Case Report

Aspergillous Sinusitis

Roya Alavi-Naini*, A Moghtaderi**

Abstract

Chronic invasive aspergillous sinusitis is an uncommon disease that usually occurs in healthy individuals. Chronic invasive aspergillus sinusitis is inadequately characterized entity. Despite its rarity, it is going to be recognized increasingly. We report a neglected patient who received several courses of antibiotics before definite diagnosis. Clinical manifestations, differential diagnosis and treatment are discussed. A high degree of awareness for an early diagnosis may participate to improve the poor prognosis.

INTRODUCTION

Fungal rhinosinusitis presents in five clinicopathologic forms, each with distinct diagnostic criteria. Chronic invasive fungal rhinosinusitis is increasingly recognized, but inadequately characterized disease entity which is separate and distinct from acute fulminant invasive fungal sinusitis and allergic fungal sinusitis. Most patients with chronic invasive sinus aspergillosis have no discernible immunocompromising factors, although a substantial minority are diabetic, chronic alcoholic, or HIV infected. It can mimic chronic bacterial sinusitis, as in our patient who was received several courses of antimicrobial antibiotics. Our patient was a case of poorly controlled diabetes mellitus who was treated as a case of chronic bacterial sinusitis for several times and didn’t respond to treatment. Unfortunately, the disease progressed and invasion of fungal hyphae to the orbit led to the blindness of the patient and surgical extraction of the orbit.

CASE REPORT

A 23-year-old girl was referred to our hospital because of chronic headache, diplopia and nasal discharge. She was well since two months ago when she felt right retroorbital pain. One week later she felt frontal headache and cheek pain. An outpatient plain sinus x-ray was interpreted as bacterial sinusitis. She was started on a nasal steroid spray and a course of amoxicillin-clavulanate (Augmentin). The patient failed to respond and several courses of amoxicillin-clavulanate and cefixime was prescribed but headache, nasal discharge and stuffiness were gradually progressed. Five days before admission the patient developed tearing, erythema and swelling of the right eye followed by diplopia on horizontal gaze. The patient was admitted to the hospital. The temperature was 37.2°C; the pulse was 80 / min, and the respirations were 15 / min. The blood pressure was 125/70 mmHg. On physical examination the patient appeared ill. Erythema, swelling and proptosis of the right eye, were prominent. She had a frozen right eye. A caloric test was performed without any response of the involved eye. Visual acuity in the right eye was 1/10. Corneal reflex and pinprick sensation over the eyebrow of the same side was decreased. She had a right facial palsy. Intranasal examination demonstrated mucopurulent discharges and a soft tissue mass centered in the right middle meatus.

She had 10-year history of poorly controlled insulin dependent diabetes mellitus. There was a history of left maxillary and ethmoidal sinusitis of undetermined duration in recent years. A CT scan revealed a soft tissue density in the right nasal cavity with invasion of the frontal, ethmoidal, maxillary and sphenoidal sinuses and infiltration into the orbit (Fig. 1). The hematocrit was 30 percent, the white-cell count was 11,700/mm³, and an automated differential count showed 75% neutrophils and 25% lymphocytes. The platelet count was 235,000/mm³, and the erythrocyte sedimentation rate was 60 mm per hour. The urea nitrogen was 25 mg/dL, the glucose...
260 mg/dL. Liver function tests and electrolytes were normal. Blood culture was negative. Surgery was undertaken and complete débridement of the sinuses and orbital extraction was performed. Pathology demonstrated fungal elements (septate branching hyphae suggestive of *Aspergillus* species), focal necrosis and mononuclear cell infiltration. The culture grew *Aspergillus fumigatus*. After 8 weeks of chemotherapy with Amphotericin B, there has been a substantial reduction of the signs of the disease.

**DISCUSSION**

The combination of extraocular motor palsy, visual loss, pain and sensory disturbance in the territory of first branch of trigeminal nerve represent superior orbital fissure (orbital apex) syndrome. The first description of fungal sinusitis is attributed to Plaignaud in 1791, and the initial citation of aspergillus infection as a cause of fungal sinusitis was reported by Mackenzie in 1893.² It presents in five clinicopathologic forms, each with distinct diagnostic criteria, treatment and prognosis. The invasive forms are acute fulminant, chronic, and granulomatous fungal sinusitis.³ The noninvasive forms are fungal ball (“sinus mycetoma”) and allergic fungal sinusitis (AFS).⁴ Most patients have no discernible immunocompromising factors, although a substantial minority are diabetic, drink alcohol to excess, or have AIDS.⁵,⁶ Symptoms directly related to the invasive nature of the disease may take months or years to appear and may only develop once the orbit or skull base are involved. Invasion into the orbit and maxillary floor may produce proptosis⁷ and palatal erosions⁸ respectively. Erosion of the cribriform plate may cause chronic headache, seizures, decreased mental status, or focal neurologic findings. Extension through the sphenoid sinus may lead to orbital apex syndrome or cavernous sinus syndrome.⁶ The failure of antibiotic therapy prompts the consideration of the diagnosis of indolent aspergillosis.⁹ Chronic invasive aspergillus rhinosinusitis may mimic many other disorders, including benign or malignant neoplasms, pituitary tumors, syphilis, tuberculosis, sarcoidosis, lymphoma, Wegener’s granulomatosis, mucopyocele, rhinoscleroma and allergic fungal rhinosinusitis.¹⁰ Differentiation between a malignant neoplasm and chronic invasive fungal sinusitis by radiologic findings is difficult or impossible. The ultimate distinction between invasive fungal sinusitis and neoplasm is best made histologically. Invasion of mucosa is hallmark of the disease. Conservative surgical removal of the lining of affected sinuses along with prolonged course of antifungal antibiotic therapy is the recommended treatment for the disease and produce excellent prognosis.⁶,⁹,¹¹

**REFERENCES**


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**Announcement**

**XV Annual Conference of API - Bihar Chapter (BAPICON-2005) is going to be organised at Motihari, Bihar on 5th-6th March, 2005.**

For further details please contact: **Dr. D Nath**, Organising Secretary BAPICON-2005. Azad Nagar, Balua Tal, Motihari-845401. East Champaran, Bihar.

Tel: 06252-232662(R), 231684 (C); Email: drdnath@rediffmail.com, drdnath@indiatimes.com