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Comparative pathogenicity of type 1 and type 2 porcine reproductive and respiratory syndrome virus in pregnant sows

Chang Gi Jeong, Amina Khatun , Salik Nazki and **Won Il Kim**
Chonbuk National University Specialized Campus, South Korea

Porcine reproductive and respiratory syndrome (PRRS) is a challenging threat to the swine industries caused by PRRS virus and characterized by reproductive failures in pregnant and respiratory distress in piglets. As an RNA virus, PRRSV mutated quickly and evolved continuously, which caused huge genetic and antigenic variation within genotypes or even in the same viruses. Furthermore, the biological properties of PRRSV responsible for viral pathogenesis and host-immune responses have not been characterized clearly. Many previous studies have been conducted by using a respiratory disease model in weaned piglets for convenience but the reproductive disease caused by PRRSV is still poorly understood. Therefore, the present study was aimed to demonstrate the pathogenicity and immune response following infections with both type 1 (D40 and CBNU0495) and type 2 (K07-2273 and K08-1054) PRRSV strains in pregnant sows. Two pregnant sows were infected with each virus at 93 days of gestation. At 21 days after infection, all sows and their fetuses were euthanized for pathological evaluation. In addition, viral loads were measured in serum samples from the sows and various tissues collected from the sows and their fetuses and fetal weights were recorded. In results, CBNU-0495 and K08-1054 showed higher virulence as compared with other viruses as they exhibited higher levels of viral loads in sera and tissues of sows and fetuses and also caused higher levels of weight losses in fetuses.

Biography

Chang Gi Jeong has completed his MS in Veterinary Medicine (Microbiology) from Chonbuk National University (CBNU), South Korea. During his Master's course, he worked on the *Clostridium novyi* and studied the genome characteristics of isolates using Next Generation Sequencing (NGS). Currently, he is pursuing PhD course at the same university. His major research focuses on PRRSV and Japanese encephalitis virus. He is well-adapted in animal studies mostly dealing with farm animals.

jcg0102@gmail.com

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