

Negative HIV antibody test and negative viral RNA in a patient with documented HIV infection

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REVISED ABSTRACT

Background

HIV antibody reversion among patients treated with HAART during acute/early HIV infection was reported but reversion of the antibody status together with disappearance of HIV RNA and negative HIV culture four years after stopping HAART was not yet reported in a documented HIV positive patient. In this study we report on such a patient.

Methods

Three antibody assays [Abbott recombinant HIV-1/HIV-2 third-generation EIA; Abbott AxSYM®; Cambridge Biotech HIV-1 Western Blot (WB) Kit (Ortho)] were performed at diagnosis and on frozen plasma samples at different time points (48 weeks from ART initiation and at the longest duration [LD] of undetectable VL). Quantitative HIV RNA level and proviral DNA were performed using Nuclisense assay (BioMérieux) and home made RT-PCR, respectively. Tissue cultures of blood and semen samples were performed in SupT1 cells.

Results

The patient was diagnosed as HIV antibody positive (ELISA and WB) on 1995 during blood donation in the central blood bank. His risk for contracting the virus was unprotected sex during work in Africa in the years preceding diagnosis. His viral load at diagnosis is not reported but two years later pericarditis was diagnosed and HIV viral load at that time was 29,000 and 24,000 copies/ml. CD4+ cell count was 856 cells/ml. HAART was initiated, and viral load was undetectable 4 month after initiating therapy. CD4+cell count was unchanged and pericarditis disappeared. Three years after initiating HAART HIV antibody test was done (for enrollment to a clinical study) and the test was negative. Since viral load was undetected and CD4+ cell counts were high all the period HAART was stopped at that time (for STI study). During the four years after stopping HAART HIV antibody test remained negative, viral load is undetectable, HIV RNA is negative and cultures of the virus from blood and semen are negative.

Conclusion

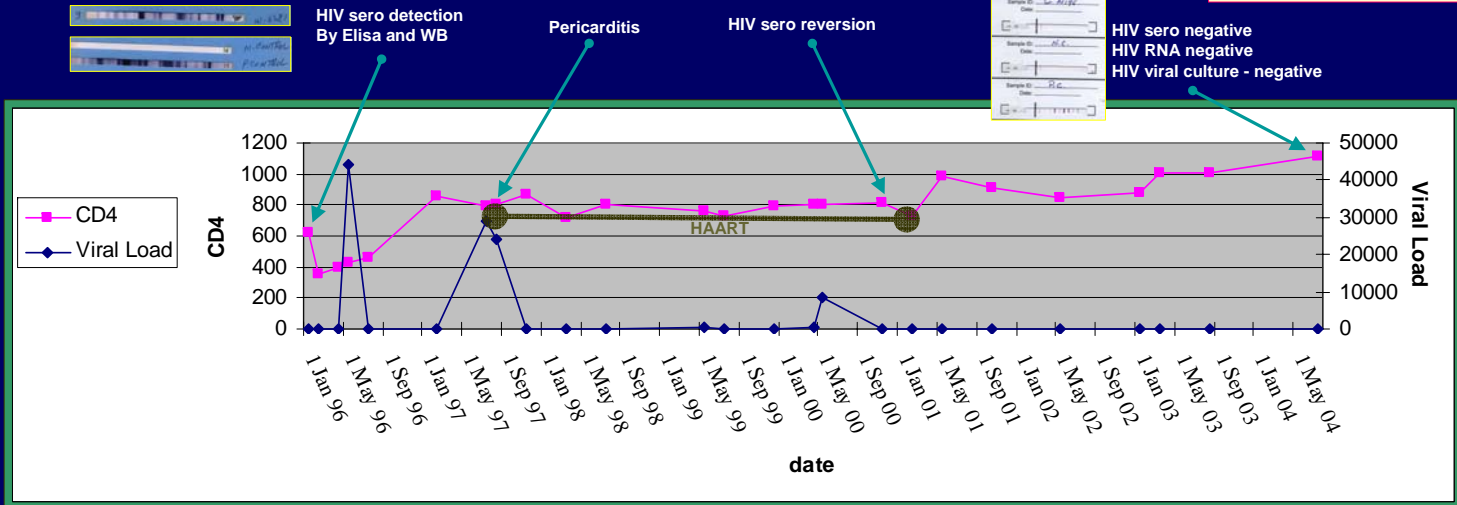
This is the first report of an adult with reversion of the antibody status together with disappearance of HIV RNA and negative HIV culture four years after stopping HAART.

INTRODUCTION

HIV seronegativity in patients that were treated with ART during acute retroviral infection was reported by Hare et-al (The XV International AIDS Conference, 2004, Abstract MoPeB3107). In this report we describe a patient that XXX years after starting ART became HIV antibody, viral load and culture negative, and remained so five years after therapy had been withheld.

METHODS

Three antibody assays [Abbott recombinant HIV-1/HIV-2 third-generation EIA; Abbott AxSYM®; Cambridge Biotech HIV-1 Western Blot (WB) Kit (Ortho)] were performed at time of diagnosis and on frozen plasma samples at different time points (48 weeks from ART initiation and at the longest duration [LD] of undetectable VL). Quantitative HIV RNA level and proviral DNA were performed using Nuclisense assay (BioMérieux) and home made RT-PCR, respectively. Tissue cultures of blood and semen samples were performed in SupT1 cells



RESULTS

The patient was diagnosed as HIV antibody positive (ELISA and WB) in 1995 during blood donation in the central blood bank. His risk for contracting the virus was unprotected sexual intercourse while work in Africa in the years preceding diagnosis. Viral load at diagnosis is not reported but two years later pericarditis was diagnosed and HIV viral load at that time was 29,000 and 24,000 copies/ml. CD4+ cell count was 856 cells/ml. HAART was initiated, and 4 month afterwards viral load became undetectable, CD4+cell count was unchanged and pericarditis disappeared. Three years after initiating HAART, HIV antibody test was taken for enrollment to a clinical study, and was found to be negative. Since viral load measurements were undetected and CD4+ cell counts were high consistently, HAART was withheld at that time (for STI study). During the four years after stopping HAART, HIV antibody test remained negative, viral load is undetectable, HIV RNA is negative and viral cultures of blood and semen are negative.

CONCLUSIONS

Last year Hare et-al reported 7 patients that became HIV seronegative after being treated with HAART during acute or early infection. Stopping therapy in these patients led to viral rebound.

In this report we describe an adult with reversion of the antibody status together with disappearance of HIV RNA and negative HIV culture four years after stopping HAART. A couple of explanations could stand for this case:

1. That the patient was negative from the beginning: The fact that both Elisa and W.B being done in different labs on different blood samples showed the same results and that the patient had at least 3 viral load measurements above 20,000 copies/ml stand against this.
2. That the patient cleared the virus from the blood and major sanctuary sites and therefore antigenic stimulation was reduced and HIV antibody response was blunted. This would not explain the fact that viral rebound did not appear after stopping therapy. CTL specific response could explain this

There are many questions left unanswered regarding this case and further examination of this patient's immune response is required.