OMICS Group Conferences
Accelerating Scientific Discovery
3rd World Congress on Virology
November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, USA

The study of bacteria and yeasts in HIV-positive patients

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Abstract

Recently accumulate the records, which show that the main site of HIV infection and $CD4^+$ T cell loss is in the GIT and other mucosal tissue rather than in blood. The HIV-1 was also detected in bowel crypt cells and the lamina propria. It has also been proven that various forms of HIV reservoirs persist in practically all patients receiving HAART. Persistence of HIV was also detected in GALT despite HAART. Sequences homologous to 90% with the corresponding sequences of HIV-1 have been found in bacterial DNA isolated from the intestinal tract of American and Slovak HIV/AIDS patients and from respiratory tract of Cambodian and Kenyan HIV positive children. In bacterial extracts of all cohorts of patients were using monoclonal antibodies against HIV-1 antigens p17, p24, gp41 and gp120 identified HIV-like proteins. Based on these results the presence of HIV sequences in bacteria of the patients may be hypothetically explained as follows: 1) HIV was transferred into intestinal bacteria from degraded human cells; 2) intestinal bacteria are a natural host of HIV sequences. The symbiosis of eukaryotic and prokaryotic kingdoms, present in the human body, was disrupted in the second half of the 20th century due to antibiotics, drugs and life style. These factors caused that pathogenic microbes, mostly multiresistant, that used to be in the minority shifted into the majority. Microbes bearing HIV-like genetic information penetrate from the intestinal tract into the blood. Because of their affinity to lymphocytes, infected or lysed them and a process of immunodeficiency started.

Biography

Vladimir Zajac has completed his PhD. in 1982 at the Cancer Research Institute of Slovak Academy of Sciences in Bratislava (Slovakia), where he was from 1996 to 2010 the head of Department of Cancer Genetics. He joined the Medical Faculty of the Comenius University as Associate Professor of Genetics in 2007. He has published 56 papers mostly in reputed journals and he was editor of the book „Bacteria, viruses and parasites in AIDS process“ (InTech).