

7TH INTERNATIONAL VETERINARY CONGRESS

September 04-05, 2017 | Paris, France

Precolostral detection of Bovine Parainfluenza 3 Virus infection in a dairy herd

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Considering calves are born agamaglobulinemic due to syndesmochorial placenta features that prevent immunoglobulin transfer to the fetus from the dam, precolostral Ab presence is directly results of overcome in-utero infection. In this study, samples were obtained from a dairy cattle enterprise which was established nearly 10 year before the sampling, located in Afyonkarahisar province, Central Anatolia. More than 1.500 animal in different age groups having been breeding in closed system intensive breeding management. Number of fertile cows was approximately 1.100. Blood serum samples were has been collected just after the birth from 123 dams and their precolostral calves simultaneously, nearly in three month period.

All of the sampled animals were clinically normal during sampling. According to regular health reports of the herd, diarrhoea and pneumonia in calves and different reproductive problems and mastitis problem in cows were increased especially in last one year. For the detection of BPI3V specific antibody existence, micro virus neutralization test was carried out using SF-4 as a control virus. 1/5 above dilutions was accepted as a positive.

BPI3V specific Ab was found to be 119 of 123 dams (96.7%). Ab titers showed regular bell curve distribution's peak point was 1/20 and 1/40 interval. A slight increase was observed from 1/80 dilution point. Out of their precolostral calves, 31 (25.2%) was Ab positive between 1/5 and 1/80 titer values. Average Ab titer level was higher in the dams of precolostrally positive calves as a result of infection in latest months as can be expected.

Current veterinary practice is based on preventive objective of the diseases which is crucial for intensive dairy breeding enterprises. Precolostral Ab controls of neonates can be preferred as a useful tool for detecting very recent circulated infections to figure out near risks.

Biography

Ayşe Gencay working as Faculty of Veterinary Medicine, Department of Virology, Erciyes University, Turkey. Her experience includes various programs, contributions and participation in different countries for diverse fields of study. Ayşe Gencay research interests reflect in her wide range of publications in various national and international journals.

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