

EPOSTER PRESENTATION

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Assessment of oxidative stress parameters in HIV infection

Shreewardhan Rajopadhye^{1,2*}, A Rosalind Marita¹, MA Ansari³, Abhay Chowdhary¹, Sucheta Dandekar²

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Background

Both viral and host factors are responsible for oxidative stress in HIV disease, which in turn activates the replication of HIV provirus by various pathways. Oxidizing stress is a pathologic phenomenon resulting from imbalance between the system producing active oxygen species and those defending the organism. The present study was aimed to assess oxidative stress markers in HIV patients.

Methods

The study included 30 HIV sero-positive patients, 30 healthy volunteers served as controls. Patients were categorized on the basis of their absolute CD4 counts into 3 groups - Group-1 (>500 CD4 cells/mm³), Group-2 (200–499 CD4 cells/mm³), and Group-3 (<200 CD4 cells/mm³). Lipid peroxidation was estimated using serum malondialdehyde as a marker, serum nitric oxide levels were assessed by Griess reagent method, serum reduced GSH by Beutler *et al*, serum C reactive protein, serum AOPP by Witko Savark method and serum proteins by Bradford method. Statistical analysis was done using the Student's t test and one-way ANOVA.

Results

Significant decrease ($p < 0.004$) in GSH levels and significant increase ($p < 0.0008$) in NO levels was observed in HIV infected group when compared to controls. However, no significant changes were found in levels of AOPP, MDA, and CRP in the study groups. Significant increase ($p < 0.0001$) in MDA levels in group 3 and in GSH levels ($p < 0.0395$) in all 3 groups was seen as compared to controls.

Conclusion

The findings indicate that considerable amount of oxidative stress are induced and changes in NO and GSH levels may contribute to the immunopathophysiology during HIV infection.

Authors' details

¹Department of Biochemistry, Haffkine Institute, Mumbai-400012, Maharashtra, India. ²Department of Biochemistry, Seth G.S. Medical College & KEM Hospital, Parel, Mumbai-400012, Maharashtra, India. ³Department of Pathology, Seth G.S. Medical College & KEM Hospital, Parel, Mumbai-400012, Maharashtra, India.

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* Correspondence: shrajopadhye@gmail.com

¹Department of Biochemistry, Haffkine Institute, Mumbai-400012, Maharashtra, India

Full list of author information is available at the end of the article