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Alkhumra (misnamed Alkhumra) virus, a new hemorrhagic fever Flavivirus in Saudi Arabia

Tariq A. Madani

Faculty of Medicine, King Abdulaziz
University, Saudi Arabia

After the appearance of Rift Valley fever (RVF) in Saudi Arabia for the first time outside the African continent in September 2000, the Saudi Ministry of Health developed and implemented strict plans to prevent the appearance of this disease in the Hajj (pilgrimage) period in the holy city of Makkah, Saudi Arabia. An Infectious Diseases Committee chaired by the speaker was formed by the Minister of Health to monitor the situation in Hajj. All patients hospitalized with acute febrile illness were reviewed by the speaker. Four patients with typical acute viral hemorrhagic fever were identified between 8-23 February 2001, the Hajj period of that year. RVF confirmatory tests were negative in these four patients. Blood specimens were therefore sent to the Centers for Disease Control and Prevention (CDC) for viral culture and testing for other hemorrhagic fever viruses. A new flavivirus closely related to the tick-borne Kyasanur Forest disease virus was isolated. This new flavivirus was originally isolated in 1995 from 6 patients with Dengue-like hemorrhagic fever from Alkhumra district, south of Jeddah, Saudi Arabia. From 8 February 2001 to 9 February 2003, 37 cases of "Alkhumra" virus infection were clinically identified in Makkah, 20 of them were laboratory confirmed. Subsequently, from 2003 to 2009, 148 suspected cases were reported from Najran, of which 78 (52.7%) cases were laboratory confirmed. Acute febrile flu-like illness with hepatitis, hemorrhagic manifestations, and less commonly encephalitis are the main clinical features. The disease seems to be transmitted from sheep or goat to humans by the mosquito bites or direct contact with these animals. The role of arthropods such as ticks and mosquitoes, and animals such as sheep, goat, and rodents in the transmission and maintenance of the virus remains to be elucidated. The speaker will describe the epidemiological, clinical, and laboratory features of this new viral hemorrhagic fever and the outbreaks in Makkah and Najran and the proposed control and preventive strategies.