

Diagnosis and prevalence of SFTS in domestic animals in Korea

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Severe fever with thrombocytopenia syndrome virus (SFTSV) is a newly identified novel phlebovirus in the family *Bunyaviridae*, which has been implicated as the causative agent of Severe fever with thrombocytopenia syndrome (SFTS). SFTSV has been thought to be transferred by the tick named *Haemophysalis longicornis* which is most prevalent in the RO Korea and this year, the case of human to human infections also have been reported. But, direct infection from animal to animal is not clear, nor is the direct infection between animal and human without vector. To know the prevalence of SFTSV in animals, virological surveillance was performed from May 2013 to November 2014. A total of 4,281 sera were collected throughout the country, from Kyounggido to Cheju island and the targeted domestic/wild animals were cattle(n=2,004), pig(n=450), wild boar(n=80), goat(n=1,093), chicken(n=654). Viral RNA was extracted using automated extraction machine (Promega) and detected by TaqMan quantitative real-time reverse transcription PCR (qRT-PCR). Totally, 2 viral RNAs were detected from the sera. One was from a goat in Ulsan city and the other was from a cow in Chungnam province. We could isolate one strain of live virus from the former. Generally, the detection rate was lower, compared with the PR China. The reason is thought that the targeted animals have little chance to contact with vector because of closed husbandry farming system in the country. Also, the duration of the viremia is thought to be relatively short and symptoms of the disease in animals do not have a tendency to appear clearly during the infection. So there is a difficulty in detecting and isolating the virus from animals. More studies should be performed to estimate the prevalence of SFTSV in domestic/wild animals in the RO Korea.

Keyword: SFTSV, domestic animal, qRT-PCR, IFA, pathogenesis, vector