

29th International Conference on

Vaccines and Immunization

March 19-20, 2018 | London, UK

Maternal antibody has negative effect on foot and mouth disease vaccine immune in piglets

Keshan Zhang, Huanan Liu and Haixue Zheng
Lanzhou Veterinary Research Institute, China

Statement of the Problem: Maternal antibodies are transferred from sow to piglet, it's very effective in protecting neonates and infants pig against most infectious diseases. Vaccination of newborn piglets is problematic because of two unsolved problems: the presence of inhibitory maternal antibodies and the immature immune system of neonates pig. Foot-and-Mouth Disease (FMD) is a contagious disease of cloven-hoofed animals; it leads to enormous economic loss worldwide. One of the most important measures to control and prevent FMD is the vaccine and immunity. The time point of first immune for neonates piglets is crucial in FMD immunization schedule. Researchers have reported that pig maternal antibodies can inhibit seroconversion of veterinary vaccines such as *Erysipelothrix rhusiopathiae*, pseudorabies virus, classical swine fever virus, Influenza virus. However, the effect of maternal antibody on FMD vaccine immune in piglets has not been previously studied. The purpose of this study is to evaluate interference effect on FMD vaccine immune with the presence of FMD maternal antibody in piglets.

Methodology & Theoretical Orientation: Sows were inoculated FMD vaccine one month before birth. Piglets which on 30(A group), 43(B group), 56(C group), 77(D group) days old were grouped, and each group had 20 piglets. ALL the piglets were vaccinated with FMD vaccine and serum from anterior vena cava blood were collected and numbered.

Results: Serums from all the piglets were gathered on 28 days after FMD immunization. FMD antibodies were detected with liquid phase blocking (LBP) ELISA method.

Conclusion & Significance: Analysis of antibody data of FMD indicated that the higher maternal antibody level of FMD in piglets, the greater negative effect on FMD vaccine immunity. It is very important to choose the first FMD immunization time point of piglets in the presence of maternal antibodies.

Biography

Keshan Zhang received his Bachelor degree in Animal Medicine (2003) at Henan Agricultural University, PhD in Preventive Veterinary Medicine (2008) at Huazhong Agricultural University. His research interest focus on the inflammatory signal pathways related to FMDV infection and FMD vaccine development. In recent five years, he has published four monographs, more than 60 scientific papers, 15 of them were SCI papers (first author or corresponding author) in PLOS One, Virus Genes, Vector-Borne and Zoonotic Diseases, and Virology.

zks009@126.com