

# Isolated sphenoid sinus aspergillosis: A case report

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## INTRODUCTION

Aspergillosis of the paranasal sinuses is a well recognized entity which was first described by Schubert in 1885. In recent years, the number of published cases has significantly increased (Stammberger et al., 1984). The maxillary sinus is the site most frequently involved. Petersen (1982), in a review, reported less than 120 cases of aspergillosis of the maxillary sinus from the world literature. Infection of the ethmoid and frontal sinuses is less common and the sphenoid sinus is only occasionally affected (Friedmann and Osborn, 1982).

This report deals with a case of isolated sphenoid sinus aspergillosis.

## CASE REPORT

On January 16th 1985 a 47-year-old man was admitted to the Neurology Department with a chief complaint of a continuous, severe frontal headache with exacerbations associated with photophobia for 5 days prior to admission. His past medical history was non-contributory. Neurological and physical examinations were essentially negative, except for indications of a slight slowing down of ideation. Hematological and chemical laboratory findings were within normal limits with the exception of the glucose which was elevated. EEG showed slow abnormalities in the right hemisphere. Visual acuity and ocular mobility were both normal. CSF protein, glucose and cytology were also within normal limits. Because the symptoms persisted, a sinus X-ray was performed which revealed an opacification of the sphenoid sinuses as well as a slight partial opacification of the ethmoid cells. Skull tomograms and computerized tomography (Figure 1) showed the right sphenoid sinus completely filled by radiation dense tissue without evidence of bony destruction. On January 31th 1985, as a result of the radiographic examination as well as the continuing symptomatology, the patient was transferred to the ENT Department. Following the transfer there were no additional significant clinical findings and drug therapy with a wide-spectrum antibiotic was begun. However, after 10 days of antibiotic therapy a follow-up X-ray of the paranasal sinuses showed normal transparency of the ethmoid cells but no change in the sphenoid sinus. Therefore, an exploration of the sphenoid sinus through a transnasal approach was performed and a biopsy was made. Results of the histological and microbiological studies of the mass showed it to be an aspergilloma (Figure 2). Based on

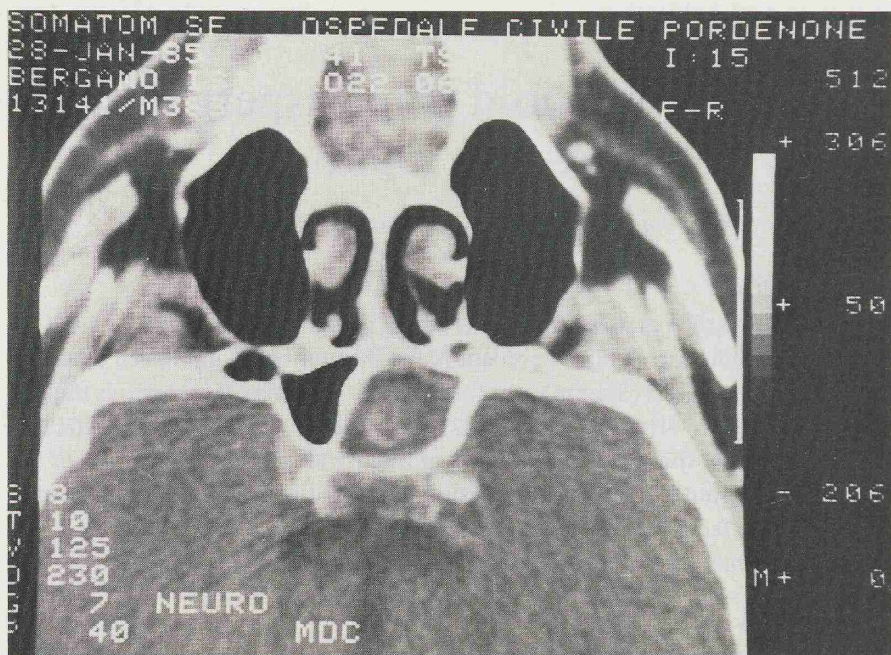


Figure 1. CAT scan at the level of the pituitary fossa. This shows the right sphenoid sinus filled by soft-tissue mass with no bony destruction. Note normally aerated left sphenoid sinus.

this laboratory confirmation of the diagnosis, a decision to perform a second operation to increase the aeration and drainage of the sinus was made. Following surgery, the patient noted a gradual resolution of the headaches and he was discharged on March 16th 1985. Four months after discharge the patient remains asymptomatic.

#### DISCUSSION

Isolated sphenoid sinus aspergillosis is rare. Nielsen et al. (1983), reported only 10 cases in the world literature and added one of their own. Subsequently, other cases have been described (Holt et al., 1984; Rosselet et al., 1984). *Aspergillus fumigatus* and *flavus* are the more common species reported. This fungus becomes pathogenic under anaerobic conditions (Milosev et al., 1969). Systemic (neoplastic and chronic diseases, conditions of immunodeficiency) and local factors (recurring sinusitis, tumours, tooth extraction) increase the incidence of infection. Our patient was affected by diabetes mellitus, which was also discovered during the course of hospitalization.

Differential diagnosis has to be made from tumours, chronic sinusitis, mucocele



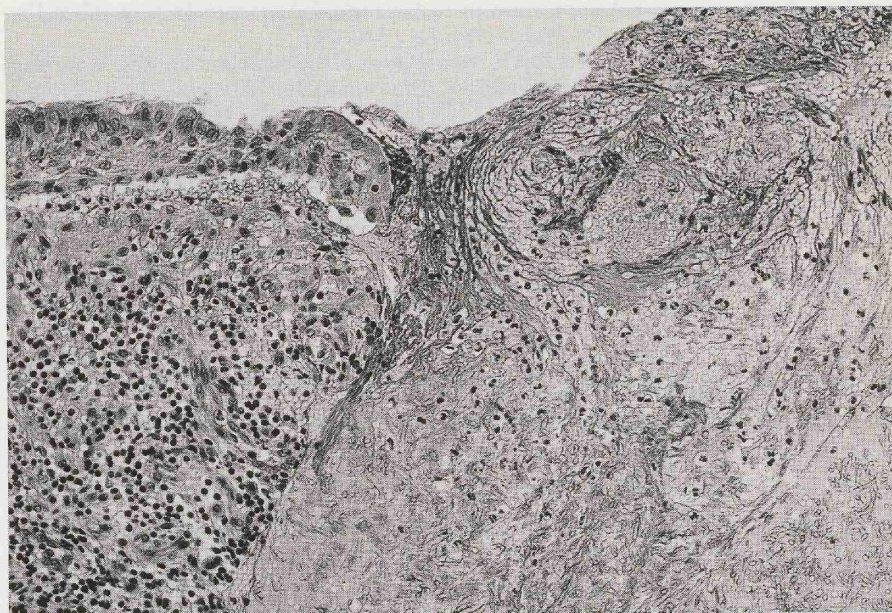


Figure 2. Microscopically, in the affected mucosa granulomatous tissue outlines an accumulation of aspergillus hyphae. There is ulceration with an infiltration by neutrophils. H&E.  $\times 250$ .

and pyoceles. A definitive diagnosis of aspergillosis is supported by histological examination of the biopsic specimen as well as immunodiffusion tests (Coleman and Kaufman, 1972). A biopsy, therefore, should always be made in all cases of "chronic sinusitis" resistant to medical treatment.

Surgery for aeration and drainage and antifungal drugs in invasive cases (combination of amphotericin B with rifampin or 5-fluorocytosine) is the treatment of choice.

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