

#### RESPIRATORY FAILURE CAUSED BY AIDS-RELATED PNEUMOCYSTIS CARINII PNEUMONIA

A retrospective analysis examined patients with AIDS-related *Pneumocystis carinii* pneumonia (PCP) and acute respiratory failure (ARF) to determine predictors of in-hospital mortality and long-term survival. The study analyzed 39 patients who were admitted once and two patients who were admitted twice to the intensive care unit (ICU) for ARF caused by PCP. In-hospital mortality among the 41 ICU admissions was 56%. Patient mortality was distinguished by duration of maximal therapy with corticosteroids and anti-PCP medication. Patients treated with maximal therapy for less than 5 days before ICU admission had a mortality of 45%; patients treated with maximal therapy for 5 days or more before ICU admission had a mortality of 88%. In addition, higher physiologic scores (ie, Acute Physiology and Chronic Health Evaluation II, Acute Lung Injury, and modified Multisystem Organ Failure scores) corresponded to a worse outcome. The study concluded that prediction of in-hospital mortality of patients with AIDS-related PCP and ARF is enhanced by the combined assessment of physiologic scores and duration of previous maximal therapy with combined anti-PCP and corticosteroid treatment.

*Forrest DM, Zala C, Djurdjev O, et al: Determinants of short- and long-term outcome in patients with respiratory failure caused by AIDS-related Pneumocystis carinii pneumonia. Arch Intern Med 1999;159:741-747.*

#### CD4 LYMPHOCYTE COUNT NADIR, ANTIRETROVIRAL THERAPY, AND HIV-1 DISEASE PROGRESSION

A prospective, observational multicenter study examined the relationship between CD4 lymphocyte count, antiretroviral treatment, and clinical disease progression in HIV-infected patients ( $n = 7333$ ) from 52 European outpatient clinics. The effect of a previous CD4 cell count nadir on prognosis (rate of disease progression and relative hazard for disease progression) in patients who have a CD4 count of at least 200 cells/mm<sup>3</sup> and the effect of rebound in CD4 cell count after severe immunosuppression were assessed. Data were collected at baseline and every 6 months. Two groups of patients were identified: patients with CD4 counts of 200 cells/mm<sup>3</sup> or greater (Group A) and patients with CD4 counts less than 50 cells/mm<sup>3</sup> (Group B). Group A patients were divided into four strata according to CD4 cell count nadir: stratum 1 had a nadir of at least 150 cells/mm<sup>3</sup>; stratum 2 had a nadir of 100 to 149 cells/mm<sup>3</sup>; stratum 3 had a nadir of 50 to 99 cell/mm<sup>3</sup>; and stratum 4 had a nadir of less than 50 cells/mm<sup>3</sup>. The overall incidence of AIDS-defining illness, including death, for patients in Group A

was 3.9 events per 100 patient-years of follow-up. Within the four strata, patients from stratum 1 had the lowest incidence (3.7 events) and patients from strata 2, 3, and 4 had a higher incidence (6.0, 8.1, and 5.9 events, respectively). Disease progression incidence for patients in group B was 18-fold higher (72.9 events per 100 patient years of follow-up) than stratum 1. The study concluded that, in patients with current CD4 counts of at least 200 cells/mm<sup>3</sup>, a previous low CD4 cell nadir remains associated with a higher rate of disease progression and a higher relative hazard for disease progression compared with a CD4 count that never decreased to less than 150 cells/mm<sup>3</sup>.

*Miller V, Mocroft A, Reiss P, et al: Relations among CD4 lymphocyte count nadir, antiretroviral therapy, and HIV-1 disease progression: results from the EuroSIDA study. Ann Intern Med 1999;130:570-577.*

#### DISCONTINUATION OF PNEUMOCYSTIS CARINII PNEUMONIA PROPHYLAXIS

A prospective, observational study examined the safety of discontinuing primary prophylaxis against *Pneumocystis carinii* pneumonia (PCP) in patients receiving combination antiretroviral therapy. Patients ( $n = 262$ ) receiving primary prophylaxis against PCP and combination antiretroviral therapy who had an increase in their CD4 count to 200 cells/mm<sup>3</sup> or greater and total peripheral lymphocytes ( $\geq 14\%$ ) sustained for at least 12 weeks were included in the study. Patients discontinued PCP prophylaxis under the stipulation that prophylaxis would be resumed if CD4 count fell below the threshold (100 copies/mL) on two consecutive measurements. CD4 counts were measured every 3 months. Diagnosis of PCP and toxoplasmic encephalitis were the primary and secondary end points, respectively. During follow-up, no diagnosis of PCP or toxoplasmic encephalitis was recorded in the study group, and no patients experienced AIDS-defining illness. The study concluded that discontinuation of primary prophylaxis against PCP is safe in patients who have responded to combination antiretroviral therapy with a sustained increase in CD4 cell count of at least 200 cells/mm<sup>3</sup> and 14% of total peripheral lymphocytes.

*Furrer H, Egger M, Opravil M, et al: Discontinuation of primary prophylaxis against Pneumocystis carinii pneumonia in HIV-1-infected adults treated with combination antiretroviral therapy. N Engl J Med 1999;340:1301-1306.*

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