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Change of Cd4 Count, Hsp70 and Anti-Hsp70 Levels in Hiv Patients

Abstract

The T-CD4 decreased in HIV/AIDS infection through the Heat shock protein 70 (Hsp70) mediated pathway is still unclear. The objective of this study was to disclose the exchange of CD4 count, Hsp70 and anti Hsp70 level in HIV patients.

Methods: Fourteen HIV/AIDS infected patients taken by simple random sampling were enrolled in this research. Fourteen persons having a high risk of HIV infection, but still non-reactive, as revealed in HIV serology test, served as control. All subjects and controls were subjected to three-times examinations for CD4 count, Hsp70, anti Hsp70 level. The first examination (day 0) was done two hours after the signing of informed consent while the patients still did not know about their HIV infection status. The second examination (day 7) was carried out when the patients were in acute stress condition after HIV infection diagnosis was informed at the third examination (day 31). The results of this research were analyzed by multivariate analysis. Results: The first examination revealed that CD4 decreased both in HIV infection and non-HIV infection group of less than 1000 cells/mm3. The decrease progression in the HIV group is faster than that in non HIV infection. This study demonstrated that in HIV infection group Hsp70 had a higher level than that in non HIV infection. The result of the second examination showed that besides the difference of CD4 count in two groups, Hsp70 level increases. It was not only stimulated by biological stress HIV to lymphocytes, but also to other immune cells. Hsp70 level in the second examination was higher than that in the first examination. The result of the third examination revealed that Hsp70 and anti Hsp70 level could be readily produced in large amount and it is enhanced by the CD4 expression cells from the two groups. Hsp70 level increased significantly in HIV group, more than that in non HIV infection at day 31. Hsp70 level in HIV group tended to increase from first, second and third examinations. This research demonstrated a trend of increasing Hsp70 level from acute to chronic stress in HIV infection. In conclusion, HIV not only contributes to T-CD4 lymphocytes depletion, but also stimulates production of Hsp70, a cytoprotection mechanism from stressor in microenvironment.

Keyword : HIV, CD4, count, Hsp70, anti, Hsp70,

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