

AIDS BRIEFS

CHEAPER CD4 COUNTS

A study published recently in the *Journal of Acquired Immune Deficiency Syndromes* shows that a cheap, easy-to-use method of counting CD4 cells is just as accurate as the current gold standard flow cytometry. The Guava EasyCD4 assay will be particularly useful in resource-poor areas.

Guava EasyCD4 is a new method of measuring the CD4 cell count using microcapillary cytometry. The cost is only \$1.00 per test, compared with \$25.00 per test for current flow cytometry methods. However, installation costs are similar (\$35 000). Investigators looked at samples from 77 HIV patients attending Johns Hopkins and also at 142 samples from HIV-positive individuals attending the Infectious Disease Institute, Kampala, Uganda. Flow cytometry was conducted on the samples within 24 hours and EasyCD4 within 48 hours.

The mean CD4 cell count in both sets of samples was similar using both flow cytometry and EasyCD4. However, because the mean CD4 cell count was higher among USA patients than those in Uganda, a subanalysis was performed on USA samples. Again, there was no significant difference between the counts obtained using flow cytometry and those obtained using EasyCD4.

Investigators then looked at whether EasyCD4 is accurate below a CD4 cell count of 200 cells/mm³, the level at which antiretroviral therapy is started according to World Health Organization (WHO) guidelines. Nearly half the Ugandan patients had CD4 cell counts below this level. The EasyCD4 cell count had a high sensitivity and specificity, agreeing with flow cytometry in 94% of samples. The agreement was 98% in the USA patients, where far fewer had such low CD4 counts.

Spacek LA, et al. *J Acquir Immune Defic Syndr* 2006; **41**: 607-610.

ALCOHOL BEFORE SEX INCREASES RISK OF HIV INFECTION

A large study conducted in Uganda and published in *AIDS* shows that drinking alcohol before sex is associated with an increased risk of acquiring HIV, a greater number of sexual partners and less consistent condom use.

The study, which took place between 1994 and 2002, involved around 6 800 men and just over 8 000 women, aged between 15 and 49 years. They were followed up every 12 months and were tested for HIV status. Data were gathered on sociodemographic characteristics, sexual risk behaviour and alcohol consumption in the week before sex. During the study, 287 men were newly infected with HIV, equivalent to 1.4 new infections per 100 person-years. A total of 384 women were infected – an incidence of 1.5 per 100 person-years.

However, HIV incidence was lowest among men and women who did not drink alcohol (0.9 per 100 person-years and 1.0 per 100 person-years, respectively). Alcohol consumption before sex by one partner increased the HIV incidence to 1.7 per 100 person-years in men and to 1.5 per 100 person-years among women. If both partners drank alcohol before sex, then the incidence rose to 1.8 and 1.9 per 100 person-years for men and women, respectively. When all results were adjusted for sociodemographic factors and risk behaviours, alcohol consumption before sex was shown to increase the risk of acquiring HIV by 67% for men and 40% for women. If both partners used alcohol before sex, then the risk increased by 58% and 81%, respectively. Not only did condom use decrease and multiple partners increase with alcohol consumption, but married individuals were more likely to report extramarital sex if they used alcohol first.

The authors offer two possible explanations for this. First, alcohol causes behavioural disinhibition. However, it may also be that alcohol may affect the risk of acquiring HIV by impairing immune system regulation – something that has been suggested in simian studies.

Zablotska IL, et al. *AIDS* 2006; **20**: 1191-1196.

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