

## CASE REPORT



## Unilateral Sphenoidal Mucocele with Nasal Polyposis - A Typical Presentation

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## Abstract

Mucoceles of the sphenoid sinus act as benign lesions and can result in bony erosion from within its confinity of the sinus to the intracranial and orbital spaces<sup>(1)</sup>. Disease restricted to the sphenoid sinus is rare and often manifests with nonspecific or subtle signs and symptoms. Early and accurate diagnosis of sphenoid sinus disease may thus be difficult. Otolaryngologists must have a thorough knowledge of the spectrum of sphenoid sinus disease and the radiologic characteristics to manage these patients properly<sup>(2)</sup>. The increased use of endoscopy in routine examination and advances in techniques of imaging this area will result in the more frequent diagnosis of these lesions<sup>(3)</sup>. We herewith report a 26-year, female patient, who presented with left-sided nasal obstruction with headache confined to the frontal and occipital region for 6 months. Diagnostic nasal endoscopy showed multiple, pale polyps filling the left nasal cavity with the normal right nasal cavity. Non-contrast Computed tomography of the nose and paranasal sinuses showed, left pansinusitis with? left sphenoidal mucocele showing heterogeneous density. The patient underwent left Functional endoscopic sinus surgery with polypectomy. Intra-op showed fungal debris filling the sphenoid and polyps noted in the frontal, ethmoidal and maxillary sinus. KOH was positive for fungal elements. With regular follow up, no evidence of recurrence to date. Variable non-specific symptoms and the complex anatomy of the sphenoid sinus tend to delay the diagnosis resulting in a poor prognosis.

**Keywords:** Mucocele; Sphenoid; Polypoidal

## Introduction

The paranasal sinuses mucocoeles are expansive benign cystic lesions that rarely occur in the sphenoid sinus, lined by pseudostratified epithelium. The sphenoid sinus has been referred to as the neglected sinus because of its isolated position, complexity and inaccessibility<sup>(1)</sup>. Sphenoid sinus mucocoele is the rarely afflicted sinus and comprises 1-2% of all paranasal sinuses mucocoeles<sup>(2)</sup>. Mucocoeles are the most common sequelae following allergic fungal rhinosinusitis<sup>(3)</sup>.

Thus, a thorough preoperative workup, endoscopic evaluation, and imaging techniques allow safe management of this type of lesions<sup>(4)</sup>.

## Methods

This is a case report of a 26-year-old female patient, who presented with left-sided nasal obstruction with headache confined to the frontal and occipital region for 6 months.

Diagnostic nasal endoscopy showed multiple, pale polyps filling the left nasal cavity with the normal right nasal cavity, (Figure 1) with normal eye and face examination.



**Fig 1.** Multiple pale polyps filling left nasal cavity arising lateral to middle turbinate

Noncontrast Computed tomography of the nose and paranasal sinuses showed, left pansinusitis with? left sphenoidal mucocoele showing heterogenous density within it. (Figure 2)

The patient underwent left Functional endoscopic sinus surgery with polypectomy with no complications.

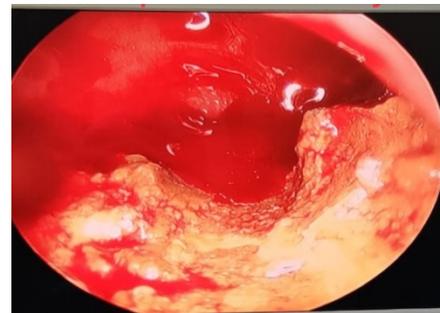
Intra-op showed fungal debris filling the sphenoid and polyps noted in the frontal, ethmoidal, and maxillary sinus. (Figure 3)

KOH was positive for fungal elements.

The patient tolerated the surgery well. The patient has been on regular follow-up and is asymptomatic with no recurrence to date.



**Fig 2.** left pan sinusitis with? left sphenoidal mucocoele showing heterogenous density within it



**Fig 3.** Fungal debris completely filling the sphenoid and polyps



**Fig 4.** Showing post operative picture of maxillary ostium

## Discussion

Sphenoid sinus mucocoele is a rare entity, representing only 1% of all paranasal sinus mucocoeles. It can present in any age group, but 30 to 60 years are more commonly affected with no gender predilection<sup>(2)</sup>.

The most common presenting complaints in sphenoid sinus disease is vague facial pain or headache with associated symptoms being nasal obstruction, smell and visual disturbances. A mandatory nasal endoscopy enables collection of cultural material, determining extension to the nasal cav-

ity and identifying nasal anatomical configuration relevant to surgery<sup>(1,2)</sup>.

Sino-nasal CT usually demonstrates mucocoeles as being hypodense with a characteristic expanding propensity, unlike simple fluid retention. Surgical evacuation of the lesion for symptomatic relief and prevention of recurrence has been advocated. Early treatment confers the benefit of preventing visual damage and neurological deficits. Various approaches to sphenoid sinus include trans-nasal, transseptal and trans-ethmoid approaches. The endonasal endoscopic approach via the trans-nasal route is the current treatment modality of choice<sup>(2,5)</sup>.

Endoscopic trans-nasal sphenoidotomy with adequate removal of anterior and inferior sinus walls enables unimpeded drainage of the sinus into spheno-ethmoid recess and prevents recurrence<sup>(3)</sup>.

A long-term post-operative follow-up regime is recommended due to the possible recurrence even 2 decades after the initial surgery. Certain tumor and tumor-like conditions like carcinoma, fibrous dysplasia, osteoma, and ossifying fibroma are likely to be found as concomitant lesions with sphenoid mucocoele, thus mandating its systematic evaluation and management<sup>(3,4)</sup>.

## Conclusion

Surgical treatment is indicated in the case of sphenoid mucocoele and early treatment avoids visual damage that can be permanent. Endonasal endoscopic approach with drainage and marsupialization of sphenoid sinus along with ethmoidal polyposis using a transnasal corridor is a safe and effective treatment modality.

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