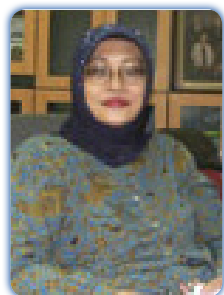


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Detection of the genotype and biotype variations of bovine viral diarrhea virus from persistently infected dairy cattle in Java, Indonesia

Bovine Viral Diarrhea Virus (BVDV) is one of important pathogen and costly diseases on dairy farm worldwide. A wide range of clinical manifestations from subclinical to fatal disease occur in association with BVDV infections. The reproductive consequences of BVDV infections range from conception failure, early embryonic death, abortions, stillbirth, congenital malformations, stunted weak calves and the birth of persistently infected (PI) calf (calves). Persistently infected calves are immune-tolerant and serving as BVDV carrier for their entire lives which continuously transmit the disease by direct contact to susceptible and unvaccinated herd mates. In the early genetic characterization, two genotypes of BVDV (BVDV-1 and BVDV-2) and two biotypes of BVDV (cytopathic and non-cytopathic) are recognized in most countries. The characterization of genotypes and biotypes from a particular region can contribute to a better understanding of the epidemiology and pathogenesis of BVDV infections. The objective of this study is to determine the genotype and biotype of BVDV variability from PI dairy cattle in Java, Indonesia. Bovine viral diarrhea virus (BVDV) positive samples were used in this study. Through phylogenetic and nucleotide sequence analysis of the 5'-Untranslated Region (5'UTR) of the samples investigated, it was determined that all the 15 field positive samples had the BVDV-1 genotype. Two IP-BVDV positive samples (805_FR and 5096_FR) sharing highest similarity (99% homology) with sub-genotype BVDV-1a KP941584 isolates which are currently circulating in Kansas, USA. Using immunoperoxidase monolayer assay (IPMA) the biotype of all the samples were identified as non-cytopathic-BVDV.

Biography

Hastari Wuryastuti is a Professor in the Department of Veterinary Internal Medicine, Gadjah Mada University in Indonesia. She has completed her graduation from Faculty of Veterinary Medicine in 1979 and Masters and Doctor of Philosophy in 1987 and 1989 from Department of Large Animal Clinical Sciences, Michigan State University in USA.

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