

This is the first case, to our knowledge, of dengue virus infection by needlestick injury in a laboratory environment” Lee et al (2016).

Abstract:

BACKGROUND: Dengue fever is one of the most dominant vector-borne diseases, putting approximately 3.9 billion people at risk worldwide. While it is generally vector-borne, other routes of transmission such as needlestick injury are possible. Laboratory workers can be exposed to dengue virus transcutaneously by needlestick injury. This is the first case, to our knowledge, of dengue virus infection by needlestick injury in a laboratory environment. This paper evaluates the risk and related health concerns of laboratory workers exposed to dengue virus.

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CASE PRESENTATION: We evaluated a 30-year-old female laboratory worker exposed to the dengue virus by needlestick injury while conducting virus filtering. During admission, she showed symptoms of fever, nausea, myalgia, and a characteristic maculopapular rash with elevated aspartate aminotransferase (AST) of 235 IU/L and alanine aminotransferase (ALT) of 269 IU/L. She had been diagnosed by a positive nonstructural protein 1 (NS1) antigen (Ag) rapid test one day prior to symptom onset along with positive immunoglobulin M (IgM) enzyme-linked immunosorbent assay (ELISA) on the ninth day of symptom onset. Reverse transcription polymerase chain reaction (RT-PCR), also conducted on the ninth day, was negative. After proper symptomatic treatment, she recovered without any sequelae. As a result of thorough epidemiologic investigation, it was determined that she had tried to recap the needle during the virus filtering procedure and a subsequent needlestick injury occurred.

CONCLUSIONS: In the context of health promotion of laboratory workers, we suggest that the laboratory biosafety manual be revised and reinforced, and related prevention measures be implemented. Furthermore, health authorities and health care providers in Korea should be fully informed of proper dengue fever management.

Full Text

Reference:

Lee, C., Jang, E.J., Kwon, D., Choi, H., Park, J.W. and Bae, G.R. (2016) Laboratory-acquired dengue virus infection by needlestick injury: a case report, South Korea, 2014. *Annals of Occupational and Environmental Medicine*. April 7th. eCollection 2016.

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