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Musosal vaccination of canine influenza H3N2 virus and comparison of efficacy with conventional vaccines

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In the last 4 years, incidences of endemic or epidemic respiratory diseases associated with avian origin-canine influenza virus (CIV) H3N2 in Asian dogs have been reported in countries such as South Korea and China. Transmission of CIV H3N2 to dogs had been reported and since then the virus infection across South Korea has been occurred repeatedly in the country's animal clinics and kennels. Dog-to-dog transmission of the virus had also been experimentally demonstrated by direct contact. Canine species were considered to be the new natural hosts for this virus. In previous study, immunogenicity and protective efficacy against challenge exposure of the formalin-inactivated H3N2 influenza virus vaccine with a synthetic polymer adjuvant has been investigated in beagle dogs. The vaccinated animals did not show any clinical signs and showed milder pathological lung lesions and shorter shedding duration with lower loads than controls. These results indicated that the synthetic polymer-adjuvant avian-origin canine influenza virus (CIV) vaccine had produced antibody response and protection from avian-origin CIV challenge in dogs. In this study, nasal vaccination with inactivated CIV H3N2 or M2e protein was tried in dogs. And the efficacy of mucosal vaccine using whole virion or M2e protein was compared with conventional vaccines after virulent challenge exposure by analyzing the criteria including nasal shedding, histopathology, serology, and clinical signs.

Biography

Daesub Song has completed his Ph.D at the age of 27 years from Seoul National University. He is the senior researcher of Viral Infectious Disease Research Center in Korea Research Institute of Bioscience and Biotechnology. He has published more than 40 papers in reputed journals. His main research projects are focused on interspecies transmission of influenza viruses and development of animal vaccines.