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CASE FOR DIAGNOSIS

Febrile Exanthema in a Patient From Central America

Exantema febril en un paciente procedente de Centroamérica

Medical History

A 37-year-old Panamanian woman who had been resident in Spain for 18 years presented in the emergency department with a febrile syndrome that had begun 7 days earlier, after her return from a 2-week trip to Panama. Symptoms included intense headache predominantly behind the eyes, joint and muscle pain, and asthenia.

At 24 hours she developed a rash on the lower limbs associated with plantar dysesthesia, requiring evaluation by the dermatology department.

Physical Examination

A petechial rash on an erythematous base with no clearly defined borders and with small, interspersed areas of normal skin was observed on the lower legs and dorsum and medial arch of the feet (Figures 1 and 2).

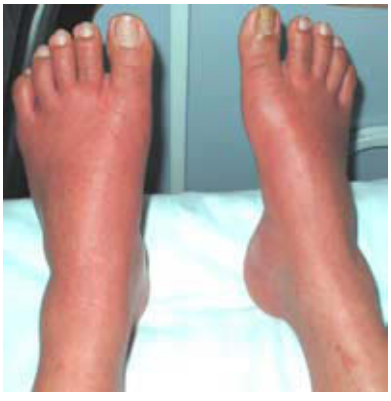

Figure 1

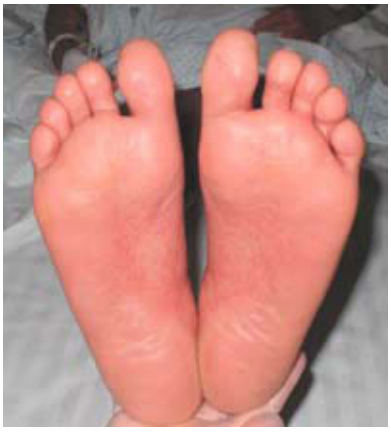

Figure 2

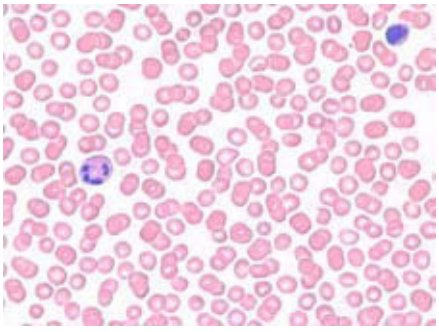

Figure 3 Peripheral blood smear, ×50.

Additional Tests

Routine blood tests revealed leukopenia, thrombocytopenia, and hypertransaminasemia, with normal coagulation parameters. The peripheral blood smear showed no platelet clumping, confirming thrombocytopenia, and there were no parasitic elements (Figure 3).

Serological tests were requested for Epstein-Barr virus, cytomegalovirus, hepatitis A, B, and C, human immunodeficiency virus, parvovirus B19, leishmania, thick smear, analysis of antigenemia for Plasmodium falciparum, and polymerase chain reaction (PCR) for dengue virus.

Diagnosis

Dengue fever.

Clinical Course and Treatment

The patient was afebrile and hemodynamically stable after intravenous administration of paracetamol and fluids. She presented no signs of active bleeding or progression of the purpuric lesions on the lower limbs and was discharged after clinical improvement. Ribonucleic acid (RNA) of the flavivirus that causes dengue was demonstrated in peripheral blood.

Discussion

Dengue is the most important arboviral disease in humans. It is caused by a flavivirus and is transmitted by the bite of the *Aedes aegypti* and, to a lesser extent, *Aedes albopictus* mosquitoes, living in tropical and subtropical areas of Central America, Sub-Saharan Africa, and Southeast Asia.

Infection by each virus serotype is associated with permanent immunity.

The World Health Organization classifies dengue symptoms in three important syndromes: dengue fever and the potentially most serious variants, dengue hemorrhagic fever, and dengue shock syndrome.[1] The latter two commonly occur in individuals reinfected by a different viral serotype to that of the primary infection. This event is probably related to the appearance of a heterologous immune response to the new serotype, whereby the immunological system is trapped by the first response to the original serotype and is incapable of generating more efficient responses to subsequent reinfections (Hoskins effect).[2]

Dengue fever is clinically characterized by the triad of fever, pain behind the eyes, and joint pain (traditionally known as "break-bone fever"); a skin rash is present in 50% to 80% of cases.

Over the first 24 to 48 hours diffuse erythema or flushing is observed on the face, neck, and chest; travelers to endemic areas may wrongly attribute this to the effects of prolonged sun exposure. At 3 to 5 days a more or less extensive macular, erythematous, morbilliform rash develops. There are petechiae and areas of normal skin within the rash, forming characteristic "white islands in a sea of red".[3]

The diagnosis is based on clinical criteria and laboratory findings (leukopenia, thrombocytopenia, hypertransaminasemia) and confirmed by molecular (PCR of viral RNA) or serologic (presence of immunoglobulin [Ig] M or a 4-fold increase in the titer of specific IgG) techniques. The skin pathology study gives no conclusive data but shows dilated and congested vessels, a perivascular lymphohistiocytic inflammatory infiltrate, and extravasation of red blood cells.[4]

The differential diagnosis should include other viral hemorrhagic fevers (Lassa fever, Ebola, and the American arenaviruses), malaria, Chikungunya fever, typhoid fever, exanthem subitum, infectious erythema, and mononucleosis-like syndromes.[5]

Treatment is based on hemodynamic support and the administration of antipyretic drugs. Acetylsalicylic acid should not be used because of possible hemorrhagic complications or, more rarely, the risk of Reye syndrome.

Finally, disease prevention strategies focus on eradicating *Aedes aegypti* and on developing an effective tetravalent vaccine (currently at the experimental stage).

Conflict of Interest

The authors declare that they have no conflict of interest.

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