Reviewer’s report

Title: Higher pre-infection vitamin E levels are associated with higher mortality in HIV-1-infected Kenyan women: a prospective study

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Reviewer: Pierre CORBEAU

Reviewer’s report:

In this manuscript, S. M. Graham et al. established a correlation between pre-HIV infection vitamin E level in blood on one hand, and viral load 4 to 24 months post-infection and mortality on the other hand.

By contrast they found no correlation between vitamin E level and CD4 slope. This point is somewhat surprising. It is important to make sure that this absence of correlation is not a consequence of the fact that 2 different methods were used to numerate CD4+ T cells. For this purpose, the results obtained with these two methods should be compared. Moreover, the CD4 slopes reported are unexpectedly low. The way these slopes were calculated should be further exposed, and the reasons for their low levels discussed. Finally, did the authors observe a correlation between these CD4 slopes and set point viral load ? And if not why ?

The fact that none of the deaths may be linked to HIV infection is a major drawback. At least, the authors should compare the mortality in their cohort of HIV-infected sex workers with the mortality among their colleagues who did not get infected in order to link these deaths to the infection. Eventhough, in absence of proof that the deaths were due to the infection, it can not be ascertained that pre-infection vitamin E level is correlated with HIV-mediated mortality.

The hypothesis that the link between vitamin E level and set point viral load is the consequence of the inhibition of RANTES production by the vitamin is interesting. It could be directly tested by comparing pre-infection vitamin E and RANTES levels in blood (and/or RANTES mRNA in PBMC).

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.