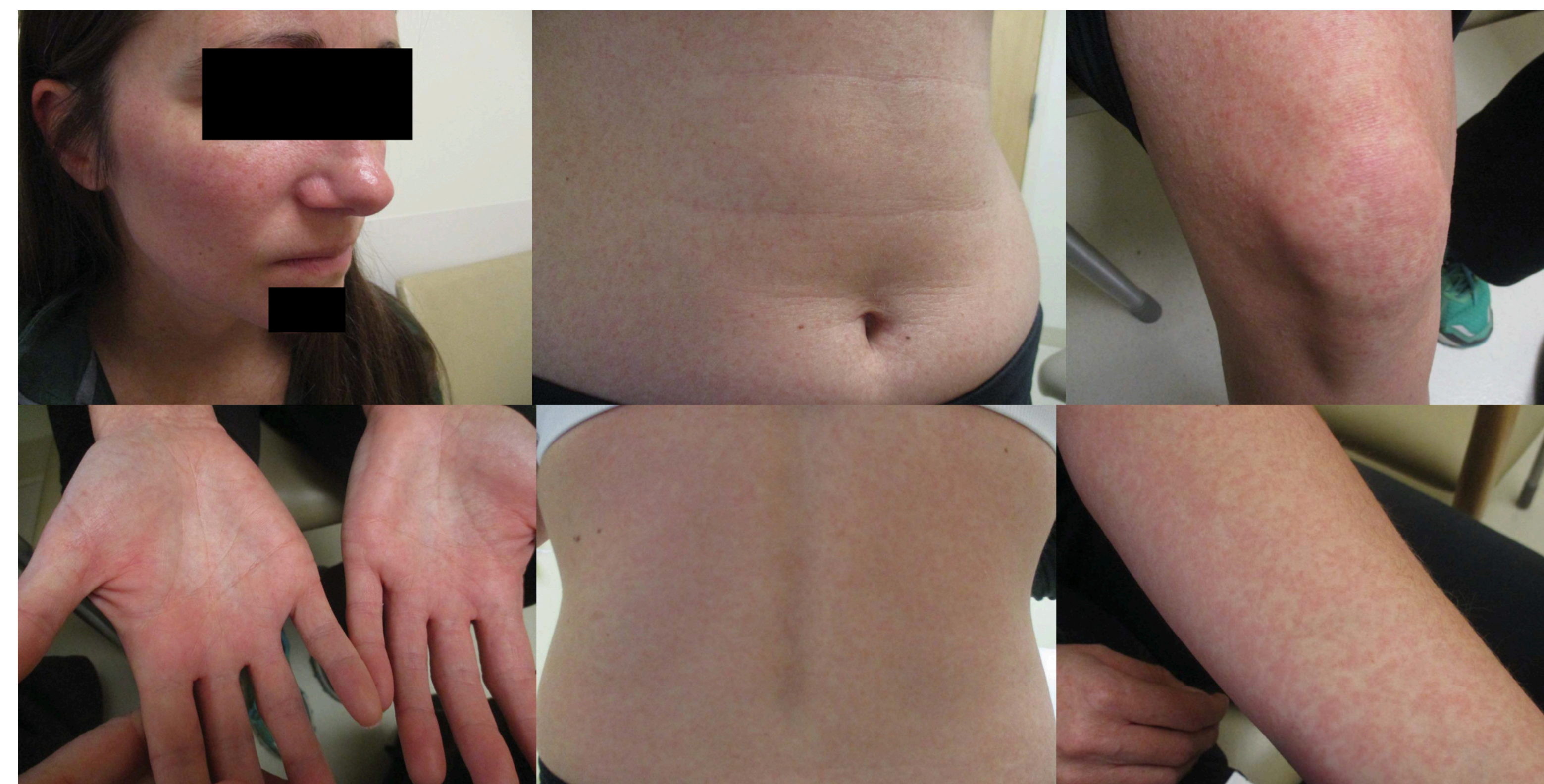
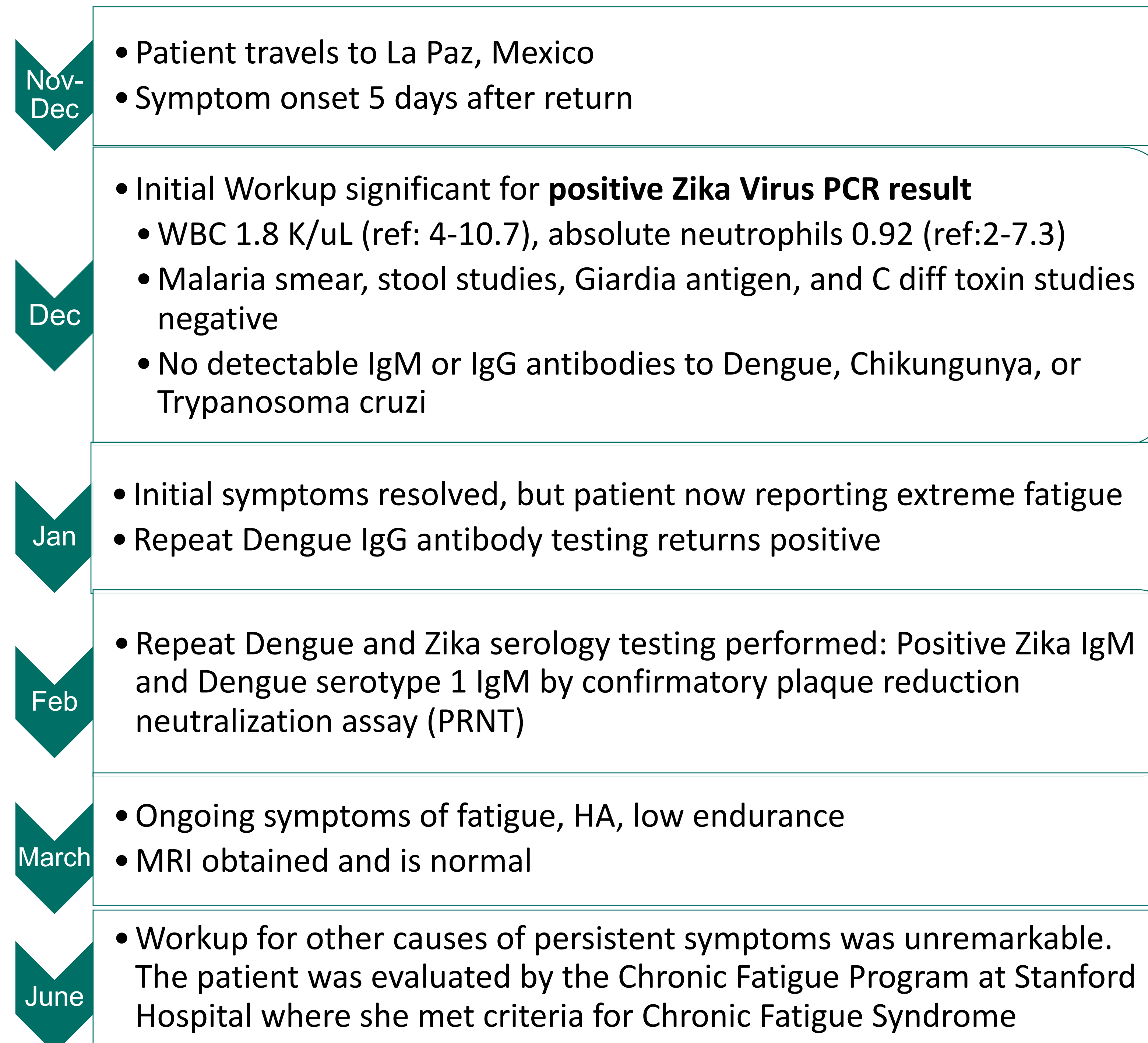
- ME/CFS has been reported after EBV, Chikungunya, West Nile, and Ebola virus infections.<sup>1-2</sup>
- Zika and Dengue viruses have known neurological sequelae.<sup>1,3</sup>

