

Drugs. 2004;64(4):363-74.

## **Allergic fungal sinusitis : pathogenesis and management strategies.**

**Schubert MS.**

Allergy Asthma Clinic, Ltd, Phoenix, Arizona, USA  
Department of Medicine,  
University of Arizona College of Medicine, Phoenix and Tucson, Arizona,  
USA.

Allergic fungal sinusitis (AFS) is a noninvasive form of highly recurrent chronic allergic hypertrophic rhinosinusitis that can be distinguished clinically, histopathologically and prognostically from the other forms of chronic fungal rhinosinusitis. There are three invasive (acute necrotising, chronic invasive and granulomatous invasive) and two noninvasive (fungal ball and allergic fungal) forms of fungal rhinosinusitis currently recognised. Confusion in differentiating between the various forms of fungal rhinosinusitis and between other forms of chronic hypertrophic sinus disease (HSD) can be eliminated by adhering to strict diagnostic criteria. Although there are characteristic presenting clinical history and physical examination findings, laboratory test results, including elevated total serum IgE and positive inhalant allergy skin tests, and sinus computed tomography scans showing chronic rhinosinusitis (often with the presence of hyperattenuating sinus contents) diagnosis of AFS is essentially based on histopathology obtained from sinus surgery. Histopathology shows the presence of eosinophilic-lymphocytic sinus mucosal inflammation, extramucosal allergic mucin (that is also seen grossly at surgery as a characteristic 'peanut-buttery' material), and scattered silver stain positive fungal hyphae within the allergic mucin but not in the mucosa. Treatment and follow up of AFS has been based on its immunopathological analogy to allergic bronchopulmonary aspergillosis, a similar noninvasive fungal hypersensitivity disorder of the lung, and its clinical and pathophysiological relationship to other forms of HSD and asthma. Treatment involves aggressive sinus surgery followed by medical management that includes allergen immunotherapy, topical and systemic corticosteroids, antihistamines and antileukotrienes. Total serum IgE levels should be followed postoperatively as they can be prognostic for recurrent disease. Close follow up and coordination of treatment by both medical and surgical physicians as a team leads to the best clinical outcomes. Ongoing studies are being directed at furthering our understanding of the pathophysiological relationships and treatment options for AFS, and other common forms of chronic hypertrophic rhinosinusitis disorders.