



# PATIENT SPOTLIGHT

## Sinus Mucocele

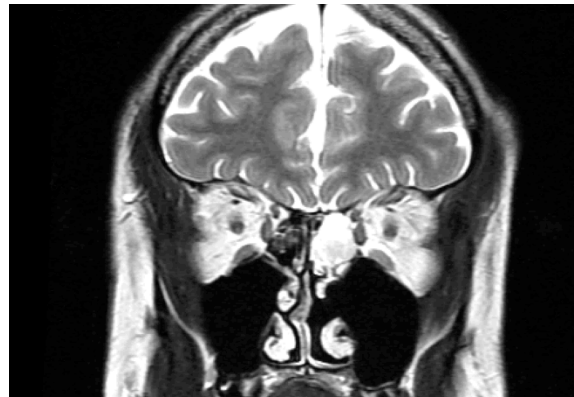


Fig 1 - a) Coronal CT scan of the paranasal sinus displaying cystic mass impinging against nasal septum and lamina papyracea with an associated cribriform plate defect. b) Coronal MRI revealing cystic mass without intracranial involvement.

A 58-year-old female presents with history of persistent headaches.

### INCIDENCE AND PATHOGENESIS

Mucoceles are benign, mucous-containing cystic structures that arise in the paranasal sinuses. While lined by mucoperiosteum, mucoceles can be locally aggressive, eroding into the intraorbital or intracranial spaces. Primary mucoceles are rare, accounting for approximately 20% of all mucoceles. Secondary mucoceles arise due to prior sinus surgery or trauma. In patients with secondary mucoceles, the interval between diagnosis and prior endoscopic sinus surgery is typically between 2-5 years, while the interval between diagnosis and prior trauma is much longer at approximately 18 years. As a result, long-term follow-up is required for patients with history of prior sinus surgery or trauma.

### CLINICAL SIGNS

Most commonly, these locally expansive masses arise in the frontal and frontoethmoid area, but they may also appear in the ethmoid, maxillary, and sphenoid sinuses. The signs and symptoms at clinical presentation depend upon the chronicity, location, and extent of intracranial or intraorbital involvement. Often, these symptoms may mirror those of chronic rhinosinusitis. In cases with intraorbital extension, patients may present with proptosis or diplopia. Of note, up to 8% of patients may be asymptomatic. At tertiary academic centers, intracranial or intraorbital extension may be present in over 40% of cases.



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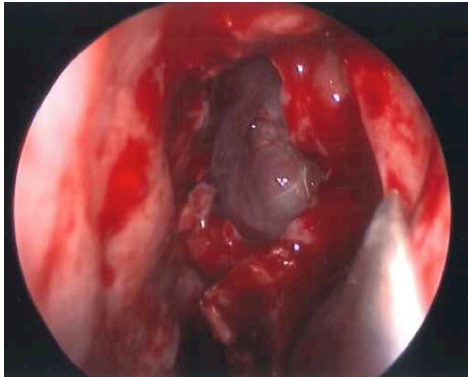


Fig 2 - View into mucocele cavity with middle turbinate removed

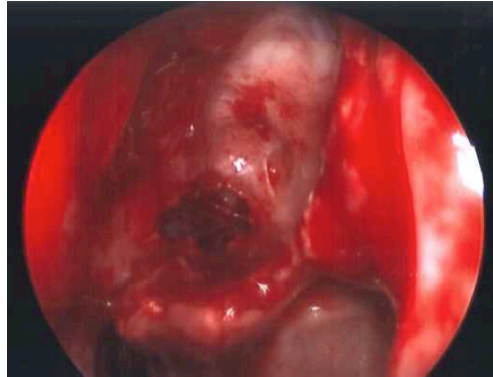


Fig 3 - After complete endoscopic marsupialization of mucocele, the previously obstructed sphenoid ostium is now visualized.

Due to the clear serous secretions accumulated in large mucocèles, drainage may have the appearance of cerebrospinal fluid drainage. CT imaging is helpful in identifying size, location and bony erosion, while MRI can best delineate intracranial or intraorbital involvement.

## TREATMENT

Treatment options include endoscopic marsupialization, external approach, or combined approach. Mucocèles have traditionally been managed via open approaches. In recent times, endoscopic management is increasingly employed due to its low recurrence and complications rates. However, external and combined approaches are required in cases with extensive intraorbital or intracranial extension.

In our case, CT scan revealed a defect in the cribriform plate, raising the possibility of encephalocele in the differential diagnosis (Figure 1a). MRI imaging, however, confirmed a lack of intraorbital or intracranial extension (Figure 1b). As a result, endoscopic marsupialization of the mucocele was completed (Figure 2), revealing the previously obstructed sphenoid ostium (Figure 3).

Our patient was discharged home on the day of surgery. Postoperatively, the patient has recovered and has had a complete resolution of symptoms.



By William Lawson, MD, DDS  
Professor and Vice Chairman  
Department of Otolaryngology

and

Arjun Parasher, MD

Dr. Lawson specializes in facial plastics and rhinology at Mount Sinai. His clinical interests include rhinoplasty, chronic sinusitis, and benign and malignant disorders of the nose.

## MOUNT SINAI OTOLARYNGOLGY

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### Manhattan:

Faculty Practice Associates  
5 East 98th Street, 8th Floor  
New York, NY 10029

Center for Science and Medicine  
10 East 102nd St, 3rd Floor  
New York, NY 10029

### Staten Island:

2052 Richmond Road, Suite C  
Staten Island, NY 10306

### Long Island:

325 Park Avenue  
Huntington, NY 11743