

Sphenchoanal Polyp: A Rare Entity Revealed by CT Imaging

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Abstract

Case Report

Sphenchoanal polyp is a rare subtype of choanal polyp originating from the sphenoid sinus and extending into the choana through the sphenothmoidal recess. We report the case of a 26-year-old male with a 4-year history of chronic nasal obstruction successfully managed by endoscopic surgical resection. Postoperative outcomes were favorable. Due to its rarity and overlapping clinical presentation with antrochoanal polyps, comprehensive preoperative assessment—including nasal endoscopy and especially computed tomography (CT) or magnetic resonance imaging (MRI)—is essential for accurate diagnosis and surgical planning. Endoscopic resection remains the treatment of choice.

Keywords: Sphenchoanal polyp, sphenoid sinus, computed tomography, nasal endoscopy.

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INTRODUCTION

Sphenchoanal polyp is an uncommon form of nasal polyp arising from the sphenoid sinus and extending posteriorly into the choana. Its diagnosis relies on detailed endoscopic and radiological evaluation. The preferred treatment is complete endoscopic surgical excision. This case aims to highlight the critical role of CT in the diagnostic and preoperative assessment of sphenchoanal polyps.

CASE REPORT

A 26-year-old male with no prior medical history presented with a 4-year history of left-sided nasal obstruction, clear rhinorrhea, and facial headaches.

Nasal endoscopy revealed a smooth, polypoid mass occupying the left nasal cavity. Its exact site of origin was unclear.

Coronal and axial CT scans demonstrated a homogeneous hypodense soft tissue mass filling the sphenoid sinus, widening the sphenothmoidal recess, and extending into the nasopharynx and the left nasal cavity (*Fig.1*).

Surgical exploration via endoscopic approach revealed a translucent polyp arising from the posterior nasal cavity, with a pedicle originating from the inferior wall of the sphenoid sinus via the sphenothmoidal recess.

Histopathological examination confirmed an inflammatory polyp.



Figure 1: CT scan of the paranasal sinuses in bone and soft tissue windows (sagittal, coronal, and axial planes) showing a homogeneous, soft-tissue density polypoid mass filling the left sphenoid sinus, extending through an enlarged ostium into the sphenothmoidal recess, the left nasal cavity, the choana, and the nasopharynx. The remaining paranasal sinuses are normally aerated

DISCUSSION

Sphenchoanal polyps are much less frequent than antrochoanal polyps. They typically affect adolescents and young adults, though cases have been reported in older patients. No sex predilection has been established.

The main differential diagnosis is the antrochoanal polyp, given the overlapping clinical and histological features. Advances in cross-sectional imaging and rigid nasal endoscopy have improved diagnostic accuracy.

Unlike antrochoanal polyps—which derive from an intramural cyst of the maxillary sinus—sphenchoanal polyps are solitary masses with a pedicle originating from the sphenoid sinus mucosa. Common symptoms include nasal obstruction, rhinorrhea, headaches, and occasionally snoring. Eustachian tube dysfunction and conductive hearing loss may occur in cases of nasopharyngeal extension.

Anterior rhinoscopy may reveal a solitary polyp in the posterior nasal cavity; however, distinction from

antrochoanal or ethmoidochoanal polyps is often challenging without imaging. Plain radiographs may show isolated opacification of the sphenoid sinus, but CT remains the gold standard. It confirms the diagnosis, rules out differential diagnoses, and provides critical preoperative information.

Typical CT features include a well-defined soft tissue mass originating from the sphenoid sinus, extending through an enlarged ostium into the choana and nasopharynx, with preservation of aeration in the remaining paranasal sinuses.

Large sphenchoanal polyps may mimic other benign or malignant lesions such as inverted papilloma, juvenile nasopharyngeal angiofibroma, melanoma, or other pedunculated tumors. In such cases, MRI is crucial for assessing lesion characteristics and excluding malignancy. Preoperative biopsy should be considered when malignancy is suspected. Endoscopic endonasal resection is the definitive treatment, ensuring complete removal of the lesion, including its origin within the sphenoid sinus, to prevent recurrence.

CONCLUSION

Sphenchoanal polyp is a rare but significant cause of nasal obstruction. Its etiology remains unclear. CT plays a pivotal role in establishing a positive diagnosis, defining the lesion's origin and extension, and guiding surgical planning. A thorough radiological assessment is essential to distinguish it from other sinonasal masses and optimize treatment outcomes.

Conflicts of Interest: The authors declare no conflicts of interest.

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