High rates of non-reactive HIV serology after antiretroviral therapy initiated in acute HIV infection

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ABSTRACT

Non-reactive HIV serology may be a marker of low HIV viral burden. We examined the evolution of HIV antibody in a cohort of individuals treated during acute HIV infection.

METHODS

Patients with rapid suppression of HIV viraemia may represent attractive candidates for future HIV cure research.

RESULTS

Approximately one third of individuals who initiated treatment in AHI maintained non-reactivity to 2G enzyme immunoassay after 24 weeks of follow up. Rapid ART initiation and HIV RNA decline as well as low HIV RNA, multi-drug CD4 at baseline predicted subsequent non-reactivity to HIV serology non-reactivity is likely due to low viral burden, further supporting the benefits of early initiation of ART.

INTERPRETATION AND CONCLUSIONS

15% of subjects initiated combination antiretroviral therapy during acute HIV infection maintained non-reactivity to 2G generated HIV antibody enzyme immunoassay after 29 weeks of follow up. Approximately 20% of subjects also maintains non-reactivity to 4th generation HIV immunofluorescence following 24 weeks of ART in the 234 subjects non-reactive by 2G generation enzyme immunoassay.

Subjects who remain serologically non-reactive following early ART may represent an attractive cohort for further exploration of potential HIV cure strategies.

INTRODUCTION

Non-reactive HIV serology after antiretroviral treatment initiated in acute HIV infection

The SEARCH 010 Study Group includes Nipon Tantibulsuk, Somphetra Rattanamas, Suwitpadudol Uthayap, Pacharoen Eamayong, Nutiya Chenchay, Suwannatrai Pattanothai, Sompong Tippakul, Vinith Nijjot, Rohit S. Cunel, Nantas Tambod, Harinatt Srabok, Sorapita Pamaphuchart, Vatcharion Aunavatcharakul, Nelson Michael, Mark Roth and sodaic Tarranapatra.

BACKGROUND

Recently revised HIV treatment guidelines (the initiation of combination antiretroviral therapy (ART) for all HIV-infected individuals regardless of CD4+ T cell count.

HIV infection was defined by either positive nucleic acid testing (NAT) of 4th generation viral load samples or 3 or 4th generation (2G) enzyme immunoassay (EIA) of 2G reactive samples.

RESULTS

Seroreversion was uncommon. 1 of 28 individuals with reactive 2G EIA at baseline was non-reactive at week 12, but not week 24; 12 of 234 demonstrated transient 2G EIA reactivity at week 12 only.

Patients with rapid suppression of HIV viraemia were 100% non-reactive to 2G enzyme immunoassay. Lower area under the curve for HIV RNA (Figure 2) was found to associate with persistence of non-reactivity by both 2G and 4th generation HIV immunofluorescence at 26 weeks after ART initiation, but not predictive in either case.

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Events were tabulated as the area under the curve of HIV RNA in subjects treated with cART during acute HIV infection (AHI).

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