Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

PEGINTERFERON ALFA-2a IN PATIENTS WITH CHRONIC HEPATITIS C

A phase 3, open-label, parallel-dose, randomized trial was conducted to compare the efficacy and safety of a regimen of peginterferon alfa-2a with those of a regimen of interferon alfa-2a in the initial treatment of patients (N = 531) with chronic hepatitis C. Patients were randomly assigned to receive either 180 µg of peginterferon alfa-2a subcutaneously once per week for 48 weeks (n = 267) or 6 million units of interferon alfa-2a subcutaneously 3 times per week for 12 weeks, followed by 3 million units 3 times per week for 36 weeks (n = 264). Patients were followed until week 72 to assess whether there was a sustained response to treatment, defined as an undetectable level of hepatitis C virus (HCV) RNA (< 100 copies/mL). The baseline characteristics of the patients in the 2 treatment groups were similar. In an intention-to-treat analysis, in which patients who missed the examination at the end of treatment or follow-up were considered not to have had a response at that point, peginterferon alfa-2a was associated with a higher rate of virologic response than was interferon alfa-2a at week 48 (69% vs 28%, $P = 0.001$) and at week 72 (39% vs 19%, $P = 0.001$). Sustained normalization of serum alanine aminotransferase concentrations at week 72 was also more common in the peginterferon group than in the interferon group (45% vs 25%, $P = 0.001$). The 2 groups were similar with respect to the frequency and severity of adverse events, and the adverse events were typical of those previously reported with standard therapy with unmodified interferon-alfa. The study concluded that in patients with chronic hepatitis C, a regimen of peginterferon alfa-2a given once weekly is more effective than a regimen of interferon alfa-2a given 3 times weekly.

Zeuzem S, Feinman SV, Rasenack J, et al. Peginterferon alfa-2a in patients with chronic hepatitis C. N Engl J Med 2000;343:1666–72.

EMERGENCE OF DRUG-RESISTANT STRAINS OF STREPTOCOCCUS PNEUMONIAE

Using data on invasive *Streptococcus pneumoniae* disease in patients identified from 1995 to 1998 in the Active Bacterial Core Surveillance program of the Centers for Disease Control and Prevention, a study was conducted to assess trends in antimicrobial resistance among pneumococcal isolates. Pneumococci that had a high level of resistance or had intermediate resistance according to the definitions of the National Committee for Clinical Laboratory Standards were defined as *resistant* for this analysis. Between 1995 and 1998, the proportion of isolates that were resistant to 3 or more classes of drugs increased from 9% to 14%. There were also increases in the proportions of isolates that were resistant to penicillin, cefotaxime, meropenem, erythromycin, and trimethoprim-sulfamethoxazole. (It was only the *S. pneumoniae* isolates that were resistant to penicillin that became increasingly resistant to other agents.) The study concluded that multidrug-resistant pneumococci are common and are increasing. However, because a limited number of serotypes account for most infections with drug-resistant strains, the new conjugate vaccines offer protection against most drug-resistant strains of *S. pneumoniae*. The authors noted that the trend toward greater proportions of pneumococci that have resistance to multiple antimicrobial agents calls for expanded efforts to reduce the unnecessary use of antimicrobial agents and to encourage the use of narrow-spectrum agents.

Whitney CG, Farley MM, Hadler J, et al. Increasing prevalence of multidrug-resistant Streptococcus pneumoniae *in the United States. N Engl J Med 2000;343:1917–24.*

DIAGNOSIS OF PRIMARY HIV-1 INFECTION

A prospective cohort study was conducted to determine the sensitivity and specificity of virologic tests and specific clinical symptoms for diagnosing primary HIV infection. Three cohorts of patients who had symptoms consistent with primary HIV infection (N = 436) were evaluated. Patients in cohorts 1 and 2 had real-time testing for HIV antibodies and p24 antigen by a polyclonal enzyme immunoassay. Patients in cohort 3 were screened by using HIV antibody enzyme immunoassay. The patients in cohort 2 were also studied with regard to clinical predictors of primary HIV infection. Demographic characteristics were similar across the cohorts. Primary infection was diagnosed in 54 patients (12.4%). The sensitivity and specificity of the p24 antigen assay were 88.7% and 100%, respectively. For the HIV RNA assay, sensitivity was 100%, and specificity was 97.4%. Fever, myalgia, rash, night sweats, and arthralgia occurred more frequently in patients with primary infection. However, the study concluded that no clinical symptoms have sufficient sensitivity or specificity for primary infection to allow targeted screening of at-risk persons, and although assays for HIV RNA are more sensitive than those for p24 antigen in diagnosing primary infection, they are more expensive and are more likely to yield false-positive results.

Daar ES, Little S, Pitt J, et al. Diagnosis of primary HIV-1 infection. Ann Intern Med 2001;134:25–9.

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