

Factor influences for diagnosis and vaccination of avian Infectious bronchitis virus (gammacoronavirus) in chickens

ABSTRACT

Infectious bronchitis virus (IBV) is a major economic problem in commercial chicken farms with acute multiple-system infection, especially in respiratory and urogenital systems. A live-attenuated and killed vaccine is currently immunized to control IBV infection; however, repeated outbreaks occur in both unvaccinated and vaccinated birds due to the choice of inadequate vaccine candidates and continuous emergence of novel infectious bronchitis (IB) variants and failure of vaccination. However, similar clinical signs were shown in different respiratory diseases that are essential to improving the diagnostic assay to detect IBV infections. Various risk factors involved in the failure of IB vaccination, such as various routes of application of vaccination, the interval between vaccinations, and challenge with various possible immunosuppression of birds are reviewed. The review article also highlights and updates factors affecting the diagnosis of IBV disease in the poultry industry with differential diagnosis to find the nature of infections compared with non-IBV diseases. Therefore, it is essential to monitor the common reasons for failed IBV vaccinations with preventive action, and proper diagnostic facilities for identifying the infective stage, leading to earlier control and reduced economic losses from IBV disease.