

ORAL PRESENTATION

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Toll like Receptors (TLRs) expression in HIV children

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From 2nd International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2014)
Chennai, India. 30 January - 1 February 2014

Background

Immune activation plays vital role in HIV infection and further progression to AIDS, with TLRs primarily involved in this mechanism.

Methods

Twenty eight children with HIV in age group of 18 months-14 years attending anti retroviral clinic and 17 healthy children as controls were included in the study. WHO clinical staging, CD4+ count and Toll like receptors (TLRs) 1, 7, 8, 9 expressions from PBMC (peripheral blood mononuclear cells) were studied and correlated with various parameters.

Results

Mean age of study population was 8.08 ± 3.41 years. 75% of patients were in WHO clinical stage I and II, whereas 25% in stage III. 29% HIV children had severe immunosuppression. TLR-1 showed neutral expression in majority (96%) of HIV children. For TLR-7, 53.5% HIV children showed upregulation, whereas 32% and 14.5% showed downregulation and neutral expression, respectively. TLR-8 expression was downregulated in majority (93%) of HIV children. TLR-9 was upregulated in 29% of patients, whereas 71% had neutral expression. Of all the TLRs studied, only TLR-9 had correlation with WHO clinical stage 3 and severe immunosuppression. No correlation of TLR expression was found with age, nutritional status and ART status of patients.

Conclusion

Expression pattern of TLR-7 was similar to adult patients with HIV. ART had no effect on expression profile of TLRs. Children with severe immunosuppression had significant up regulation of TLR-9. Similar correlation was not observed with TLR-1, 7 and 8. Altered expression

pattern of TLR might have implications for disease progression in HIV infection.

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Published: 27 May 2014

doi:10.1186/1471-2334-14-S3-O10

Cite this article as: Madeshwaran et al.: Toll like Receptors (TLRs) expression in HIV children. *BMC Infectious Diseases* 2014 **14**(Suppl 3):O10.

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