

Abstract

2020 report of Dengue fever and Zika virus infections in Korea: An epidemiological investigation

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Dengue fever and zika virus infection are acute febrile infections caused by *dengue virus* (DENV) and *Zika virus* (ZIKV), respectively. It is generally accepted that mosquitoes transmit the viruses to the human body. Although rare, transmission through sexual contact, blood transfusion, and needle stick injury have been also reported in overseas.

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In Korea, most dengue fever and zika virus infections have been reported by overseas travelers. However, in 2020, we found dengue fever and zika virus infection cases with no overseas travel history. Korea Disease Control and Prevention Agency (KDCA) conducted epidemiological investigations on these two cases and the results are described as below.

Case 1, dengue fever patient reported in January 2020, was a health care worker without recent overseas travel history. She presented dengue like symptoms, such as fever, rash, and diarrhea and PCR and serological tests for dengue were both positive. Epidemiological investigation indicated that the infection might be transmitted by a needle stick injury when she provided care to a patient with dengue-like symptoms after returning from Thailand.

Case 2 was a zika virus infection case and reported in February 2020. The patient presented fever, rash, as well as arthralgia and ELISA test (IgM) was positive for zika virus infection. The patient had no travel history to zika outbreak countries, but epidemiological investigation found that the transmission is related to his work since he had dealt with highly concentrated zika viruses at laboratory without proper Personal Protective Equipment (PPE)

Although most dengue and zika virus infections are reported from overseas travelers in Korea. we found that infections can occur among healthcare and laboratory workers. Therefore, it is important to determine the source and route of infection through timely reporting and rapid epidemiological investigation.

Based on its findings, this study recommended that HCWs and laboratory workers, who are at high risk of exposure to dengue or zika infection, should be aware of the precautions when dealing with needles or viruses. In addition, it is critical that healthcare facilities and laboratories should educate and train on preventative measures, such as standard precautions and PPE to protect workers and prevent from spreading infections at the facilities.

Keywords : Dengue fever, Zika virus infection, Mosquito-borne diseases, Epidemiological investigation
