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### Latent Herpes virus infection cognitive deterioration and dementia

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Recently genome wide association (GWA) investigations were performed in Alzheimer diseases (AD) and a limited set of genes associated with the disease were found. We hypothesized that the association of these genes with AD could be suggestive of a pivotal role of herpes virus infections in the pathogenesis of the disease. Blood samples of AD and control (CTR) subjects from the Conselice's Longitudinal Study on aging for the DNA presence and serological positivity to CMV, HHV-6 and EBV were investigated. Virus positivity in brain specimens from a third cohort of AD was also detected. Leukocyte positivity for EBV or HHV-6 and IgG serum levels specific for CMV and EBV antigens were increased in AD patients. Moreover, EBV and HHV-6 positivity along with increased CMV or EBV IgG levels were increased in those elderly who developed clinical AD during the 5 year follow-up. Finally, EBV and HHV-6 DNA positivity in AD brains was detected, and virus frequency was increased in AD patients with the APOE 4 allele. Virus mRNAs specific for latency proteins in brain samples from AD patients are also under investigation. Our findings support the notion that alternating cycles of latency and reactivation phases of these viruses may contribute to impair systemic immune response and by inducing altered inflammatory process affect cognitive decline during aging and progression to AD.

#### Biography

Federico Licastro graduated in Medicine in 1977 at the University of Bologna and specialized in Pediatrics in 1980. He won an appointment of Associate Professor of General Pathology in 1984 and in 1987 a second position of Associate Professor of Immunology at the Medical School of the University of Bologna, Italy. He is author and co-author of 261 scientific articles (162 with impact factor and on Pub Med;) and 310 abstracts of scientific meetings. Most papers were focused on immune impairment in subjects with Down syndrome and AD and genetic risk factors in dementia.

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