DEVELOPMENT OF AN AUXILIARY PROGNOSTIC TOOL FOR FELV INFECTED CATS

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The Feline Leukemia Virus (FeLV) is a retrovirus that primarily infects domestic cats, causing clinical signs related to immunosuppression and neoplasms. It is divided into six genetic and phenotypic subgroups, whereas the FeLV-A is the most identified and the FeLV-B is usually more pathogenic; the other subgroups have been detected sporadically (FeLV-C, FeLV-D, FeLV-T, FeLV-TG). Rapid immunochromatography and ELISA are the most used tests for the diagnosis of FeLV. However, even with the rapidity in the results, they only report the presence or absence of a viral antigen and are not able to distinguish subgroups. Polymerase chain reaction (PCR) is a sensitive diagnostic test that detects the presence of viral genetic material and can be developed to perform a DNA differentiation (multiplex PCR) in one sample. The objective of this study was to develop a multiplex PCR that would aid in the prognosis of FeLV-infected cats, differentiating viral subgroups. First, a pair of pan-FeLV primers (specific oligonucleotides) was designed to detect any FeLV, independently of the subgroup. Then, all DNA sequences from the complete genome were obtained from an online database of genetic data (GenBank). Subsequently, specific pairs of primers were designed to identify each subgroup; all viral envelope (env) gene sequences were obtained from GenBank. The sequences were submitted to DNA alignments and phylogenetic analyzes to classify sequences in viral subgroups. Thereat, it was possible to identify a conserved genome region of all FeLV, besides the peculiar regions of each subgroup and then design specific primers for each. These primers were submitted to *in silico* analysis to confirm their specificities and characteristics. Four pairs of primers amplifying different fragment sizes (ranging from 146 to 500 base pairs) were designed, consequently constituting a multiplex PCR. The prospect is to obtain a multiplex PCR with good efficiency, sensitivity and specificity. This PCR has been standardized based on reaction characteristics and will allow, in a single reaction, the identification of the infecting viral subgroup as an auxiliary prognostic tool.

Palavras-chave: Diagnosis, Treatment, Primers

Apoio: UCS, outros