

**Effect of NOBIVAC<sup>®</sup>KC (Intervet Inc.)  
against Canine Infectious Tracheobronchitis**

Young-Il Park, Jin Wen, Kwang Jeong, Hyuk-Moo Kwon and Jeong-Hee Han

*Department of Veterinary Medicine, Kangwon National University*

Canine infectious tracheobronchitis (CIT) is a highly contagious respiratory tract disease of dogs. It has been appeared that Bordetella bronchiseptica(Bb), canine parainfluenza - 2 virus(CPi) to be the most significant organisms recovered as the main etiological agents. Intranasal(IN) vaccination is simple and safe means of immunizing dogs. The purpose of this study was to investigate protective effects against Bb and CPi challenge exposure in puppies by nasal administration of NOBIVAC<sup>®</sup>KC(Intervet Inc.). Eight puppies, 5 weeks old, were allotted to the vaccinated group and control group. The vaccinated group was administered with a volume of 0.4 ml of the vaccine in one nostril and experimentally challenged with Bb and CPi after 2 weeks of vaccination. The control group was experimentally challenged with the same dose of Bb and CPi. After challenge, microagglutination test against Bb and serum neutralization test against CPi were examined and isolation of Bb and CPi from nasal swab was performed. Clinical signs was checked daily during experimental period (2 weeks). Two puppies were necropsied from each group at 1 and 2 weeks after challenge, respectively. And gross, histopathological, and immunohistochemical (for CPi antigen) findings were evaluated. The vaccinated group showed higher antibody titers than those of control group and sustained during the experimental period. The isolation of Bb and CPi in the vaccinated group was taken shorter period than those in the control group. In clinical signs, the control group appeared the typical findings of tracheobronchitis (coughing, nasal and ocular discharge), but the vaccinated group showed delayed incidence and mild clinical signs. In gross findings, the control group appeared the typical findings of rhinitis, tracheitis, and pneumonia, but the vaccinated group showed milder than the control group. In histopathological findings, the control group appeared the typical findings of rhinitis, tracheitis, bronchopneumonia, and interstitial pneumonia, but the vaccinated group showed milder than the control group. In immunohistochemical findings, the vaccinated group showed little intensive in reaction for CPi antigen than the control group. It could be concluded that NOBIVAC<sup>®</sup>KC is effective to prevent CIT.

Corresponding author : Jeong-Hee Han (033-250-8657, E-mail : hanjh@kangwon.ac.kr)