

## SPHENOCHOANAL POLYP RIGHT WITH LEFT SEPTAL SPUR: RARE ENTITY

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### ABSTRACT

Choanal polyps can be classified as antrochoanal, sphenchoanal or ethmochoanal polyps depending upon the site of origin, in comparison to common nasal polyps and antrochoanal polyps, reports of sphenchoanal polyps are relatively rare. Authors present a case of a 18 year old boy presenting to the clinic with unilateral nasal obstruction and nasal tone in voice, which was a diagnostic dilemma for the radiology department as it was misdiagnosed unable to be differentiated by CT scan. MRI scan of the patient confirmed the diagnosis of a sphenchoanal polyp. We aspire to widen the horizon of the knowledge by discussing the case and enabling timely diagnosis and treatment.

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### INTRODUCTION

Choanal polyps are benign soft tissue masses arising from isolated paranasal sinuses, emerging through the ostia and extending to the posterior choanae. They are classified as antrochoanal, sphenchoanal or ethmochoanal polyp depending on the site of origin(1,2). Choanal polyps represents 3-6% of nasal polyps(3). These polyps, which occur in the setting of an otherwise normal sphenoid sinus and are more aptly, termed sphen-ostio-choanal which are extremely rare and are a curious entity. Clinically, the glistening and pale masses are similar to a typical nasal polyp and nasal endoscopy may show a site of origin. Here, we report a new case of a right sphenchoanal polyp that was surgically managed by a microdebrider assisted functional endoscopic sinus surgery.

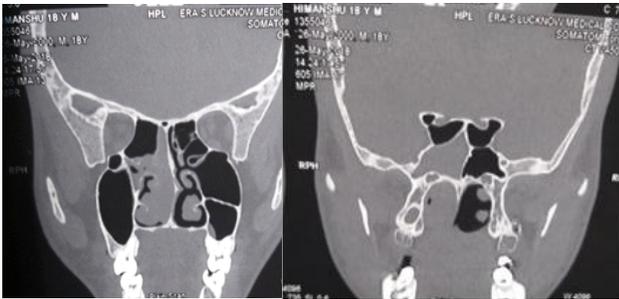
### CASE REPORT

An 18 year old boy presented to the ENT outpatient department with right sided nasal obstruction and change in voice. The patient was apparently asymptomatic 2years back when he developed a gradually worsening right sided nasal obstruction. There was also complained of nasal twang in voice for the past 1 month. There was no history of epistaxis, hyposmia or anosmia, diminished vision, facial pain. On anterior rhinoscopy there was a single glistening polypoidal painless mass present in the right nasal cavity which did not bleed on touch along with left side deviated nasal septum. Endoscopy showed a glistening polypoidal mass seen occupying the

sphenothmoidal recess in the 2<sup>nd</sup> PASS area. 1<sup>st</sup> and 3<sup>rd</sup> PASS areas were found to be normal. Contrast enhanced computer tomography of the paranasal sinuses showed a homogenous space occupying lesion arising from the sphenoid sinus, extending through the sphenoid ostium, across the sphenothmoid recess, and into the choana without any bony erosion. Magnetic resonance imaging showed an area of altered signal intensity arising from sphenoid with extension into the oropharynx, nasopharynx, and nasal cavity, suggestive of sphenoidal polyp.

The patient was planned for a functional endoscopic sinus surgery under general anaesthesia. A microdebrider assisted Functional endoscopic sinus surgery was done which included Anterior ethmoidectomy with Posterior ethmoidectomy and Sphenoid sinusotomy with removal of sphenchoanal polyp. The complete polyp was delivered via the oral route, followed by inspection of sphenoid sinus which was found to be clear of any polypoidal mass. Specimen was sent for histopathological examination, which showed an inflammatory polyp without any signs of malignancy. Intranasal packing was done, and was removed 48 hours after the surgery following which the patient was discharged from the hospital.

Nasal endoscopy was done as part of follow up at 1 week, 2weeks and 4weeks post surgery. The patient did not have any nasal complaints and nasal cavity showed healthy tissue with no signs of disease recurrence even after 1 month of follow up.



