

Co-infection of Canine Distemper Virus and *Toxoplasma gondii* in Dog.

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Introduction

Canine distemper virus (CDV) is a member of the genus *Morbillivirus* and the family *Paramyxoviridae* [3]. CDV is known to induce immunosuppression in affected animals by disrupting both humoral and cellular immunity [3]. This often results in secondary opportunistic infections. Activated toxoplasmosis develops in dogs whose immune systems have been damaged by CDV [3].

Materials and Methods

A 3-month-old male dog, kept in outdoor in Jeju, Korea, developed clinical signs that included anorexia, soft stool, oculo-nasal discharge, coughing and dyspnea. The dog was unresponsive to antibiotics and fluid therapy and died. After death, the dog was submitted to the School of Veterinary Medicine, Cheju National University, for post-mortem examination. Representative tissue specimens were collected, fixed in 10% neutral phosphate-buffered formalin, routinely processed and stained with hematoxylin and eosin (HE) for light microscopic examination. PCR and RT-PCR were performed to detect the causative agents using DNA and RNA extracted from the formalin-fixed tissues [1, 2].

Results

At necropsy, significant gross findings were noted mainly in the lung. The trachea and bronchi contained large amounts of foamy liquid. Cranioventral portions of the anterior and cardiac lung lobes were greyish-brown and consolidated. Histopathologically, the pulmonary lesion was characterized by diffuse bronchointerstitial pneumonia with lots of eosinophilic intracytoplasmic inclusion bodies in bronchiolar epithelium and dot-like organisms in alveolar macrophages. Multifocal necrotic encephalitis and demyelinating encephalitis were presented in the brain. According to PCR methods both CDV and *Toxoplasma gondii* were detected in lung and brain samples.

Discussion

In our knowledge, this is the first report for the co-infected case of CDV and *Toxoplasma gondii* of dog in Korea.

References

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