AIDS Briefs

Start antiretroviral therapy at higher CD4 counts to improve outcome

A study from Cote d'Ivoire suggests that starting antiretroviral therapy before CD4 counts fall below 350 cells/mm^3 offers significantly better outcomes than waiting until the count falls below this, according to a new study published recently in *AIDS*. Current guidelines for resource-poor countries recommend starting therapy at CD4 counts of 200 cells/mm^3 or less. However, as practitioners in these countries know, significant numbers of HIV-infected people with CD4 counts this low have already experienced major immunosuppression and so experience HIV disease progression or even death within a few months of starting antiretrovirals.

The incidence of death within a few months of starting antiretroviral therapy is higher among HIV-positive Africans than it is among those living with HIV in industrialised countries. As antiretroviral therapy becomes more available across Africa, it is important to introduce interventions that prevent death among patients with advanced immunosuppression. This study was part of a larger study of structured treatment interruption strategies in HIV-infected subjects in Abidjan.

Researchers focused on starting anti-HIV therapy in patients aged 18 or older with no history of antiretroviral use, who had CD4 counts between 150 and 350 cells/mm^3 or a CD4 percentage between 12.5% and 20.0%. All patients were given prophylaxis with cotrimoxazole.

All patients started continuous antiretroviral therapy with either AZT (zidovudine), 3TC (lamivudine) and efavirenz or efavirenz only or AZT, 3TC and indinavir/ritonavir. The patients were followed up for 8 months before being randomised for the second phase of the study. Patients in the treatment initiation phase had CD4 cell counts that were higher than the recommended threshold for starting antiretroviral therapy.

The incidence of severe morbidity was defined as WHO stage 3 or 4 four-defining morbidity events other than oral candidiasis. A total of 792 patients were included in the analysis. Of these, 71% had a CD4 cell count of more than 200 cells/mm^3 and 64% were at WHO stage 1 or 2, indicating no symptoms of HIV infection or very mild symptoms. This cohort started antiretroviral thearapy with a median CD4 cell count of 252 cells/mm^3 and were followed up for a median of 8 months.

In patients with pre-antiretroviral CD4 cell counts of less than 200, at 200 - 350 and more than 350 cells/mm^3, the incidence of mortality was 5.0, 1.7 and 0.0 /100 person-years, and the incidence of severe morbidity was 13.3, 9.5 and 7.9/100 person-years, respectively.

The most frequent diseases were invasive bacterial diseases (32/65 episodes, 49%) and tuberculosis ((TB), 5/65 episodes, 38%). The first episode of TB occurred when the median last CD4 count was 235 cells/mm^3 and the median time since initiation of antiretroviral therapy was 3.7 months.

The overall incidence of mortality during the first, second, and third quarter following the start of antiretroviral therapy was 3.1, 1.0, and 1.5/100 person-years, respectively. The overall incidence of severe morbidity during the same periods was 16.6,10.2, and 6.6/100 person-years, respectively.

Patients who experienced severe illness had higher risks of mortality, virological failure and immunological failure. The baseline risk factors for mortality and/or severe morbidity were high viral load, advanced clinical stage, past history of TB, low body mass index, low haemoglobin and low CD4 cell count. During follow-up, low CD4 cell count and persistently detectable viral load were risk factors.

Treatment guidelines in industrialised countries are already being revised to recommend initiation of anti-HIV treatment when the CD4 cell count falls below 350 cells/mm^3, and the findings from Cote d'Ivoire are likely to raise calls for earlier treatment in resource-limited settings.

Moh R, *et al. AIDS* 2007; 21: 2483–2491.

Hunger leads to sexual risk taking in Africa

Women in Africa who don't have enough to eat take more sexual risks, according to a study published recently in *PLoS Medicine*.

According to the authors of this study, their results suggest that targeting food security could help to reduce the risk of HIV transmission in Africa.

The study, which took place in Bostwana and Swaziland, found that women who reported food insecurity in the previous year had an 80% increase in their likelihood of transactional sex, a 70% increase in their risk of reporting unprotected sex with a non-primary partner, and a 50% increase in their likelihood of intergenerational sex.

The study took place between 2004 and 2005 and involved 1 050 women and 999 men in Botswana and Swaziland. Food insecurity was defined as reporting not having enough food to eat in the previous 12 months and was more common among women than among men.

The risky sexual behaviours examined were inconsistent condom use with a non-primary partner, transactional sex, intergenerational sex (a partner 10 years older or younger), lack of control in a sexual relationship and forced sex. Individuals were also asked about their alcohol consumption.

Weiser SD, *et al. PLoS Med* 4(10): e260 doi:10.1371/journal.pmed.0040260

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