

Should we stop testing CD4 counts in HIV-infected individuals with viral suppression and $CD4 \geq 350$?

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- Utility of CD4 monitoring in HIV-infected individuals with CD4 count ≥ 350 cells/mm³ & suppressed viral load (VL) is debatable
- BHIVA guidelines: CD4 monitoring every 4-6 months in such patients¹
- Current economical situation & lack of clinical utility, recent calls for STOPPING CD4 testing in these individuals altogether²⁻⁵
- MMC policy (2008): CD4 monitoring annually for patients with a $CD4 \geq 350$ cells/mm³ AND an undetectable HIV viral load
- Following this change, we audited CD4 monitoring and its clinical utility over the subsequent three year follow-up period

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2. Gazzard B, Moecklinghoff C, Hill A. New strategies for lowering the costs of antiretroviral therapy treatment and care for people with HIV/AIDS in the United Kingdom. Clinicoecon Outcomes Res 2012;4 193-200
3. Gale HB, Gitterman SR, Hoffman HJ et al. Is frequent CD4 + T-lymphocyte count monitoring necessary for persons with counts ≥ 300 cells/mL and HIV-1 Viral Suppression? Clin Infect Dis 2013
4. Phillips A, Youle M, Lampe F et al. CD4 cell count changes in individuals with counts above 500 cells/mm³ and viral loads below 50 copies/mL on antiretroviral therapy. AIDS. 2002;16(7):1073–1075
5. Chilton D, Neuhaus J, Palfreeman A. Utility of CD4 count monitoring in patients on HAART who maintain viral load suppression – experience from the VS arm of the SMART study. O21, 14th BHIVA Conference; 2008; Belfast.

Methods

- **Patient population:**

- HIV+ patients attending the Mortimer Market Centre
- First 300 consecutive HIV+ patients attending from 1st Oct 2009
- Stable patients defined as having all of the following:
 - Viral load undetectable:
 - at least 12 months preceding baseline visit AND
 - During follow-up
 - CD4 \geq 350 cells/mm³ at baseline visit

- **Follow-up**

- All patients attending 1st Oct 2009 - 31st Dec 2012 where viral suppression was maintained or until virological rebound

- **Outcomes**

- Frequency of CD4 monitoring
- Proportion of stable patients with CD4 \geq 350 cells/mm³

Results

- 300 consecutive attenders: 141 (47%) stable HIV+ patients
 - Male 82%
 - Age (years) 44 (39-49)
 - Median follow-up (years) 2.5 (2.1-2.8)
 - Median baseline CD4 count (range) 620 (480 - 770)
 - Median CD4 count at end of follow-up (range) 670 (550 - 850)
- CD4 counts were measured at a median frequency of once every 8.4 months (IQR 6.4-9.7)
- 128 (91%) maintained $\text{CD4} \geq 350$ cells/mm³
- 13 (9%) had $\text{CD4} < 350$ cells/mm³ accounting for 3.2% of the total 319 person-years of follow-up
- Only 5 with sustained falls below 350 cells/mm³
 - 3 had $\text{CD4} < 200$ cells/mm³, all predictable (steroids, chemotherapy, HCV treatment) (2 others fluctuated around 350)
- In no patient did change in CD4 lead to change in management

Conclusions

- Despite our policy of annual monitoring, frequency of CD4 measurement was more frequent (median 8.4 months)
- Reduced cost of CD4 testing by 54% compared to a strategy of testing twice per year as per monitoring guidelines¹
- Significant CD4 declines are predictable by clinical scenarios which are well recognised to lower CD4 count
- We recommend stopping routine CD4 monitoring in stable individuals as any suggested policy regarding frequency of testing is likely to lead to more frequent monitoring in the clinic setting