**Fig 1: And Fig 2: Show Coronal Cuts On Ct Scan Images Showing Homogenous Pacity Occupying The Sphenoid Sinus Of Right Side, Extending Into The Nasaopharynx Of Right Side.**



**Fig 3: And Fig 4: Diagnostic Nasal Endoscopy Images Of Isolated Sphenoid Polyp Showing A Pale Polypoidal Mass Medial To The Middle Turbinate In The Nasal Cavity**



**Fig 3: Specimen Of The Shenochoanal Polyp; Resected Specimen Of The Polyp Measuring Approximately, 7 Cms In Length, Bearing Three Parts, Sinus Part, Sphenothmoidal Recess Part And Choanal Part, Removed En Masse.**

## DISCUSSION

The first description of sphenochanal polyp was attributed to ZuckerkandL in 1892(2,4). Sphenochanal polyps originate from the sphenoid sinus and present with nasal obstruction. They are rare as compared with antrochoanal polyps and are mostly seen in adolescents and young adults without gender predominance (5). Unilateral nasal obstruction is the most common presenting symptom, other presenting symptoms include purulent nasal discharge, epistaxis, retro orbital pain, epistaxis. Eustachian tube dysfunction, snoring and obstructive sleep apnoea have been reported (6-9).

A mass arising from sphenoid sinus must raise suspicion of neoplasm. A review of series of isolated sphenochanal masses found that pathologically, 3 cases were of inflammatory polyps and the other 3 of neoplasms 2 cases of inverted papilloma and 1 of pituitary adenoma(10). This high percentage of neoplasia illustrates the importance of obtaining a histological diagnosis in cases of isolated nasal cavity masses that involve sphenoid sinus. Other diagnosis to consider in the older patients include squamous cell carcinoma, adenocarcinoma, lymphoma or metastatic disease (3).

Although the exact pathogenesis of sphenochanal polyps is unknown they seem to have same pathogenesis of antrochoanal polyps(4). Inflammation caused by the sinus infection is supposed to be the main triggering causative factor. Since maxillary sinusitis is more common than sphenoid sinusitis sphenochanal polyps are seen less commonly than antrochoanal polyps(11). Allergic rhinitis is not a predisposing factor for choanal polyps. Scarcity of eosinophil infiltration, higher number of other inflammatory cells, normal appearance of both basement membrane and surface epithelium with transmission electron microscopic evaluation may indicate that the pathogenesis of choanal polyps is chronic inflammation rather than allergy(12). Occasionally, these choanal polyps may undergo angiomatous degeneration as a result of vascular compromise due to passing through a tight ostia. Compression of a feeding vessel induces stasis of blood flow and subsequent oedema and dilatation of the polyp. Hypervascular state of some of these choanal polyps needs differential diagnosis of an angiofibroma(13).

Choanal polyps have been usually observed in three forms: antrochoanal polyp, sphenochanal polyp and ethmoido-choanal polyp, the latter being very rare. However, choanal polyps have not been reported to originate from frontal sinus. It is difficult to identify the sinus of origin of choanal polyp with anterior rhinoscopy or plain radiography. Site of origin of choanal polyps are mostly evaluated by nasal

endoscopic examination and CT findings. Nasal endoscopic examination demonstrates a solitary solid polypoid lesion in the posterior part of the nasal passage but with only nasal endoscopy it is hard to differentiate a sphenoidal polyp from other polyps(4). CT is helpful for differentiating a sphenoidal polyp from an antrochoanal polyp. In an antrochoanal polyp, maxillary sinus is full filled since the polyp extends to nasopharynx lateral to the middle concha, the area between the middle concha and nasal septum is spared. For sphenoidal polyp cases the polyp occupies sphenoidal recess and area between the nasal septum and middle concha is occupied (14,15). CT and MRI are important in the evaluation of other sphenoid sinus pathologies that mimic sphenoidal polyps. The differential diagnosis should include mucocele, inverted papilloma, Juvenile Nasal Angiofibroma and meningoencephalocele (6,7,9). Misdiagnosis may result in inadequate treatment and surgical complications.

Though there have been reports of regression of choanal polyps using medical treatment(16,17), it is generally agreed that surgical intervention is the current standard management(1,7,17,18). Most authors recommend total removal under endoscopic guidance, as simple polypectomy alone carries a higher risk of recurrence(1,4,6,7,18). Preceding correction for deviated nasal septum and resection of anteroinferior part of superior turbinate affords sufficient exposure of the sphenoid sinus. After widening the sphenoid sinus ostium, any cystic component of the polyp attached to the sinus wall must be totally removed to prevent recurrence. A microdebrider can achieve this objective and preserve adjacent normal mucosa. As for the location of the polyp origin in the sinus most cases have been found to originate from the floor(19) or the latero-inferior aspect(20), with only one case originating from the roof(9). In our case the origin of pedicle was found to be from the lateral wall. Great attention should be exercised to avoid violating the vital structures such as the optic nerve, internal carotid artery and pituitary gland.

## CONCLUSION

Patients complaining of progressive unilateral nasal obstruction should be evaluated on the basis of choanal polyps, Antrochoanal polyps being the commonest entity. Sphenoidal polyp is a rare occurrence and should be distinguished from other commoner disorders leading to proper management of patient and preventing unnecessary exploration of the sinuses.

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