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Sphenoidal fungal sinusitis with intracranial extension An interesting Case Report

Abstract:

Isolated sphenoid sinusitis is rather rare. Fungal sinusitis is common in immunocompromised patients. In this case report the authors describe an immunocompetent patient with isolated sphenoid fungal sinusitis with intracranial extension with a review of published literature. Unfavorable location and poor ventilation have been attributed as the probable factors involved in isolated sphenoid sinusitis. Considering the location of sphenoid sinus (close to skull base, optic nerve and great vessels) infections involving this sinus is fraught with dangerous complications.

Introduction:

Isolated sphenoid sinus infections are considered to be rather rare. It accounts for roughly about 2.5% of all sinus infections [1]. Commonly sphenoidal sinus infections follow infections of other groups of paranasal sinuses. Aspergillous infections of paranasal sinuses was first reported by Arnico in 1890 [4].

Isolated fungal infections involving sphenoid sinuses are caused by:

1. Unfavorable location of the sinus

2. Poor drainage system

3. Poor ventilation

4. Proximity to vital structures like skull base, optic nerve and great vessels.

Commonest fungi isolated from sphenoid sinus infections is Aspergillus. Aspergillus happens to be a common contaminant of upper respiratory tract, hence it is the most common fungus implicated in sinus infections [2]. According to Miglet's and Saunders only 4 cases of isolated sphenoid sinusitis were reported prior to 1977 [3]. Three of those reported 4 cases turned out to be fatal.

Due to the proximity of sphenoid sinus to vital structures, isolated sphenoid sinus infections may cause severe symptoms like:

1. Blurring of vision

2. Ptosis

3. Loss of vision

4. Meningitis

Isolated sphenoid sinus inflammatory disease clinically manifests commonly with headache and retroorbital pain [5]. Some patients may have bleeding from nose.

Case Report:

48 years old female patient was admitted with complaints of:

Altered consiousness of 2 days duration.

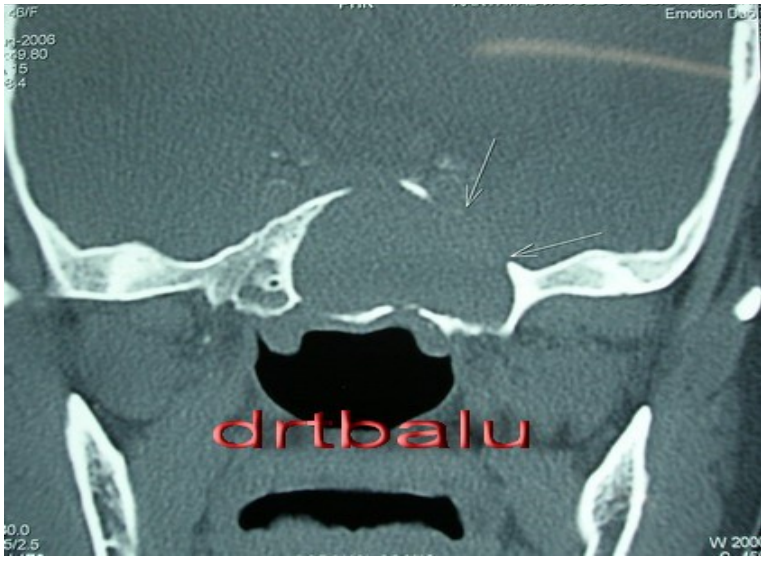
Past History:

Patient gave history of low grade fever – 2 days duration

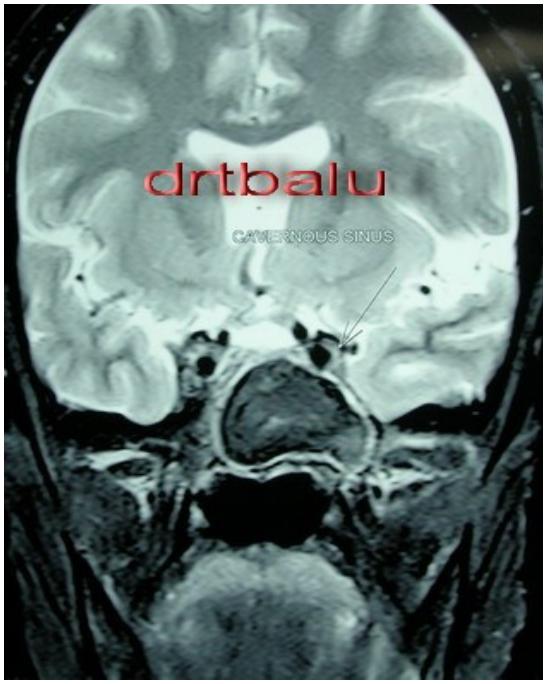
Vomiting – 1 day duration
Headache – 1 day duration

Patient was a known diabetic under irregular treatment and poor glycaemic control.

