



Internal Medicine Flashcard

White islands in a sea of red: A tropical rash

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1. The Case

A 32-year-old male from the Philippines presented with a three-day history of high-grade fever (T_{\max} 39.8C) refractory to acetaminophen and NSAIDs. It was accompanied by headache, anorexia, and myalgia. Initial blood count showed thrombocytopenia ($89 \times 10^9/L$) prompting admission. History revealed that a week prior, the patient went to an outdoor market to buy plants. He denied a similar illness in the past. Suspecting the diagnosis, additional labs were requested including viral serology and liver transaminases. On the sixth day of illness, the fever lysed and the patient developed a diffuse, centripetal, pruritic rash (See Fig. 1). The thrombocytopenia progressed over the subsequent days reaching a nadir of $29 \times 10^9/L$ on the seventh day of illness. No signs of bleeding were noted. Supportive care with intravenous hydration and antipyretics was given. On the tenth day of illness, his platelet count improved and the patient was discharged.

What is the diagnosis?

2. Discussion

2.1. Dengue IgM, IgG, and NS1 antigen were positive in the patient

These revealed a prior, unrecalled infection. His more severe disease could be explained by the phenomenon of antibody dependent enhancement following secondary heterologous infection [1].

The images are of Herman's rash, erythematous maculopapular or morbilliform eruptions - described as “white islands in a sea of red.” The rash develops three to six days from fever onset in Dengue [2].

Dengue fever manifests three to fourteen days after the inciting mosquito bite. The patient developed fever one week after visiting an outdoor market, a potential breeding ground of the disease vector, the *Aedes* mosquito. This disease has three phases: febrile, critical, and convalescent. Fever is the prominent symptom, presenting with spikes and is likely to last for five to seven days. Body pain, headache, and gastrointestinal symptoms may also occur. Upper respiratory tract symptoms are uncommon [3].

The *febrile phase* of Dengue lasts two to seven days and may be



Fig. 1. Diffuse, erythematous maculopapular rash – “islands of white in a sea of red” – develops 3–6 days after onset of fever and coincides with defervescence.

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accompanied by dehydration. The onset of defervescence marks the *critical phase*. It can be accompanied by warning signs such as abdominal pain, vomiting, effusions, hemoconcentration, thrombocytopenia, bleeding, or restlessness. If present, these herald Dengue Hemorrhagic Fever or Dengue Shock Syndrome. The resolution of the *critical phase* marks the beginning of the *convalescent phase*. This period of recovery may require supportive care including repletion of electrolytes [3].

Author contributions

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