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Recent advances in molecular characterization of Bovine herpesvirus-4

Bovine herpesvirus 4 (BoHV-4) is an important viral pathogen negatively affecting the livestock production because of abortion and associated ill effects. BoHV-4 is a member of the genus *Rhadinovirus* in the sub family *Gammaherpesvirinae*, belonging to the family *Herpesviridae*. BoHV 4 can affect cattle, buffalo, sheep, goats, bison and large cats. The property of establishing a latent state in ganglionic neurons after infection allocates the BoHV-4 virus to persist in the body and spread the disease from a latently infected carrier to a non-infected herd. Bovine herpesviruses 4 can generally be transmitted by horizontal and vertical routes. The horizontal transmission occurs by close contact with moist contaminated surfaces, but droplet infections are also common. Vertical transmission via fetal infection occurs during parturition, hence mostly associated with reproductive disorders. Because bovine herpesviruses are highly labile once shed from the body and are readily inactivated by sunlight or drying, milk represents a good candidate as a vehicle for BoHV-4 shedding and transmission. BoHV-4 infection can be diagnosed efficiently by molecular techniques such as PCR, restriction enzyme analysis, detection by probe and Southern hybridization. BoHV-4 has also been isolated by using cell culture propagation, histopathology, serology, PCR, and electron microscopy from animals with symptoms of respiratory and ocular infections, vulvovaginitis, mastitis, abortions, endometritis and even from apparently healthy animals throughout the world. Molecular studies on molecular and phylogenetic analysis are scarce but recent studies showed popularity and reliability on advance molecular techniques. Further, molecular studies on BoHV-4 are warranted and needed to know about virus entry into target cells, viral gene expression inside, DNA replication, and phylogenetic relationship with other related Bovine herpes virus for providing proper protection to susceptible animals against hidden threat of BoHV-4. Considering the unusual rate of spread of the infection related with economic aspects, the current study is addressed to discuss comprehensive diagnostic strategy specifically focusing on new upcoming advances in molecular diagnosis of BoHV-4 in different parts of the world.

Biography

Sharad Kumar Yadav has 28 years of teaching and research experience and has served to various senior positions of the University including Registrar of the DUVASU University. He is currently Professor, Head of Department of Veterinary Microbiology, and Director at Cow Research Institute at DUVASU, Mathura, India. He has published number of papers in reputed International and National journals and has a vast experience in the arena of BHV-I virus.

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