عنوان مقاله:

Molecular Detection of Canine Distemper Virus Among Dogs Showing Neurologic and Non-neurologic Forms of Disease

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خلاصه مقاله:

Background: Canine distemper (CD) is the dogs' most contagious and lethal viral disease. Despite the widespread use of vaccines to control CD, the prevalence of the CD virus (CDV) has increased at an alarming rate in recent years. Objectives: To identify the genotypes responsible for the neurological and non-neurological clinical forms of CD and to investigate the presence of the virus in the neurological and non-neurological forms of the disease. Methods: In this descriptive-analytical study, the samples were collected from ۷۰ CD suspected unvaccinated dogs with clinical signs of distemper. All cases were tested with rapid tests and separated into ۳ groups based on clinical signs and symptoms. Cerebral spinal fluid (CSF), respiratory secretion, and fecal samples of allall ۷۰ cases were examined for reverse transcription polymerase chain reaction (RT-PCR). After sequencing the hemagglutinin gene (H gene), phylogenetic analysis of the gene isolated from CDVs was carried out using MEGA software, version ۷. Results: The RT-PCR results showed that the respiratory secretion sample in the non-neurological CDV group (۸۵%) and the neurological CDV group (۸۰%) had the highest level of virus contamination. However, in the non-neurological CDV group, the CSF sample (۴۰%) had a high level of infection. In neurotic groups, cases older than ۱۲ months showed the highest percentage of distemper contamination, and in the non-neurologic CDV group, those between ۳ and ۶ months were more involved. Sequencing and phylogenetic analysis of the H gene revealed the CDV as a member of the endemic Arctic-like genetic lineage. Conclusion: The genotypic examination of the hemagglutinin gene of the distemper virus reveals that the recent isolates of neurologic and non-neurologic clinical forms of CDV in Iran are similar. In positive rapid test cases, the PCR test of respiratory secretions for virus detection ranks with the highest sensitivity. In neurologic cases with negative rapid test results, PCR of CSF had the highest sensitivity, so it may serve as a diagnostic criterion.

کلمات کلیدی:

distemper, Dog, Hemagglutinin, Cerebrospinal fluid, Neurologic, Non-neurologic