Minocycline treatment results in reduced oral steroid requirements in adult asthma.


Source

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Abstract

The tetracycline antibiotics have pleiotropic anti-inflammatory properties that may explain their therapeutic benefit in rheumatoid arthritis and acne. As these agents suppress both cellular and humoral immune responses, they may be of benefit in treating asthma and other allergic disorders. The purpose of this study was to determine whether minocycline therapy of asthma has steroid sparing effects beyond its inherent antibiotic properties. Adult asthmatic patients (n = 17) were treated with minocycline 150 mg p.o. twice daily or placebo for 8 weeks in a randomized, double-blind, placebo-controlled crossover study. Patients were evaluated for clinical improvement in oral steroid requirements, spirometry, and symptom scores (Asthma Quality of Life Questionnaire). They underwent assessment for preexisting infection (CT facial sinuses, Chlamydia pneumoniae nasopharyngeal culture, and C. pneumoniae and Mycoplasma pneumoniae serology). Minocycline use was associated with a 30% reduction in mean daily prednisone use compared with placebo (8.8 mg versus 14.4 mg, respectively; p = 0.02). Pulmonary function testing showed improvement in forced vital capacity (FVC; percent predicted; p = 0.03) and improvement in actual FVC and forced expiratory volume in 1 second (percent predicted) approached statistical significance (p = 0.05 and 0.08, respectively). Minocycline treatment was associated with significant improvement in asthma symptoms brought on by environmental triggers (p = 0.01). This preliminary study of minocycline therapy showed oral steroid-sparing properties for those with moderate persistent and severe persistent asthma.

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