Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

TRANSSCROTAL TESTOSTERONE DELIVERY AND HIV-RELATED WEIGHT LOSS

A study examined the effects of transdermal scrotal testosterone patches (6 mg/day) on AIDS-infected male patients (n = 133) who had lost between 5% and 20% of their baseline body weight. Patients with a morning serum total testosterone level ≤ 400 ng/dL or a morning serum free testosterone level ≤ 16 pg/mL were randomized to receive testosterone or placebo patches, which were applied each morning and worn for 22 to 24 hours each day. Patients were evaluated at weeks 2, 4, 8, and 12 after randomization. Weight was measured at all visits; serum hormone levels, bioelectrical impedance assessment of body composition, overall nutrition, and quality of life were measured at baseline and weeks 4, 8, and 12. At week 12, the mean total testosterone level in the patients in the testosterone group was 697 ± 327 ng/dL, a mean increase of 277 ± 43 ng/dL from baseline. Patients in the placebo group demonstrated no significant change in total testosterone levels. At week 4, changes in free testosterone levels were evident in testosterone-treated patients and maintained through the study, with a mean level of 24 ± 11 pg/mL at week 12 and a mean change of 11 ± 2 pg/mL. No changes were observed in the placebo group. No statistically significant differences were observed between the testosterone and placebo groups in terms of body cell mass or weight, caloric or protein consumption, immunologic parameters, and quality of life measures. The study concluded that testosterone replacement administered via a scrotal patch does not reverse the loss of body cell mass or improve quality of life.

Dobs AS, Cofrancesco J, Nolten WE, et al: The use of a transscrotal testosterone delivery system in the treatment of patients with weight loss related to human immunodeficiency virus infection. Am J Med *1999;107:126–132.*

IMPLANTABLE CENTRAL VENOUS ACCESS DEVICES AND MORBIDITY IN AIDS PATIENTS

A prospective study followed AIDS patients with implanted central venous access devices (PACs) to identify complications and determine device-related morbidity associated with long-term use. Two main types of complications were considered: noninfectious (bleeding, occlusion, flow problems, displacement of the chamber, bending of the catheter, and subcutaneous seroma) and infectious (chamber infection, pocket infection, PAC-related bacteremia, and secondary PAC infection). Neutropenia was defined by an absolute granulocyte count of $< 1.0 \times 10^9$/L. Seventy-nine PACs were implanted in 68 HIV-infected patients within a 5-year period. All patients had AIDS with a mean CD4 lymphocyte count of 0.039 (± 0.036) $\times 10^9$/L (range, 0.004–0.12 $\times 10^9$/L). Overall, 40 PAC-related complications (0.19 per 100 PAC-days) occurred in 32 patients (47%), leading to the removal of 16 devices (20.2%). Thirty-three infectious complications occurred in 28 patients. Chamber infection was present in 32 cases (97%) and pocket infection developed in one patient (3%). Twenty-two infectious events occurred while the patient was neutropenic (66.7%); the degree of neutropenia influenced the rate of port infection. Neutropenia and an extremely low CD4 cell count ($< .025 \times 10^9$/L) were independent predictors of PAC infection. The study concluded that PAC-related complications, especially infection, are exceedingly frequent in patients with AIDS. Antibiotic lock therapy may be useful in cases of port infection.

Domingo P, Fontanet A, Sanchez F, et al: Morbidity associated with long-term use of totally implantable ports in patients with AIDS. Clin Infect Dis *1999;29:346–351.*

POTENT ANTIRETROVIRAL THERAPY OF PRIMARY HIV-1

A study examined the effect of standard combination therapy with zidovudine, lamivudine, and indinavir in 16 patients with symptomatic primary HIV-1 infection (PHI). Patients were treated for 52 weeks; all treated patients remained clinically well at 52 weeks with no HIV disease progression. At week 36, plasma HIV RNA levels for the PHI patients were < 50 copies/mL. CD4 cell counts were comparable to HIV-1–uninfected controls and higher than untreated PHI patients at 52 weeks. CD8 T lymphocyte counts for treated PHI subjects remained elevated at 52 weeks compared with HIV-1–uninfected controls and were not significantly different from the untreated PHI patients. During viral load reduction, a linear relationship between the percentage of activated (CD38+HLA-DR+) CD8 T lymphocytes and HIV-1 plasma viral load was evident in individual treated patients. The study concluded that standard antiretroviral therapy initiated during PHI appears to prevent permanent loss of important subsets of CD4 lymphocytes, particularly when treatment precedes the antibody response to HIV-1.

Zaunders JJ, Cunningham PH, Kelleher AD, et al: Potent antiretroviral therapy of primary human immunodeficiency virus type 1 (HIV-1) infection: partial normalization of T lymphocyte subsets and limited reduction of HIV-1 DNA despite clearance of plasma viremia. J Infect Dis *1999;180:320–329.*

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