There are limited reports of ME/CSF after Dengue virus infection and no reports with Zika virus infection.<sup>4</sup> **Here we report a case of ME/CFS after Zika and Dengue virus coinfection.**

## CASE SUMMARY

- An otherwise healthy 37-year-old female nurse practitioner presented 5 days after visiting La Paz, Mexico with severe watery diarrhea, myalgias, fatigue, loss of appetite, low-grade fever, and diffuse maculopapular pruritic rash (see image to the right).
- During her vacation, the patient enjoyed rock climbing, snorkeling, and relaxing at the beach. Accommodations included 'backpacker guest houses.' She was bitten by several mosquitoes but otherwise denied any known animal or insect exposures. She ate local street food and drank bottled water.
- She subsequently began experiencing headache, incapacitating fatigue with myalgias, arthralgias, and mild cognitive dysfunction (problems with concentration, memory and process information). These symptoms waxed and waned for months after the patient's initial symptom onset.

## WORKUP / TIMELINE



## DISCUSSION

The patient's travel history, fever, and known mosquito exposure put her at significant likelihood of having a mosquito-borne infection such as Zika, Dengue, or Chikungunya. Macular rash, fever, and myalgias are nonspecific symptoms that may be seen in any of these viral infections<sup>5</sup>. Chagas disease was possible based on the patient's travel to an endemic region; however, it was less likely given the patient's relatively short incubation period.

The patient's lingering joint pains and fatigue prompted a confirmation of the initial diagnoses and consideration of other autoimmune or inflammatory conditions.

Chronic fatigue is an increasingly recognized long-term complication of certain viral infections, including COVID-19<sup>6</sup>, hence further studies on this post-viral syndrome are needed. **This case report strengthens the notion of post-infectious ME/CFS and is the first to describe the syndrome after Zika and Dengue virus coinfection.** Further studies are needed to determine the relationship between these neurotropic viruses and their relationship to ME/CFS.

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