



Mycobacterium tuberculosis

PIC QUESTION OF THE WEEK: 2/19/07

Q: Can the use of Nasacort AQ interfere with interpretation of a tuberculin skin test?

A: Triamcinolone acetonide (Nasacort AQ) is an intranasal steroid indicated for treatment of the nasal symptoms of seasonal and perennial allergic rhinitis in adults and children 6 years of age and older. A single intranasal dose delivers approximately 220 mcg of triamcinolone resulting in a plasma concentration of 0.1 to 1 ng/ml (mean 0.5 ng/ml). Tuberculosis (TB) is a chronic bacterial infection caused by *Mycobacterium tuberculosis*. Most individuals infected with the bacterium are asymptomatic and identified as having *latent* TB. It is estimated that 10 to 15 million people in the United States have latent TB. Intradermal skin testing with purified protein derivative (PPD) is the standard screening mechanism for identification of individuals infected with *M. tuberculosis*. Reactivity to PPD may be reduced in those who are immunocompromised because a functioning cellular immune system is necessary for optimal response to the antigen. Corticosteroids can be sufficiently immunosuppressive to result in a falsely negative PPD. The potential for corticosteroids to affect interpretation of this skin test is dependent on dosage and duration of therapy. A dose of ≥ 20 mg/day or 2 mg/kg of prednisone (or its equivalent) for a period of ≥ 14 days is considered sufficient to alter the immune response to live or attenuated vaccines. The American Thoracic Society and Centers for Disease Control and Prevention (CDC) provide guidelines for interpretation of the tuberculin skin test. They recommend that induration of ≥ 5 mm be considered a positive response in those receiving prednisone at a dose of > 15 mg per day for more than one month. The CDC still recommends waiting 3 months, then repeating the PPD after discontinuation of a *short-term* course of corticosteroids. This suggestion is made to avoid misinterpretation of the test. Although the exact relationship of corticosteroid dosage on PPD testing has not been established, it is apparent that systemic administration can affect dermal response. The CDC does, however, state that topical or nasal steroids, aerosols, alternate-day or short-course therapy are not immunosuppressive and should not interfere with interpretation of the test. Based on the minimal systemic absorption of Nasacort AQ, it is highly unlikely that use of this product would affect response to the tuberculin skin test.

References:

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- National Institutes of Health. Tuberculosis. <http://www.niaid.nih.gov/ffactsheets/tb.htm> (accessed 2007 February 16)
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The PIC Question of the Week is a publication of the Pharmaceutical Information Center, Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA 15282