

EPIDEMIOLOGY OF SEVERE FEVER WITH THROMBOCYTOPENIA SYNDROME IN KOREA: SFTSV AND MIGRATORY BIRD, PERSON-TO-PERSON TRANSMISSION OF SFTSV, AND COINFECTION OF SFTSV AND ORIENTIA TSUTSUGAMISHI

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Severe fever with thrombocytopenia syndrome (SFTS) is tick-borne viral disease such as Crimean-Congo hemorrhagic fever (CCHF) that was first suspected in China in 2009, the causative virus was reported in 2011, and SFTSV expanded from China to South Korea and Japan in 2012-2013. Most SFTSV infections occur through *Haemaphysalis longicornis*, which acts as a transmission host between animals and humans. However, it is not known if a genetic connection exists between the viruses in these regions and, if so, how SFTSV is transmitted across China, South Korea, and Japan. We hypothesize that the SFTSV in South Korea share common phylogenetic origins with samples from China and Japan. Further, we postulate that migratory birds, well-known carriers of the tick *H. longicornis*, are a potential

source of SFTSV transmission across countries. Most SFTSV infections occur through *H. longicornis*. However, SFTSV infection can also occur between family members, and nosocomial transmission of SFTSV is also possible through close contact with a patient. In this study, we first analyzed clinical, epidemiological, and laboratory data for SFTS patients and family members of an index patient in Korea and we suggest that person-to-person transmission of SFTSV among family members is possible in Korea. To determine prevalence of SFTS in South Korea, we examined serum samples from patients with fever and insect bite history in scrub typhus endemic areas. Prevalence of this syndrome among patients suspected of having scrub typhus was high (23.0%, 17/74), suggesting possible co-infection.

Biography

Keun Hwa Lee has been Graduated from Microbiology and Immunology Seoul National University College of Medicine, Seoul, South Korea as Ph.D. in 2003 and started working at Department of Microbiology and Immunology Jeju National University School of Medicine, Jeju, South Korea as a professor from 2004 to present. He worked at Channing Lab. BWH, Harvard Medical School, Boston, MA, USA between 2005 and 2006 as a research fellow, the Emerging Diseases Surveillance and Response (ESR) Western Pacific World Health Organization (WPRO) as Surveillance officer and International Health Regulation (IHR) duty officer (Volunteer, sabbatical year) in 2014, and US Army Medical Component-Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok, Thailand from 1st January to 6th July as a Visiting Scientist (sabbatical year).

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