

Allergic fungal sinusitis and Eosinophilic Mucin Rhinosinusitis

Dr. MOHAMED FAROUK HELAL, M.D.
Assoc. Prof. of ENT , Military Medical Academy. Cairo- Egypt

BACKGROUND: Allergic fungal sinusitis (AFS) was recognized in 1981. Since 1983, a form of sinusitis histologically similar to AFS except for the absence of fungal hyphae has also been noted. The designation "eosinophilic mucin rhinosinusitis (EMRS)" is proposed. Its relationship to AFS is controversial and problematic. OBJECTIVE: To determine whether distinctive clinical and immunological differences exist to differentiate the histological entity of EMRS from AFS. STUDY DESIGN: Patients with histologic evidence of allergic mucin, with and without fungus, were identified and retrieved from the surgical pathology files of a tertiary-care institution. The patients were separated into 2 groups for analysis, and their clinical and pathologic findings were reviewed and compared .AFS (n = 13) and EMRS (n = 29) accrued in the present study. RESULTS: A total of 13 AFS patients were compared with 29 EMRS patients. The mean age of patients with AFS was significantly younger than patients with EMRS (30.7 y compared with 48.0 y, respectively; P < .001). Male-to-female ratios were 1.26:1 for AFS and EMRS, and were not significantly different. Forty-one percent of patients with AFS were asthmatic compared with 93% of patients with EMRS (P < .0001). Thirteen percent of patients with AFS were aspirin sensitive compared with 54% of patients with EMRS (P < .0001). Polyp occurrence was almost 100% in both groups. Eighty-four percent of patients with AFS had allergic rhinitis (AR), while only 63% of patients with EMRS had AR (P = .004). Fifty-five percent of AFS patients had bilateral disease, in contrast to the 100% of EMRS patients with bilateral disease (P < .0001). Although average total immunoglobulin E (IgE) was elevated in both groups, it was significantly more elevated in AFS patients (range, 12-13,084 mg/ dL; mean, 1,941 mg/dL) compared with EMRS patients (range, 14-1,162 mg/dL; mean, 267 mg/dL; P < .001). CONCLUSIONS: Significant clinical and immunological differences exist to distinguish AFS from EMRS. It is postulated that AFS is an allergic response to fungi in predisposed individuals, while EMRS occurs because of a systemic dysregulation of immunological controls. Because EMRS is a systemic disease, unilateral disease is not seen. In contrast, AFS, an allergic response to fungi, may occur unilaterally or bilaterally depending on the antigenic stimulation. EMRS also has a significantly higher association with asthma, an increased incidence of aspirin sensitivity, and an increased incidence of IgG1 deficiency. Therapy with a systemic steroid, a potent and indiscriminant anti-inflammatory agent, is a useful adjunct in both disorders. Fungal immunotherapy following surgical extirpation of AFS is useful in preventing AFS recurrence. It is predicted that fungal immunotherapy and antifungal agents will be ineffective in patients with EMRS. It is important to differentiate these two similar histopathological entities in future trials assessing therapeutic efficacy. Inclusion of both entities in a study could obscure recognition of the true effectiveness of intervention, because of the possible variable response differences between the two entities. This study shows that significant clinical and immunological differences exist between EMRS and AFS. The future awaits an exploration of the pathophysiological basis of these differences

Mohamed Farouk Helal is associated prof. of ENT at Military Medical Academy, Egypt. Now is ENT Consultant. Dallah Hospital, KSA. He has especial interest in Endoscopic sinus surgery Surgery. Ex-Major General Dr. at Egyptian Armed Forces. Winer of Long Service and Set Good Example Medal from Mr. Presendent of Egypt 2007.

Presenting author details
Full name: Mohamed Farouk Helal
Contact number: + 966557038690
Twitter account: @mohamedganabo
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