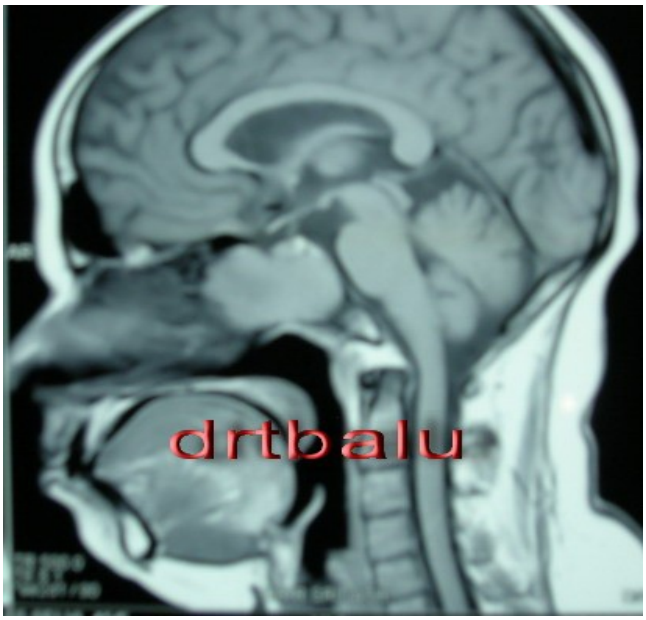
Imaging:



CT scan para nasal sinuses plain coronal cut showing fungal mass inside sphenoid sinus with erosion of its supero lateral wall



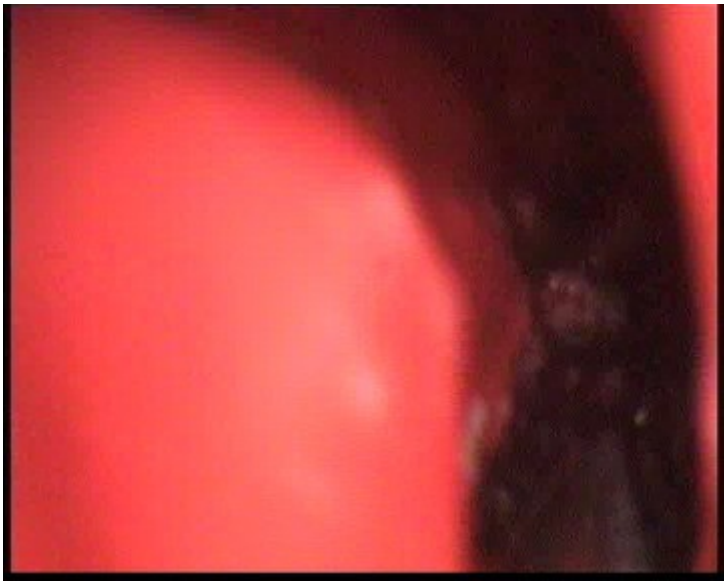
MRI PNS showing fungal mass inside sphenoid sinus. Cavernous sinus is free



MRI lateral view showing fungal mass inside sphenoid sinus

Management:

This patient was managed by endoscopic debridement under general anaesthesia followed by post operative amphoteracin infusions.



Fungal mass seen inside sphenoid sinus

Histopathology revealed aspergillous infection.

Discussion:

Isolated fungal infections involving sphenoidal sinus is rare and is fraught with dangerous complications. A high index of suspicion and CT imaging helps in picking up these patients. Isolated sphenoid sinus infections commonly present with head ache, especially over the back of the head. Next common manifestation of these patients is retrobulbar pain. CT scan of paranasal sinuses is virtually diagnostic. CT images show dense opacity due to the presence of calcium phosphate and calcium sulphate in the necrotic areas.

Endoscopic sinus surgery has turned out to be the preferred management modality in these patients because of its relative safety, less blood loss and reduced hospital stay [6].

Post operative antifungal medication is rather controversial in these patients. Amphoteracin / Ictraconazole have been used with varying results.

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