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Abstract (publication only)

Quantification of Epstein-Barr virus (EBV), Human Herpesvirus 6 (HHV6) and cytomegalovirus (CMV) DNA in gastrointestinal biopsies from HIV-1 positive patients

F. Falasca, P. Maida, A. Gaeta, L. Mazzuti, M. Minervino, G. Donato, I. Mezzaroma, G. Antonelli, O. Turriziani* (Rome, IT)

Introduction: The Herpesviruses (HHVs) are ubiquitous viral pathogens that cause significant morbidity and mortality immunodeficient patients. The persistence of these viruses has been described in several tissues including stomach, intestine and colon. It is known that viral reactivation from such reservoirs may induce disease in immunocompromised individuals. Then, in this study the presence of EBV, HHV6 and CMV was investigated in HIV1- positive patients. Methods: EBV, HHV6 and CMV DNA quantification was undertaken on 26 gastrointestinal biopsy samples (stomach, duodenum or colon) from 18 HIV-positive (HIV+) patients. The same viruses were also evaluated on 16 gastro-duodenal and colon biopsy specimens from 12 HIV-negative (HIV -) patients with gastrointestinal symptoms. Extracted DNA was analyzed for the presence of HHVs by TaqMan real time PCR using current criteria. Statistical analysis was undertaken using Chi Square test. Results: Viral-DNA was found in 17/18 (94%) HIV+ and in 8/12 (66%) HIV- patients (p=0.003). EBV-DNA was detected in: 6/9 gastric biopsies from HIV+ and in 4/10 from HIV(-) subjects (p=0.242); in 5/8 duodenal biopsies from HIV+ and in 1/4 from HIV- individuals (p=0.273); in 6/9 colon biopsies from HIV+ and in 0/2 from HIV- individuals (p=0.182). HHV6-DNA was detected in: 6/9 gastric biopsies from HIV+ and in 1/10 from HIV- subjects (p=0.017); in 6/8 duodenal biopsies from HIV+ and in 1/4 from HIV- patients (p=0.152); in 6/9 colon biopsies from HIV(+) and in 2/2 from HIV seronegative (p=0.509). The EBV/HHV6 coinfection was detected in 10/18 HIV+ while no coinfection was observed in HIV seronegative individuals (p=0.003). We never found CMV-DNA in both analysed group of patients. Conclusions: These results suggest that HHVs such as EBV and HHV6 can persist more frequently in the gastrointestinal mucosa of HIV + patients. The immunosuppressed state, due to HIV1-infection, might contribute both to the persistence of these viruses in gastrointestinal compartment and to the systemic reactivation. These preliminary results should be confirmed on a larger number of samples.