

# AIDS BRIEFS

## WHO GUIDELINES FOR THE TREATMENT OF DIARRHOEA MAY NEED REVISING

In 1991 the WHO published guidelines for the management of HIV-associated diarrhoea in resource-limited settings. A recent study from Peru suggests that these may be in need of revision. The current recommendations are for the use of co-trimoxazole for persistent diarrhoea in HIV-positive patients. But in this study, published in a recent edition of *The Journal of Infectious Diseases*, researchers found that only 24% of the pathogens causing diarrhoea were susceptible to co-trimoxazole. They also found that ciprofloxacin, doxycycline and erythromycin were all widely effective.

Researchers recruited 147 HIV-positive patients with persistent diarrhoea and 147 with no diarrhoea from 3 major clinics in Peru between 1998 and 2000. Persistent diarrhoea was defined as three liquid bowel movements daily for at least a week. In the 2 months before they entered the study, 66% of all patients were taking co-trimoxazole, including 79% with and 68% without persistent diarrhoea. The organisms that appeared to be most strongly associated with persistent diarrhoea were *Giardia* and *Crypto-sporidium*. *Aeromonas* species and *Campylobacter* and rotavirus were also significantly associated with persistent diarrhoea.

The researchers tested the organisms for antimicrobial sensitivity and found that only 24% of the pathogens isolated from patients with or without diarrhoea were susceptible to co-trimoxazole. However, all but one species of *Shigella*, *Salmonella* and *Aeromonas* were susceptible to doxycycline, and erythromycin was also effective against 75% of pathogens.

The researchers suggest that further investigations are needed to evaluate the effect of any revised treatment algorithms.

Carcamo C, et al. *J Infect Dis* 2005; **191** (on-line edition).

## PARTNER INVOLVEMENT IN VCT IMPROVES UPTAKE

Partners improve the uptake of voluntary counselling and testing (VCT) among pregnant women in Nairobi if they are involved in the process, according to a study published recently in the *Journal of Acquired Immune Deficiency Syndromes*. The researchers found that partner involvement was associated with an increased uptake of treatment to

prevent mother-to-child transmission (PMTCT) of HIV and also with condom use. Investigators recruited women attending an antenatal clinic in Nairobi during their first visit. They were encouraged to tell their partners about sexual and MTCT of HIV and also about the availability of VCT. The women were asked to return a week later for routine antenatal testing and optional VCT, with or without their partner.

Women whose partners returned with them for VCT were 3 times more likely to receive nevirapine and over 3 times more likely to report using the maternal or infant dose of nevirapine during labour. Couple VCT was also significantly associated with attending for counselling after delivery. Women who received VCT as a couple were 8 times more likely to attend the 3-month follow-up appointment and were also significantly less likely to breast-feed. A trend for partner notification was also found to be associated with lower rates of HIV infection in infants. Partner notification of the results of the HIV test also resulted in significantly higher levels of condom use post-HIV diagnosis.

Farquhar C, et al. *J Acquir Immune Defic Syndr* 2004; **37**: 1620 – 1626.

## TB DIAGNOSIS IN CHILDREN MAY BE IMPROVED BY A SIMPLE BLOOD TEST

A study carried out in KwaZulu-Natal has shown that a simple blood test called the T-SPOT-TB is a better test of tuberculosis (TB) infection in children than the usual tuberculin skin test. The study, the results of which are published in *The Lancet*, has also shown that the test can be performed without highly trained personnel and with limited laboratory facilities.

Researchers used the T-SPOT-TB test in 293 children presenting to a district hospital with suspected active TB. The T-SPOT and tuberculin skin test were both carried out at the first assessment and test results compared with the final clinical and microbiological culture diagnoses. The T-SPOT-TB test detected 83% of the cases in children with confirmed or highly likely TB, significantly more than the 63% recognised by the tuberculin skin test. The latter test was also significantly less sensitive in children younger than 3 years, those with HIV infection or those with malnutrition. However, age had no effect on the sensitivity of the T-SPOT test and HIV and malnutrition decreased its effectiveness only slightly. Negative tuberculin skin test and positive T-SPOT accounted for 53% of children with confirmed TB and 14% of children

with highly probable disease. Cases of TB infection missed by one test were often picked up by the other. A combination of the 2 tests was able to detect 91.4% of active TB cases. The authors believe that if both tests are negative the child is highly unlikely to have TB.

The T-SPOT-TB test was approved in August 2004 for use in the European Union and is a new blood test designed to replace the tuberculin skin test.

Liebescheutz S, et al. *Lancet* 2004; **364**: 2196 – 2203.

### THE RISK OF TB INFECTION DOUBLES IN THE FIRST YEAR OF HIV INFECTION

According to a study published in January 2005 in *The Journal of Infectious Diseases*, the risk of acquiring tuberculosis (TB) doubles within the first year of testing HIV-positive, with the risk increasing further in subsequent years.

Researchers retrospectively analysed data from medical records of 23 874 South African gold miners dating back to 1998. At the beginning of the study, 3 371 miners were HIV-positive and 20 503 HIV-negative. A total of 740 cases of a first episode of pulmonary TB were analysed during a 7-year period, with TB far more common in those with concurrent HIV. Investigators analysed the relative risk of developing TB by age and calendar period and according to when the mine worker tested HIV positive. The relative risk of developing TB was greatest in those who were HIV-positive when the study began. Researchers expected this as those workers would be likely to already have suffered greater immunocompromise. What they did not expect was the increased incidence of TB within a year after seroconversion to HIV.

Researchers suggest two possible explanations for the increased risk of TB in the first year after HIV infection: the effect of profound immune dysregulation that occurs soon after HIV infection, or that those patients who develop TB within a year of HIV infection have a rapidly progressing form of the disease.

An important finding from this study is that TB acquired early in HIV disease is more likely to be pulmonary TB, considerably more infectious than the more common extrapulmonary forms that occur later in HIV infection. The higher levels of TB infection in the first year of HIV infection need to be factored into HIV and TB control programmes in areas of high prevalence of both diseases, according to the authors.

Sonenburg P, et al. *J Infect Dis* 2005; **191**: 150-158.

### MICRONUTRIENT SUPPLEMENTATION INCREASES VAGINAL SHEDDING OF HIV

A study published late in 2004 in the *Journal of Acquired Immune Deficiency Syndromes* suggests that micronutrient supplementation increases the genital shedding of HIV in women, particularly in those who started with normal selenium levels that were then increased through supplementation.

Previous studies have found an association between micronutrient deficiencies and HIV disease progression and mortality. Cheap multivitamin and mineral supplementation has been shown to improve survival in HIV-positive people who do not have access to antiretrovirals.

Researchers enrolled 400 HIV-positive women between the ages of 18 and 45 who were recruited from women attending outpatient clinics in Mombasa, Kenya, between 1998 and 2000. The women were randomly allocated to receive micronutrients or a placebo. At baseline and after 6 weeks the women gave a medical history, had a physical examination, provided blood samples, and vaginal and cervical excretions were obtained. CD4 count was monitored, as were HIV viral loads and selenium levels. Vaginal and cervical samples were analysed for HIV shedding. At baseline, the women in the two arms of the study were broadly similar, although the CD4 count was slightly higher in those randomised to receive micronutrients. The same group had a higher prevalence of HIV-infected vaginal cells, but a lower prevalence of HIV-infected cervical cells.

After 6 weeks, vaginal shedding of HIV was significantly higher among women who received micronutrients than among those receiving the placebo, although there was no significant difference in cervical shedding of HIV between the two groups. Even when the analysis was restricted to those women who were not shedding HIV in vaginal secretions at baseline, after 6 weeks shedding was detected in 23% of those taking supplements and only 9% of those in the placebo arm. Micronutrient supplementation significantly increased CD4 count but did not affect HIV viral load.

The authors conclude that their findings raise 'challenging questions' about the risk and benefits of supplementation in HIV-positive women.

McClelland RS, et al. *J Acquir Immune Defic Syndr* 2004; **37**: 1657-1663.

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