Loss of HIV Serological Markers Following Early Treatment of Acute HIV Infection

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Study Design Volunteers seeking HIV counseling and testing at the Thai Red Cross AIDS Research Center in Bangkok, Thailand, were enrolled into a 12-week observational study. Molecular data from 33 patients was available and quantified. Plasma samples collected at Weeks 0, 2, and 12 were tested by p24 Ag (RUO), test (Hologic/Gen-Probe Aptima). A total of 33 participants identified at very early stages of infection were included. Serum samples were collected at 3-4 day intervals. Sequential appearance of serological markers was compared to a similar population of untreated acute HIV infected patients.

RESULTS
The rate of appearance of serological markers were evaluated from samples collected from 33 untreated HIV participants after infection detection. Multispot and Western blot assays, respectively. One participant actually screened non-reactive by both assays at 8W.

Table 1. Summary of rates of inhibition, delay or loss of serological marker appearance (s/co) when treatment is initiated at early Fiebig stages. Participants were classified by Fiebig stage at which treatment was initiated. The colors and shading indicate positive signals with shading differentiating between high and low signals.

CONCLUSIONS
Initiation of antiviral therapy at very early stages of infection can prevent, delay or even overcome the emergence of anti-HIV antibody with decreased or delayed emergence of antibodies in plasma even after 12 weeks past first detection of infection. Evolution of anti-HIV antibody was completely inhibitory in 8 of 10 patients treated at very early stages of infection. Sequential serological inhibition was delayed or reduced in 15-52% of patients treated at Fiebig stages I-V. Additional studies investigating initiation of HAART early in the course of infection and impact on the evolution of serological response is warranted.

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