A rare cause of headache: allergic fungal sinusitis

Baş ağrısının nadir bir nedeni: alerjik fungal sinüzit

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Özet

Allerjik fungal sinüzit, kronik invaziv olmayan fungal sinüzit spektrumunda ayrı bir klinik durumdur. Genel olarak ergenlerde ve genç erişkinlerde görülür. Hastalar genellikle atopi, astım, kronik sinüzit ve burun tıkanıklığı öyküsü vardır. Bu yazıda başağrısı ile başvuran , alerjik fungal sinüziti olan 36 yaşında bir kadın olgu sunuldu. Bu olgu, acil hekimleri için baş ağrısı ile başvuran hastalarda allerjik fungal sinüzit tanısını hatırlatmayı amaçlamaktadır.

Anahtar kelimeler: Alerji, fungal sinüzit, baş ağrısı

Abstract

Allergic fungal sinusitis is a rare clinical entity within the chronic noninvasive fungal sinusitis spectrum. It can be predominantly seen in adolescents and young adults. Patients usually have a history of atopy, asthma, chronic sinusitis and nasal obstruction. In this article, we report a case of an 36-year-old female with allergic fungal sinusitis which only presented as headache. This case aims to keep the diagnosis of allergic fungal sinusitis in patients who present with headache for emergency physicians.

Keywords: Allergy, fungal sinusitis, headache

INTRODUCTION

Allergic fungal sinusitis (AFS) which is a non-invasive form of sinusitis, result from the IgE-mediated hypersensitivity reaction to fungal antigen in atopic person (1). It usually follows a leisurely, non-thrusting course and a broad range of fungal agents have been involved, commonly include Aspergillus, Alternaria, Bipolaris and Curvularia. Generally, AFS can be caused by Aspergillus (2). The diagnostic criteria for AFS described by Bent and Kuhn, including the following major criteria: (a) characteristic computed tomography (CT) findings of chronic paranasal sinusitis, (b) nasal polyposis, (c) allergic mucin, (d) identification of fungi in the paranasal sinus contents without fungal invasion of the tissue and (e) type I allergy confirmed by history, positive skin tests or serology (3). In this article, we report a case of an 36-year-old female with AFS which presented as headache. This case aims to keep the diagnosis of AFS in patients who present with headache for emergency physicians.

CASE REPORT

A thirty six-year-old female was admitted to emergency department with nasal obstruction and headache lasting for 2-month. It can be started with headache, which was holocranial, progressively increasing in intensity and associated with thin nasal discharge. She suffered from sneezing, an itchy nose and occasional nasal blockage that eventually became severe. Mucopurulent discharge and postnasal drip in association with headache were also recorded. She did not receive any medications and did not suffer from any food or drug allergies. She did not report any history of chronic or atopic diseases. Conventional analgesics and various drugs were prescribed by physicians in the past 2 weeks but had no effect. She had no diplopia and visual acuity was intact and

tympanic membranes were clear. Physical examination revealed no abnormalities and no significant evidences of sinonasal tract infection. Examinations of the respiratory system, cardiovascular system and gastrointestinal tract were unremarkable. Nasal endoscopy showed a bilateral nasal polyposis extending from the middle meatus. The laboratory test results on admission were within the normal limits except elevated total immunoglobulin (IgE). A CT scan revealed a paranasal sinuses had soft tissue densities leading to loss of ventilation, right maxillary and frontal sinuses had an increase of density which was supporting fungal colonization (Figure1-2). Diagnosed as AFS and she was referred to the ear, nose and throat diseases clinic and the patient were treated with endoscopic sinus surgery, with post-operative steroids and nasal irrigation. Patient was completely relieved of her symptoms and were regular follow-up.

DISCUSSION

Fungal sinusitis is considered as a rare disease, but it can be reported that to be increasing worldwide over the past decade. Histopathologically, two different forms of fungal sinusitis are known: invasive and non-invasive. Invasive fungal sinusitis includes acute fulminant, chronic and granulomatous invasive forms of sinusitis; the non-invasive forms include AFS and fungal mycetoma. AFS is a clinically, pathologically and prognostically distinct form of rhinosinusitis and occurs in individuals with atopic immunodeficiency. AFS is commonly seen in adolescents and young adults; the average age of the presentation is 21. The male-to-female (M/F) ratio is equal (4). In accordance with the literature our patient was young.

The diagnostic criteria for AFS described by Bent and Kuhn,which is most widely accepted criteria for diagnosis. There are five criteria : (1) type 1 hypersensitivity to fungi; (2) nasal polyposis; (3) characteristic CT findings; (4) eosinophilic mucin; and (5)

positive fungal smear or culture (5). This case report presents a patient who fulfilled Bent-Kuhn criteria for AFS. She had elevated IgE levels in response to the fungal infection, which suggests a type I hypersensitivity reaction, evidence of nasal polyps and documentation of deformity and disease on CT.

Patients with AFS generally present with nasal congestion, postnasal drainage or headache. Headache position can be quite variable: retro-orbital, vertex occipital and diffuse headache are common. The typical headache is usually described as transient, intermittent, localized or throbbing character and aggravated by standing, walking, bending, or coughing and often interferes with sleeping because it may be even worse in the evening (6-8).

CT scanning and magnetic resonance imaging are quite specific for AFS. Imaging occurs non-specific and the diagnosis is clinically important: pansinusitis or polysinusitis, whether unilateral or bilateral, sometimes with a pseudo-tumoral aspect, heterogeneous opacities with bone changes. Some authors consider heterogeneous opacification of the sinuses a pathognomonic sign (9,10).

The International Headache Society (IHS) has established criteria for ‘‘Sinusitis-related headache’’ and the revised IHS classification which reiterates the requirement of clinical findings of acute sinusitis, along with a reversible ‘‘sinus headache’’, represents a very good reference also for ear, nose and throat specialists and can be largely shared (11) .The headache character in our case is similar to sinus headache.

The optimal medical therapy for AFS has not been determined. Systemic steroids are the mainstay of treatment although steroids have multiple side effects and their use is controversial. Patients with recurrent AFS have been recommended to take systemic

corticosteroids after extensive debridement of all affected sinuses. Topical intranasal steroid sprays have minimal side effects and are routinely used in the postoperative treatment of AFS. However, the duration and efficacy of steroid sprays in AFS have not been proven scientifically. The role of antifungal therapy in the treatment of AFS is not clear. Topic antifungal agent irrigation may reduce the fungal load and hence decrease antigenic stimuli (12,13).

In conclusion; in the intractable headache patient, emergency physicians should be aware of AFS and early diagnosis and appropriate treatment provide the key in achieving favorable outcomes.

Informed Consent: The author stated that the written consent was obtained from the patient presented in the study.

Conflict of Interest: No conflict of interest was declared by the authors.

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Figure 1: Maxillary and frontal sinuses had an increase of density which was supporting fungal colonization (yellow arrow:maxillary sinüs, yellow star:frontal sinüs)

Figure 2: Frontal sinus had an increase of density which was supporting fungal colonization (yellow star:frontal sinüs)