

Abstracts of current literature on epidemiology, diagnosis, and treatment

Series Editor: Jihad Slim, MD

RELIABILITY OF TUBERCULIN SKIN TEST READINGS

Researchers determined the reliability of tuberculin skin test (TST) readings between 144 and 168 hours (6 and 7 days) as compared with the standard 48 and 72 hours (2 and 3 days) as well as determined the reliability of Aplisol versus Tubersol reagents compared with interferon- γ release assay (IGRA). Tuberculin antigen was applied into both forearms (Aplisol in one arm and Tubersol in the other, from single lots of each product) by the Mantoux method; blood samples were obtained for IGRA. Patients were seen between 48 and 72 hours for the initial (day 2) TST reading and returned between 144 and 168 hours for a second (day 7) reading. Patients (N = 116) at increased risk for tuberculosis were studied; 25 (22%) had positive results at day 2 with Tubersol, and 27 (23%) had positive results at day 2 with Aplisol. Overall agreement between Tubersol and Aplisol at day 2 was 93% ($\kappa = 0.80$) and at day 7 was 94% ($\kappa = 0.76$). Overall agreement between days 2 and 7 was 89% for Tubersol and 86% for Aplisol. Discordant results between days 2 and 7 occurred mostly in persons with a history of bacille Calmette-Guérin (BCG) vaccination. TST readings are reliable up to 7 days, and the Aplisol and Tubersol reagents produce similar results when compared with IGRA.

Tat D, Polenakovic H, Hercline T. Comparing interferon- gamma release assay with tuberculin skin test readings at 48–72 hours and 144–168 hours with use of 2 commercial reagents. Clin Infect Dis 2005;40:246–50.

EFFECT OF BCG VACCINATION ON TUBERCULIN SKIN TEST REACTION

To determine an age-based cutoff diameter of TST induration beyond which the influence of BCG vaccination was negligible in evaluating potential *Mycobacterium tuberculosis* infection in a population with a high vaccination rates and low tuberculosis incidence, investigators recruited 5117 new employees hired between 1991 and 1998 at the University Hospital of Lausanne, Switzerland. Subjects underwent a 2-step TST at entry visit; investigators also collected demographic information, including factors commonly associated with tuberculin positivity (eg, previous BCG vaccination, history of latent *M. tuberculosis* infection, and predictors for *M. tuberculosis* infection). Influence of BCG vaccination on TST results varied across age categories (likelihood ratio test, 0.0001). Prior BCG vaccination had a strong influence on TST results of ≤ 18 mm in diameter among persons younger than age 40 years as compared with the influence of factors that predict *M. tuberculosis* infection. Prior latent *M. tuberculosis* infection and travel or employment in a country where tuberculosis is endemic also had significant influences.

Interpretation of TST reactions of ≤ 18 mm among BCG-vaccinated persons younger than age 40 years must be done with caution in areas with a low incidence of tuberculosis. In such a population (except unvaccinated persons), TST reactions of ≤ 18 mm are more likely to be indicative of prior vaccination than infection and should not systematically lead to preventive treatment.

Tissot F, Zanetti G, Francioli P, et al. Influence of bacille Calmette-Guérin vaccination on size of tuberculin skin test reaction: to what size? Clin Infect Dis 2005;40:211–7.

COMBINED PEGYLATED INTERFERON ALFA-2B AND LAMIVUDINE FOR HB_eAG-POSITIVE CHRONIC HEPATITIS B

To determine whether a combined, long-term treatment regimen increases the rate of sustained response in chronic hepatitis B, the authors assigned 307 hepatitis B e antigen (HB_eAg)-positive patients with chronic hepatitis B to either combined pegylated interferon alfa-2b (100 μ g/wk) and lamivudine (100 mg/d) or monotherapy (pegylated interferon alfa-2b [100 μ g /wk] and placebo) for 52 weeks. During weeks 32 through 52, the pegylated interferon dose was reduced to 50 μ g/wk in both treatment groups. The analyses were based on the modified intention-to-treat population after 41 patients were excluded. All included patients were followed up for 26 weeks after treatment. Of 136 patients assigned to monotherapy and 130 assigned to combined therapy, 49 (36%) and 46 (35%), respectively, had lost HB_eAg at the end of follow-up ($P = 0.91$). More patients receiving combination therapy than patients receiving monotherapy had cleared HB_eAg at the end of treatment (57 [44%] versus 40 [29%]; $P = 0.01$), but this response was not sustained during follow-up. Patterns were similar when response was assessed by suppression of serum hepatitis B virus (HBV) DNA or change in concentrations of alanine aminotransferase. Response rates (HB_eAg loss) varied by HBV genotype ($P = 0.01$): A, 42 (47%) patients; B, 10 (44%); C, 11 (28%); and D, 26 (25%). Treatment with pegylated interferon alfa-2b is effective for HB_eAg-positive chronic hepatitis B. Combined pegylated interferon alfa-2b/lamivudine is not superior to monotherapy. HBV genotype is an important predictor of response to treatment.

Janssen HL, van Zonneveld M, Senturk H, et al. Pegylated interferon alfa-2b alone or in combination with lamivudine for HB_eAg-positive chronic hepatitis B: a randomised trial. Lancet 2005;365:123–9.

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