

World Congress and Expo on

Applied Microbiology

August 18-20, 2015 Frankfurt, Germany

Evaluation of the rabbit as a laboratory model for bovine viral diarrhea virus infection

Mostafa El-Gaffary¹, M M Bashandy², A R Ahmed² and Iman Kamel²

¹Cairo University, Egypt

²Research Institute for Vaccine and Antisera, Egypt

Bovine Viral Diarrhea Virus (BVDV) is an important pathogen of even-toed ungulates. It is endemic in cattle herds in most parts of the world. It belongs to the family Flaviviridae, genus *Pestivirus*. Until now, there is no standard lab host for BVDV. Although some reports mentioned that rabbit could propagate certain strains of BVDV upon intravenous exposure, lack of lab host is an obstacle faced by most of the researcher. Our work aimed to evaluate rabbits as lab host for BVDV using NADL BVDV strain in white New Zealand rabbits. Successful multiple passages of BVDV in rabbits using mixture of splenic homogenate and buffy coat were achieved followed by re-isolation and molecular identification of the virus from infected animals. Later, the re-isolated virus has been intravenously administered in rabbits; animals developed signs of depression and were off-food for 3 days followed by diarrhea in some of them. Also, transient leukopenia, lymphocytopenia and thrombocytopenia were observed. Post-mortem and histo-pathological examination showed typical picture of *Pestivirus* transient infection. Demonstration of the viral antigen has been done on splenic tissues using immune-histochemistry. Moreover, virus propagation has been followed up and confirmed over 10 days using quantitative Real-Time PCR technique on tissue samples. On the other hand, saliva and feces were virus negative. From our work, we discovered that adapted NADL BVDV strain have the capability of inducing transient *Pestivirus*-like infection in rabbits, which makes rabbits suitable lab animals for BVDV pathogenicity and virocidal studies.

Biography

Mostafa El-Gaffary has completed his MVSc in 2010 from Cairo University and his PhD from Cairo University, Faculty of Veterinary Medicine. He is a Lecturer and the Director of Clinical Pathology Lab in his Faculty. He was a Trainer for postgraduate students on biomedical application of nanotechnology, molecular biology and immunology at biotechnology center for research located in his Faculty during 2007 – 2014.

Notes: