Treatment outcomes of patients with HIV and tuberculosis

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In a retrospective study of 700 patients with culture-positive tuberculosis (TB), relapse rates were found to be significantly higher in HIV-infected patients compared to HIV-uninfected patients following a rifamycin-based regimen. Furthermore, TB relapse rates were higher in HIV-infected patients who received intermittent or standard 6-month therapy when compared to those receiving daily or longer treatment.

The results appear in the first issue for June 2007 of the American Journal of Respiratory and Critical Care Medicine, published by the American Thoracic Society.

Payam Nahid, M.D., M.P.H., of the University of California, San Francisco General Hospital, and eight associates reviewed TB cases reported to the San Francisco Tuberculosis Control Program from January 1, 1990, through December 31, 2001.

As a rationale for their study, the researchers state that the optimal duration of TB therapy in HIV-infected subjects is unknown and may differ from HIV-uninfected individuals.

According to the authors, the current preferred regimen for treating drug-susceptible TB in HIV-uninfected patients is a 6-month, rifamycine-based regimen that includes pyrazinamide during the first two months. Current guidelines for the treatment of TB do not distinguish between those infected with the virus that causes AIDS and those who are uninfected in terms of the optimum length of treatment when using rifamycine.

"Standard 6-month therapy may be insufficient to prevent relapse in patients with HIV," said Dr. Nahid.

The TB relapse rate for HIV-infected patients was found to be 6.6 percent versus 0.8 percent in uninfected/unknown patients. This finding was in contrast to other studies that did not find any significant difference between HIV-infected and HIV-uninfected/unknown patients. However, this finding was corroborated by a similar study that also used molecular genotyping as a relapse indicator.

HIV-infected patients who received 6 months of rifamycin-based TB treatment or who were treated intermittently (one to three times per week), were four times more likely to have a reoccurrence than those r who took their medicine daily or who were treated for longer periods.

The study also found that the use of highly active antiretroviral therapy (HAART) during TB treatment was associated with a faster Mycobacterium tuberculosis negative culture conversion, and an improved survival rate. Prior studies by others have shown HAART treatment beneficial in preventing TB in HIV-infected individuals, but reported no beneficial TB treatment outcomes.

HIV-infected patients were significantly more likely to develop drug resistance (4.2 percent in HIV-infected versus 0.5 percent in HIV-uninfected) to rifampin , and to experience adverse reactions to TB regimens.

The investigators noted that there is a need for large randomized clinical trials to establish the optimal duration for TB therapy in HIV-infected patients, and the timing of HAART treatment in patients with HIV-related TB.

According to an editorial commenting on the research in the same issue of the journal, future HIV-related TB treatment regimens and relapse studies should broaden their focus to include rates of acquired drug resistance. The editorial cites a report published in the Lancet of an extensively drug resistant TB strain found in a HIV co-infected South African patient as particularly worrisome.

Citing the journal article, the editorialists also cast the HAART findings (quicker reduction of

mycobacterial burden) as relevant in deterring TB drug resistance. They suggest that short-course, intermittent regimens may be necessary in areas where resources are limited, and that additional research on regimens (including the use of secondline drugs) suitable for field use must continue.

Source: American Thoracic Society