

AIDS BRIEFS

WHAT CAUSES DEATH IN PEOPLE TAKING ANTIRETROVIRAL THERAPY?

A study from Senegal suggests that people who die after starting antiretroviral therapy are most likely to do so in the first year of therapy, mainly because the treatment was not started early enough in the progression of HIV to AIDS. The same study found that mycobacterial infections, particularly tuberculosis (TB) cause a significant number of deaths and that some of these TB-associated deaths could be due to immune reconstitution inflammatory syndrome (IRIS).

Senegal started an antiretroviral access programme that provided triple drug therapy in 1998. Researchers looked at the survival of people who entered this programme between 1998 and 2002. Follow-up data were available until 2005 and most patients were followed up for around 4 years. Almost all patients had symptoms of HIV infection or had progressed to AIDS when they started HIV therapy. Median CD4 cell count was 128 cells/mm³ and median viral load was over 100 000 copies/ml. Only 5% of patients had taken any form of antiretrovirals before. A total of 93 individuals died during follow-up, with an overall mortality rate of 6.6 deaths per 100 person years. However, most of these deaths (47 with an additional 7 patients lost to follow-up and assumed dead) occurred during the first year of antiretrovirals, giving a mortality rate for that year of 12.5 deaths per 100 person years. This fell in the second year to 6.6 deaths per 100 person years and kept falling thereafter (4.5, 2.3, 2.2 deaths per 100 person years in years 3, 4 and 5, respectively).

The risk of dying during the first year of antiretrovirals was associated with a low CD4 cell count before potent antiretroviral therapy was initiated. Patients with a CD4 cell count below 50 cells/mm³ had the highest risk (18%) and those with a CD4 cell count above 200 cells/mm³ the lowest risk (6%) of dying.

The investigators also identified a body mass index below 19 kg/m² and a haemoglobin level below – 10 g/dl as being associated with an increased risk of death – both known risk factors for an increased risk of death.

Pulmonary TB explained 17 deaths, 8 of which occurred in the first year of treatment. The investigators also noted that 9 of the patients who died of TB had a history of the infection dating back to before the initiation of HIV therapy, suggesting that the recurrence of TB may have been due to IRIS. Infections of the central nervous system caused 17 deaths, septicaemia caused 8 deaths, with a similar number caused by unspecified disease. In addition, 5 deaths were caused by liver failure, with hepatitis B infection present in 1 patient and hepatitis C in another. Side-effects of

antiretroviral therapy are thought to have contributed to 3 deaths, including 1 case of diabetes, 1 case of high amylase and a case of lactic acidosis.

These findings highlight the importance of early initiation of antiretroviral therapy once the CD4 count starts falling.

Etard J-F *et al.* *AIDS* 2006; **20**: 1181 - 1189.

GREY NAILS CAN HELP TO PREDICT LOW CD4 COUNT IN HIV-POSITIVE PATIENTS

A study in Malawi suggests that grey nails can accurately predict if asymptomatic individuals with HIV have a low CD4 count and need to start antiretroviral therapy. Malawi has offered free antiretroviral therapy since 2004 to anyone with a CD4 count of less than 200 cells/mm³ or who has AIDS. However, there are no resources available for routine CD4 cell count testing in Malawi and many patients do not start antiretrovirals until they are sick with advanced AIDS. Grey nails have been frequently observed in African HIV-positive patients who are not taking antiretroviral therapy, but this symptom has not previously been linked with any particular stage of HIV infection. Therefore, investigators from Malawi and the UK looked at the relationship between grey nails and CD4 cell count to see if this observation could identify patients who would benefit from starting HIV treatment.

A total of 222 patients were tested for HIV and had their CD4 cell count measured. Photographs were taken of their nails and were shown to 3 independent assessors who did not know the patients' HIV status or their CD4 count. The assessors were asked to grade the nails as pink, distal-banded or grey. The patients had a median age of 34, 60% were male and 72% were HIV positive. Distal-banded or grey nails were strongly associated with a CD4 count of less than 200 cells/mm³. However, 4 HIV-negative patients were assessed as having grey nails by all 3 assessors. But, overall, the predictive value of grey or distal-banded nails was 92% for a CD4 count below 350 cells/mm³ and 82% for a CD4 count below 200 cells/mm³. Of the 53 HIV-positive patients with grey or distal-banded nails, 21 had no severe symptoms of HIV infection; however, 16 of these (76%) had a CD4 cell count below 200 cells/mm³.

Investigators have suggested that grey or distal-banded nails could be used as an additional staging sign to assess who would benefit from antiretroviral therapy where no facilities exist for measuring CD4 cell count.

Scarborough M, *et al.* *AIDS* 2006; **20**: 1415 – 1417.

Bridget Farham