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TITLE

EXPERIMENTAL INOCULATION OF BOVINE VIRAL DIARRHEA VIRUS IN PREGNANT GILTS DID NOT INDUCE CONGENITAL PERSISTENT INFECTION IN PIGLETS

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CONTENT

Background and objectives: Bovine viral diarrhea virus (BVDV) congenital persistent infection (PI) in cattle enables the spread of this virus in the herd, and interferes with the control of the disease. Classical swine fever virus (CSFV), a devastating virus in swine production, is also capable of causing PI animals. Due to the genetic and antigenic similarities between BVDV and CSFV, this study aimed to evaluate if the experimental inoculation of BVDV-2 in pregnant gilts may generate congenital persistently infected piglets. Material and Methods: Six gilts at the 45th day of gestation were divided into two groups. The first (n=4) received 15 mL of a field strain of BVDV-2, titration of 105,5 TCID₅₀/ml, by the oronasal route. The second (n=2) composed the control. Blood samples of gilts were collected every 72h until delivery. At birth and before colostrum intake, blood samples and nasal swabs were collected from neonates. During 35 days post birth, all piglets were clinically evaluated, followed by collections of blood samples and nasal swabs every 72h. RT-PCR tests were performed for direct diagnosis in blood and swab samples, and the serum obtained from gilts and piglets were submitted to virus neutralization test. Results: Gilts seroconverted between the 17th day post-infection (dpi) and the 22nd dpi, but no viremia was detected. In addition, there was not detection of viral RNA in blood and nasal swab samples from piglets. At birth, no piglet presented antibodies anti-BVDV, but antibodies were acquired after colostrum immune transfer, and titers were observed until weaning. Discussion and Conclusion: Experimentally, transplacental transmission of BVDV-2 was not evidenced since the animals were born BVDV free. We conclude that BVDV may not play an important role in swine production, and congenital persistent infection was not observed. Grants #130298/2018-2 (CNPq), #2016/21421-2 and #2016/02982-3, São Paulo Research Foundation (FAPESP).