

ment failure criteria after DAART, the median CD4 counts were 150 cells/microliter (IQR, 113–233) before, and 244 cells/microliter (IQR, 132–287;  $p=0.02$ ) after DAART. At the time of this analysis, the women who responded to DAART have remained on first-line therapy without additional episodes of treatment failure for a median of 170 (IQR, 57–450) days.

**Conclusions:** One month of DAART with adherence counseling could provide a simple, low-cost method of optimizing the durability of response to first-line ART and distinguishing faltering adherence from treatment failure.

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### Reproductive-Organ Disease in HIV-Positive Nigerian Women: Does Highly Active Antiretroviral Therapy (HAART) Make a Difference?

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**Background:** The 1994 International Conference on Population and Development in Cairo, Egypt drew attention to comprehensive reproductive health for women. The central role of reproduction in the lives of women in many parts of the world is now recognized. We assessed the frequency of reproductive-organ disease in a cohort of HIV-positive women with a view to determine the effect of HAART on their frequency of occurrence.

**Methods:** 369 HIV-positive women aged between 15 to 64 years were recruited. Demographic data, history of reproductive organ disease and use of HAART were obtained. Pelvic examination was carried and Pap smears were obtained for cytology.

**Results:** The mean age for those on HAART was  $34.8 \pm 7.3$  and  $33.4 \pm 7.3$  years for the HAART naive group ( $p=0.08$ ). Mean duration of HAART use was  $14.7 \pm 11.5$  months. Frequency of reproductive-organ symptoms and examination findings between the two groups (no HAART vs HAART) are as follows; amenorrhea –80.7% vs 22.0% ( $p 0.001$ ), vaginal discharge –83.3% vs 16.7 ( $p 0.01$ ), vaginal itching –84.0% vs 16.0% ( $p<0.001$ ), irregular menses –81.7% vs 18.3% ( $p<0.001$ ), post-coital bleeding –86.7% vs 13.3% ( $p 0.06$ ), history of previous STI –66.5% vs 33.5% ( $p 0.34$ ), lower abdominal pain –77.6% vs 22.4% ( $p 0.12$ ), genital warts –73.3% vs 26.7% ( $p 0.51$ ), genital ulcers –68.5% vs 31.5% ( $p 0.91$ ), cervical motion tenderness –87.0% vs 13.0% ( $p 0.05$ ), contact bleeding –76.2% vs 23.8% ( $p 0.05$ ), abnormal cytology –69.4% vs 30.6% ( $p 0.83$ ), other abnormal lesions –73.2% vs 26.8% ( $p 0.19$ ).

**Conclusion:** This study revealed a higher frequency of reproductive-organ disease in HIV-positive women who are

women in terms of reproductive health morbidity, and widespread access to treatment with integration of reproductive health services should be advocated.

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### Longitudinal Plasma Antibody Titers in Relation to IRD in HIV Patients Beginning ART

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**Objectives:** A proportion of HIV patients beginning antiretroviral therapy (ART) develop immune restoration disease (IRD). Longitudinal changes in plasma antibody titer were investigated in relation to IRD in a cohort of HIV patients beginning therapy with a range of opportunistic infections.

**Design:** Plasma were collected from 20 male (16 Chinese and 4 Malay) HIV patients beginning ART with  $<100$  CD4 T-cells/ $\mu$ l at the University of Malaya Medical Centre, Kuala Lumpur, on 5 occasions over the first year of therapy. 10 patients experienced IRD [3 with suspected cytomegalovirus (CMV) disease, 2 with cryptococcal disease, 4 with tuberculosis (TB) and 1 with *varicella zoster virus* (VZV)].

**Methods:** Plasma antibodies (IgG) reactive with CMV, Cryptococcal, PPD and VZV antigens were assessed using standard ELISA method.

**Results:** All patients showed high level of anti-CMV antibody during 12 months on ART, regardless of IRD. Antibody reactive to cryptococcal antigen peaked only at the time of cryptococcal IRD. Anti-PPD titers were elevated at the start of ART in two TB IRD patients and remained high or increased further at the time of their IRD. However, the other two TB IRD patients retained intermediate titers throughout first year of ART. Anti-VZV titers were detectable in the VZV IRD patient at the start of ART, with a marginal increment during IRD.

**Conclusions:** Despite their immunodeficiency, HIV-infected patients display restored antigen-specific IgG antibody responses during 12 months of ART. The high titer of anti-CMV IgG in most patients regardless of IRD may reflect the reactivation of CMV by chronic immune activation. Generally, antibody titers were extremely variable among cohort participants but relatively stable over time, suggesting inherent differences in immune capacity.

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