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Epidemiological distribution of the Bovine Viral Diarrhea Virus (BVDV) among small ruminants in Pakistan

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Pestiviruses are distributed globally, causing major economical and animal welfare losses among livestock. Classical species of the genus Pestivirus include Bovine Viral Diarrhea Virus (BVDV) types 1 and 2 and Border Disease Virus (BDV). BVDV and BDV infect predominantly ruminants. The aim of this study was to determine the distribution of pestiviruses among small ruminants in Balochistan province, Pakistan. A total of 800 ovine and 800 caprine serum samples were taken in 2016 and analyzed by a panpesti real-time RT-PCR. Twenty-one (3%, CI: 1.63%-3.98%) out of 800 goats tested positive, while in one out of 800 sheep samples viral genome could be detected. In 15 of the 21 caprine sera BVDV type 1 was identified, while from six samples the virus species could not be determined. The PCR-positive sheep sample was likewise identified as BVDV type 1. With regard to the geographical distribution, we identified four (15%, CI: 4.18%-33.73%) out of 27 farms positive in Quetta division, one (1%, CI: 0.03%-7.02%) out of 77 farms positive in Zhob division, while no farm was positive in Sibi division. A risk factor analysis showed that farms in Quetta division were thirteen times higher at risk of having BVDV infections compared to Zhob division (OR=13.21, CI: 1.84-265.56, p=0.02). It is pertinent to adopt preventive and control measures in the area to minimize the economic loss to the local livestock industry.

Biography

Khushal Khan Kasi is a DAAD/PhD scholar working under the supervision of Prof. Dr. Franz J. Conraths at Friedrich-Loeffler-Institute, Institute of Epidemiology, Federal Research Institute for Animal Health, Greifswald-Insel Riems, Germany. He is registered in the Freie University Berlin, Germany for the doctoral thesis. He is currently working on the vector-borne zoonotic diseases.

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