

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

TMP-SMX IN THE TREATMENT OF WOMEN WITH UNCOMPLICATED URINARY TRACT INFECTIONS

Researchers evaluated the efficacy of trimethoprim-sulfamethoxazole (TMP-SMX) in the treatment of women in Israel who had uncomplicated urinary tract infections (UTIs) caused by TMP-SMX-resistant pathogens. Subjects (N = 618) were healthy, nonpregnant, premenopausal women age 18 years and older with a clinical diagnosis of lower UTI. These women were assessed for the presence of pyuria and bacteriuria; if either was present, a urine sample was cultured and TMP-SMX (160 mg/800 mg twice daily for 5 days) was prescribed. Clinical and microbiological cure was assessed at 5 to 9 days (visit 2) and at 28 to 42 days (visit 3) after cessation of therapy. In 71% of patients, cultures grew TMP-SMX-susceptible organisms, and in 29% of patients, cultures grew TMP-SMX-resistant organisms. *Escherichia coli* was the most common infecting organism in both groups. At visit 2, the rate of bacteriologic cure was significantly different in the two groups: 86% of women infected with TMP-SMX-susceptible bacteria had sterile cultures, compared with only 42% of women infected with TMP-SMX-resistant strains. Similar results were found on clinical evaluation at visit 3. Researchers concluded that because administration of TMP-SMX to women with uncomplicated UTIs caused by TMP-SMX-resistant pathogens results in bacteriologic and clinical failure, TMP-SMX should not be used as the empiric drug of choice in high-resistance areas.

Raz R, Chazan B, Kennes Y, et al. Empiric use of trimethoprim-sulfamethoxazole (TMP-SMX) in the treatment of women with uncomplicated urinary tract infections, in a geographical area with a high prevalence of TMP-SMX-resistant uropathogens. Clin Infect Dis 2002;34:1165-9.

LAMIVUDINE FOR CHRONIC HEPATITIS B IN CHILDREN

A randomized, double-blind, placebo-controlled study evaluated the safety and efficacy of lamivudine treatment in children chronically infected with hepatitis B virus (HBV). Children (2-17 years of age) with chronic HBV infection were randomized (in a 2:1 ratio) to receive either lamivudine 3 mg/kg body weight per day (maximum dose, 100 mg) orally or placebo once daily for 52 weeks. The primary endpoint was virologic response (defined by the absence of serum hepatitis B e antigen [HBeAg] and serum HBV DNA) at week 52 of treatment. Patients were assessed 2, 4, and 8 weeks after initiation of therapy, every 8 weeks until week 48, and at week 52. By week 52, a virologic response had occurred in 23% of children in the lamivudine group, compared with 13% of children in the placebo group ($P = 0.04$). Lamivudine therapy was well tolerated and also was associated with higher rates of seroconversion from HBeAg to

hepatitis B e antibody, normalization of alanine aminotransferase levels, and suppression of HBV DNA. Researchers concluded that 52 weeks of treatment with lamivudine was associated with a significantly higher rate of virologic response in children with chronic HBV than was placebo.

Jonas MM, Kelley DA, Mizerski J, et al. Clinical trial of lamivudine in children with chronic hepatitis B. N Engl J Med 2002;346:1706-13.

IDENTIFICATION OF PRIMARY HIV INFECTION

A prospective cohort study evaluated the sensitivity and specificity of symptoms, 3 HIV-1 RNA assays, a p24 antigen enzyme immunoassay (EIA), and a third-generation EIA antibody test in diagnosing primary HIV infection (PHI). Of 258 eligible persons screened for PHI, 40 had primary/early infection (22 preseroconversion, 18 within 6 months of seroconversion) and 218 did not. Seven participants with preseroconversion HIV-1 infection from a second center were added for evaluating laboratory tests. The main outcome measure was PHI, defined as a negative or indeterminate antibody test with subsequent conversion. Fever and rash were the symptoms most strongly associated with PHI in a multivariate analysis. The sensitivity and specificity, respectively, for detecting preseroconversion HIV infection were: p24 antigen, 79% and 99%; third-generation EIA, 79% and 97%; HIV-1 RNA by branched chain DNA, 100% and 95%; HIV-1 RNA by polymerase chain reaction, 100% and 97%; and HIV-1 RNA by transcription-mediated amplification testing, 100% and 98%. False-positive HIV-1 RNA tests were not reproducible and had values of less than 3000 copies/mL, whereas only 1 person with confirmed PHI was in this range. HIV-1 RNA tests are very sensitive for PHI, but false-positive results can occur. This likelihood can be reduced by regarding HIV-1 RNA levels of less than 5000 copies/mL as indeterminate results requiring additional testing. The authors suggest an algorithm for evaluating patients with suspected PHI. They further note that the specificity of diagnostic testing for PHI is lower than that of HIV-1 antibody tests, and follow-up testing to confirm subsequent seroconversion is desirable.

Hecht FM, Busch MP, Rawal B, et al. Use of laboratory tests and clinical symptoms for identification of primary HIV infection. AIDS 2002;16:1119-29.

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