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Overexpression of enhancer of zeste human homolog 2 (EZH2) gene in human cytomegalovirus positive glioblastomamultiforme tissues

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Glioblastomamultiforme (GBM) is considered to be one of the deadliest human cancers, characterized by a high proliferative rate, aggressive invasiveness and insensitivity to radio- and chemotherapy, as well as average survival is less than one year. On the basis of published data, there is sufficient evidence to conclude that HCMV DNA, mRNA, and/or antigens exist in most glioblastoma tissues. HCMV could modulate the malignant phenotype in glioblastomas by interacting with key signaling pathways that involve in apoptosis, angiogenesis, invasion and immunoevasion; including PDGFR, PI3K/AKT, STAT3 and GSK-3b. Existing evidence supports an oncomodulatory role for HCMV in glioblastoma, in this study need to focus on determining the role of HCMV as a glioblastoma-initiating event in PI3K/AKT pathway. *EZH2* is a marker of PI3K/AKT pathway so we decided to evaluate the expression of this gene in 3 groups: Negative HCMV glioblastomamultiformetissus, positive HCMV glioblastomamultiformetissus and non tumor tissues. The presence of Human Cytomegalovirus was assessed according to our previous article. Human Cytomegalovirus was present in 75% of glioblastoma tissues. Then RNA was extracted, cDNA was synthesis and Real-time PCR was performed. Then rate of increased expression was calculated using the Livac or $2^{-\Delta\Delta Ct}$. ΔCt of samples in the three groups were compared using ANOVA (Analysis of Variance). Expression of *EZH2* gene relative to *GAPDH* gene in HCMV negative glioblastoma tissues were increased 6.053 times compared to non-neoplastic brain tissues. Expression of *EZH2* gene relative to *GAPDH* gene in HCMV positive glioblastoma tissues were increased 41.098 times compared to non-neoplastic brain tissues. ANOVA test showed that the difference of mean ΔCt for *EZH2* gene between healthy subjects and patients with HCMV positive glioblastomatumor and HCMV negative glioblastomatumor is statistically significant (p-Value = 0.0001).

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Efficacy of a combination of two nucleoside and one non-nucleoside reverse transcriptase inhibitors in feline immunodeficiency virus-naturally infected cats, during the asymptomatic and AIDS stages of the disease

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The aim of this study is to report the comparative results of using combined antiviral drugs on naturally-infected FIV cats in the asymptomatic and AIDS stages of the disease. The drug combinations evaluated were: ZDV alone and ZDV+3TC+Nevirapine. Plasma viral load was measured at the beginning of treatment and at one year. Total leucocytes, neutrophils and lymphocyte counts, CD4+/CD8+ ratios and biochemical profile values were also analyzed. Neurological disease was evaluated by evoked potentials determinations. The results showed a better efficacy of the combined therapy vs. ZDV alone, reducing the viral load, increasing the CD4+/CD8+ ratio and producing the improvement of the clinical signs in the asymptomatic stage. In the AIDS stage the differences between both protocols were not so marked, but the combined therapy produced better results compared with ZDV alone. The auditory and visual evoked potentials resulted good as predictors of the neurological disease and showing the evolution of the patients with both protocols contrasted.

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