Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

EPISODIC ANTIRETROVIRAL THERAPY INCREASES RISK OF OPPORTUNISTIC DISEASE AND DEATH

Investigators conducted an international randomized trial to compare a drug-conserving treatment strategy with current practice. HIV-positive patients aged 13 years or older with a CD4+ count above 350 cells/mm^3 were assigned to either continuous antiretroviral therapy (ART; n = 2752) or episodic ART (n = 2720). Patients in the episodic group received ART when their CD4+ levels decreased below 250 cells/mm^3, and therapy was stopped when CD4+ levels rose above 350 cells/mm^3. The primary endpoint was development of opportunistic disease or death from any cause. Secondary endpoints included death from any cause as well as major cardiovascular, renal, or hepatic disease. Forty-seven patients (1.3 events/100 person-years) in the continuous ART group and 120 patients (3.3 events/100 person-years) in the episodic ART group reached the primary endpoint. The estimated hazard ratio (HR) for the primary endpoint for the episodic versus the ART group was 2.6 (95% confidence interval [CI], 1.9–3.7; $P < 0.001$), which was reduced to 1.5 (95% CI, 1.0–2.1) after adjustment for the latest CD4+ count and HIV RNA level (as time-updated covariates). HRs for secondary endpoints were 1.8 (95% CI, 1.2–2.9; $P = 0.007$) for death from any cause and 1.7 (95% CI, 1.1–2.5; $P = 0.009$) for major cardiovascular, renal, or hepatic disease. After an average follow-up of 16 months, patients receiving episodic ART were switched to continuous ART due to safety concerns. As compared with continuous ART, episodic ART significantly increased the risk of opportunistic disease or death from any cause and did not reduce the risk of adverse events associated with ART.

The Strategies for Management of Antiretroviral Therapy (SMART) Study Group; El-Sadr WM, Lundgren JD, Neaton JD, et al. CD4+ count–guided interruption of antiviral therapy. N Engl J Med 2006;355:2283–96.

FLUOROQUINOLONES VERSUS β-LACTAMS FOR TREATING SKIN AND SOFT TISSUE INFECTIONS

The authors performed a meta-analysis of the literature (ie, studies published from January 1980 to February 2006 that were obtained from the PubMed database, Cochrane Database of Controlled Trials, and references from relevant articles) to compare the effectiveness and safety of fluoroquinolones with β-lactams in treating patients with skin and soft tissue infections. Studies were included if they were randomized controlled trials comparing these therapeutic regimens for clinical effectiveness (ie, treatment that led to complete resolution or significant improvement in clinical signs without a regimen change) and/or microbiologic effectiveness (ie, treatment that led to pathogen eradication as proven by culture or complete resolution of clinical signs). Twenty trials that enrolled a total of 4817 patients were included in the analysis. In clinically evaluable patients, fluoroquinolones were more effective than β-lactams (90.4% versus 88.2%; odds ratio [OR], 1.29 [95% CI, 1.00–1.66]). However, no difference was found between the compared regimens for the microbiologically evaluable patients (OR, 1.19 [95% CI, 0.89–1.59]). Fluoroquinolones were also associated with more adverse effects than β-lactams (19.2% versus 15.2%; OR, 1.33 [95% CI, 1.13–1.57]). Fluoroquinolones do not have substantial advantages as compared with β-lactams for treating patients with skin and soft tissue infections.

Falagas ME, Matthaiou DK, Vardakas KZ. Fluoroquinolones vs β-lactams for empirical treatment of immunocompetent patients with skin and soft tissue infections: a meta-analysis of randomized controlled trials. Mayo Clin Proc 2006;81:1553–66.

REEVALUATION OF THE QUANTIFERON TB-2G TEST FOR DIFFERENTIATING BETWEEN ACTIVE TUBERCULOSIS AND NONTUBERCULOUS MYCOBACTERIOSIS

Researchers reevaluated the usefulness of a whole blood interferon-γ enzyme-linked immunosorbent assay (QuantiFERON TB-2G [QFT-TB]) in differentiating between active tuberculosis (TB) and nontuberculous mycobacteriosis (NTM). Patients were 50 healthy volunteers, 50 patients with active TB, and 100 patients with NTM. All patients received the tuberculin skin test (TST) and the QFT-TB test at baseline; the QFT-TB test was repeated at 2, 4, 6, 9, and 12 months after initiation of antituberculous drug therapy. Results of baseline testing were: 64% of healthy volunteers had a negative TST result and 94% had a negative QFT-TB test result (6% were indeterminate); 64% of patients with active TB had a positive TST result and 86% had a positive QFT-TB test result; and 60% of patients with pulmonary *Mycobacterium avium* complex disease had a positive TST result and 7% had a positive QFT-TB test result. The QFT-TB test had a mean sensitivity of 86% and a mean specificity of 94%. During treatment, the rate of positive QFT-TB test results for patients with active TB transiently decreased as follows: baseline, 86%; 2 months, 90%; 4 months, 69%; 6 months, 50%; 9 months, 43%; and 12 months, 33%. Of 21 patients with active TB who had successfully completed treatment, 7 (33%) continued to test positive for infection via QFT-TB. The QFT-TB test is useful for differentiating active TB from NTM as compared with the TST; however, this test may not provide any level of certainty regarding cure.

Kobashi Y, Obase Y, Fukuda M, et al. Clinical reevaluation of the QuantiFERON TB-2G test as a diagnostic method for differentiating active tuberculosis from nontuberculous mycobacteriosis. Clin Infect Dis 2006;43:1540–6.

Dr. Slim is an assistant professor of medicine, Seton Hall University, South Orange, NJ. Abstracts written by Rita E. Gould, Hospital Physician.