Evaluation of the Infectious Bovine Rhinotracheitis Frequency in Aborted Bovine Fetuses over a Seven-Year Period In North-East of Iran

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IBR is a highly contagious disease caused by the bovine herpes virus-1 (BoHV-1), resulting in significant livestock losses globally. BoHV-1 is a major pathogen of cattle, primarily associated with respiratory and genital tract infections, as well as abortion. Worldwide, abortion rates due to IBR range from 5% to 60% in nonvaccinated herds, with the highest occurrence during the latter half of gestation, leading to substantial economic losses. Diagnostic tools for IBR include fluorescent antibodies, immunohistochemistry, polymerase chain reaction, and virus isolation. In Iran, the reported seroprevalence for BHV-1 using ELISA is 60-70%, although there is no reported percentage for the PCR method. This highlights the need for further research into the frequency rates of the disease. Our survey aims to evaluate the incidence of IBR abortion in cattle in the Khorasan-e-Razavi province over seven years.In this research, a total of 618 bovine aborted fetuses were collected from 2018 to 2024, and genomic DNA was extracted from their liver samples. The assay relied on nested PCR to amplify the viral thymidine kinase (tk) gene fragment. Confirmation of BoHV-1 detection was achieved by obtaining a 202 bp band from the samples. The result revealed that 84 samples tested positive, as detailed in the table below.According to the results of the chi-square test, the variation in positive cases across different years is statistically significant ($p < 0.004$).Based on the findings of the current study, health authorities and cattle owners should consider implementing prevention and control programs such as vaccination, prevalence studies, and biosecurity measures due to the high frequency of BoHV-1.

Keywords: Infectious Bovine Rhinotracheitis, abortion, PCR

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