IMMUNE RESPONSE INTENSITY AND SPECIFICITY BASAL ACTIVITY IN PATIENTS WITH HHV-6 INFECTION

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Introduction

Cytidine deaminase (CDA) and adenosine deaminase (ADA) both plays great role in T- and B-lymphocytes growth and proliferation: CDA regulates somatic hypermutation and class-switch recombination for immunoglobulin genes during B- lymphocytes development and specific immune response; ADA is strong T- lymphocytes proliferating factor and pro-inflammatory cytokine. Human herpesvirus (HHV)-6 is new intensively investigated T-lymphotrophic patogen with propensity to chronic persistention.

Research goals

The main research goal was to compared basal serum CDA and ADA levels in HHV-6 infected patients with normal subjekts and HIV-infected patients. HHV-6, as HIV, can cause immunodeficient state mainly by T-cell lesion. Opposite, immune deficient state may provoke HHV-6 chronic persistation.

Results

We measured CDA and ADA basal levels in 11 patients with HHV-6 infection (4 with acute form and 7 with chronic persistens) by indophenolic colorimetric test with 1 h incubation for ADA and long-term (18 h) incubation for CDA. For comparison we evaluated enzymes activity levels for healthy subjects (n=10 for ADA and 33 for CDA) and large cohort (n=76) of HIV-infected patients with known levels of viral load. CDA measurement after long term incubation with 1 to 10 serum/substrate ratio usually expressed in not high activity levels. So, was observed decreasing in basal CDA as for HHV-6 (0,70±0,43 IU/l), as HIV (0,54±0,21 IU/l) patients versus healthy individuals (1,82±0,36 IU/l). Opposite, ADA activity in healthy group rewiled as 9,06±3,93 IU/l is less, then HIV-infected (13,59±2,26 IU/l). Unexpectedly, ADA levels in HHV-6 patients characterized by low value (4,76±2,14 IU/l). Moreover, 3 from 11 has no ADA activity at all (two with acute form infection). Usually ADA ranged widly from 6 to 20 IU/l with tendensy to increase, but negative values are extremely rare, espessially during acute infection.

Conclusions

Finding was that in HIV patients ADA not only enlarge than in normal subjects, but above. On the contrary ADA in HHV-6 patients reviled low values. In the future necessary to establish whether the reason for the decline is virus itself or constitutional low ADA is risk for HHV-6 infection.