Neutropenia and Anemia among HIV infected adults on Zidovudine containing antiretroviral therapy in Kangemi - Kenya

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INTRODUCTION

The use of antiretroviral drug combination regimen containing Zidovudine for treatment of HIV/AIDS infected adults pose a significant challenge. Zidovudine, a non-nucleoside reverse transcriptase inhibitor causes bone marrow suppression and is therefore associated with the resulting haematological adverse events.

The extent of the adverse events among Kenyan adult population using this combination treatment has not been described. This study examined the prevalence and incidence of neutropenia and anaemia among a cohort of adult HIV/AIDS patients on Zidovudine containing antiretroviral treatment regimen, in Nairobi-Kenya.

METHODS

A cohort of 72 HIV infected adults on an antiretroviral treatment combination consisting of Zidovudine 300mgs twice a day, Lamivudine 150mg twice a day plus Nevirapine 200mgs twice a day or Efavirenz 600mgs twice a day were enrolled into the study. All the patients were on cotrimoxazole 960mgs daily for prophylaxis. Patients had complete blood count and CD4/CD8 cell count at baseline and at six weeks after initiation of treatment.

RESULTS

Prevalence of anaemia was 34.5% (n=72) (cut-off Hb Male<13.0 and females<12.0) and that of neutropenia was 35.9% (n=72) (cut-off<1500 cell/ul). Incidence rate of anaemia and of neutropenia at six weeks was 1.2 per person year and 4.6 per person year, respectively. Anaemia was generally associated with CD4 level count of <250 (OR=5.0) while neutropenia was not (OR=1.1). Cotrimoxazole prophylaxis was a risk factor for anaemia (OR=3.2, p=0.019), but not for neutropenia (OR=1.06, p=0.907). Female patients were 1.44 times likely to develop anaemia than male patients within the study group.

DISCUSSION

Gender, CD4 cell count and cotrimoxazole prophylaxis were not a risk factor for the development of neutropenia in this study. However CD4 cell count of less than 250 cells /ul was a risk factor for development of anemia. This observation concurs with other observations as reported elsewhere hence the need of evaluation of CD4 levels before initiation of therapy with Zidovudine based regimen of HAART.

CONCLUSION

Anemia and neutropenia occur early in patients on antiretroviral treatment regimen containing Zidovudine. Our study indicates that cotrimoxazole is a risk factor of anemia. More studies are required to establish this finding.

ACKNOWLEDGEMENTS

We wish to acknowledge all the volunteers, the clinic and laboratory staff of Kenya AIDS Vaccine Initiative, clinic staff of the Kangemi Health Center who participated in these study and for their support.