

Poster presentation

Effect of antiretroviral therapy on homocysteine plasma concentrations in patients with AIDS

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from Ninth International Congress on Drug Therapy in HIV Infection
Glasgow, UK. 9–13 November 2008

Published: 10 November 2008

Journal of the International AIDS Society 2008, **11**(Suppl 1):P108 doi:10.1186/1758-2652-11-S1-P108

This abstract is available from: <http://www.jiasociety.org/content/11/S1/P108>

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Purpose of the study

Antiretroviral (ARV) therapy is currently associated with longer survival and improved quality of life in AIDS patients. Several complications related to these drugs have been recently published, specifically thrombotic events. Hyperhomocysteinemia is an independent risk factor for atherothrombosis and venous thrombosis. Therefore, we aimed to determine the effect of ARV therapy on homocysteine plasma levels in patients with AIDS.

Methods

We included adult patients with HIV-infection naive for ARV drugs. ARV regimens were selected by the attending physician according to the DHHS Adult and Adolescents Treatment Guidelines criteria. Before and after 6 months of ARV treatment, we evaluated fasting and post oral methionine load (OML) plasma homocysteine, vitamins B6 and B12, and intra-erythrocyte and serum folate levels.

Summary of results

We studied 69 AIDS patients who started ARV therapy during a 6-month period (Table 1). Mean fasting homocysteine levels increased significantly with respect to basal values ($p < 0.001$) although hyperhomocysteinemia was present in 12.8% and 14.2% of patients before and after treatment ($p = 0.7$). As compared with basal values, post-OML homocysteine increased significantly after 6 months of therapy ($p < 0.001$) and post-OML hyperhomocysteinemia was present in 34.2% and 94.2% of patients before and after ARV treatment ($p = 0.001$). Plasma

homocysteine, either fasting or post-OML, rose after 6 months of treatment independently of the ARV regimen.

Conclusion

Hyperhomocysteinemia, mostly that uncovered post-OML, is a frequent condition associated with ARV treatment.

Table 1: Serum concentrations of vitamins B6 and B12, serum and intra-erythrocyte folate levels, and plasma homocysteine concentrations in patients with AIDS before and 6 months after ARV therapy.

Variable	Before ARV		After 6-months ARV		P
	Mean	SD	Mean	SD	
Vitamin B6 (pg/mL)	51.28	24.08	49.5	19.04	0.80
Vitamin B12 (pg/mL)	875.89	491.38	891.92	471.71	0.79
Serum folic acid (ng/mL)	5.89	2.31	4.96	1.51	0.008
Intra-erythrocyte folate (ng/mL)	365.9	131.19	316	77.27	0.013
Fasting homocysteine (micromol/L)	7.92	3.40	9.02	2.96	0.001
Post-OML homocysteine (micromol/L)	24.88	14.63	36.09	16.17	0.001

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