Case Series

Giant Sphenochoanal Polyp - A Case Series

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ABSTRACT

Introduction

Chronic rhinosinusitis with polyposis is a common condition occurring world wide . Polyps arising from unusual regions of the nasal cavity and paranasal sinuses are quite rare. One such uncommon entity is the sphenochoanal polyp. There is very less literature on the occurrence of sphenochoanal polyps world wide. It is most commonly seen in children and young adults.

Case Series

We present three of our cases with isolated sphenoid sinusitis with polyps hanging in to the nasopharynx. These patients were managed surgically by functional endoscopic sinus surgery and removal of polyp under GA . They were all given a course of oral steroids under antibiotic cover post operatively.

Conclusion

Although sphenochoanal polyps have been described about in literature they are less common from those occurring from the other paranasal sinuses. A slim probability of immotile cilia syndromes should be kept in mind in case where there are recurrences. A unilateral nasal mass arising from the posterior part of roof of nasal cavity should rise suspicion of malignancy, rathkes cleft cyst and meningoenchephalocoels. Drainage of the middle meatus is crucial in preventing iatrogenic complications.

Keywords

Sphenochoanal Polyp; Isolated Sphenoid Sinusitis, Giant Sphenochoanal Polyp

Chronic rhinosinusitis is a common disorder affecting the upper respiratory tract. Most common presenting feature of chronic rhinosinusitis is sinonasal polyposis. A choanal polyp is a benign solitary mass originating from the edematous and inflamed mucosa of the paranasal sinuses, passing through the sinus ostium, located within the nasal cavity, and extending to the nasopharynx with a wide pedicle[1]. Sphenochoanal polyps are a rare occurrence and they constitute to 3-6% of the nasal polyposis worldwide[1]. The most common presentation is with an antrochoanal polyp. Because isolated sphenoid sinusitis with polyposis is not well-known, underreported and requires radiological imaging to confirm the diagnosis, it is misdiagnosed as antrochoanal polyp , meningoencephalocoel and rathkes cleft cyst.[1,2,3]

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Here, we present a case series of sphenochoanal polyps in young adults.

Case Series

Case 1 : A 26 years old male patient presented with complaints of headache with bilateral nasal obstruction since 2 years associated with nasal discharge. He also had snoring and mouth breathing with one episode of spontaneous nasal bleed for one day. Patient had history of surgery for Phimosis and syndactyly of right index and middle finger at age of 4 years. On anterior rhinoscopy examination there was a polypoidal mass arising from the left nasal cavity. In the oropharynx polypoidal mass was seen with prominent blood vessels hanging from nasopharynx obscuring posterior pharyngeal wall. Diagnostic nasal endoscopy shows polypoidal mass extending from roof of nasopharynx filling the choana hanging downward to oropharynx (Fig.1 a, b) A CT nose with PNS was taken shows cluster of peripherally enhancing polypoidal soft tissue density lesion collectively measuring 9.2 x 2.8 x 3.1 cm in the nasopharynx with extension and suspicious communication with left sphenoid sinus (Fig.1 d, e). Hence diagnosis of sphenoid sinusitis with polyposis was made.

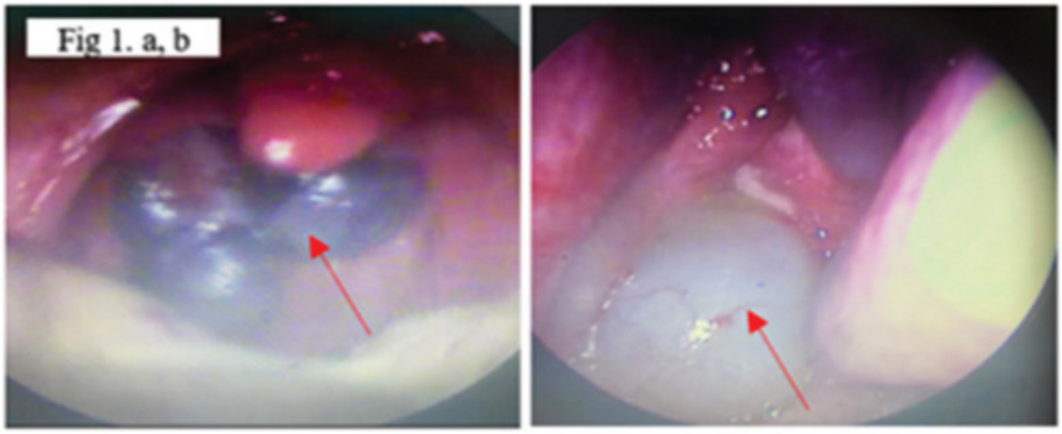

Fig. 1 a, b. Clinical endoscopic picture of the polyp hanging from the nasopharynx into the oropharynx.

Fig. 1. c. Intraoperative picture of the mass after excision

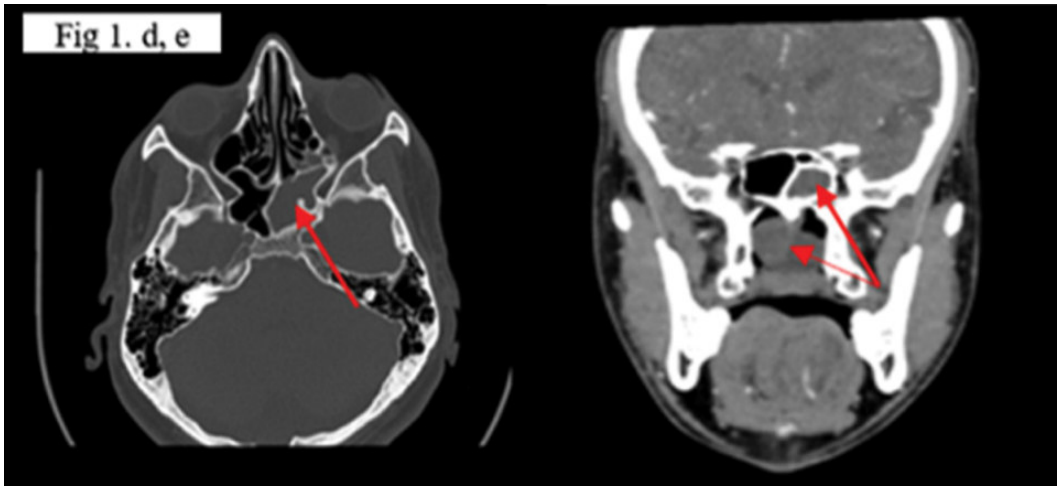

Fig. 1 d, e. CT nose and PNS : Image showing mass in the sphenoid sinus and in the nasopharynx.

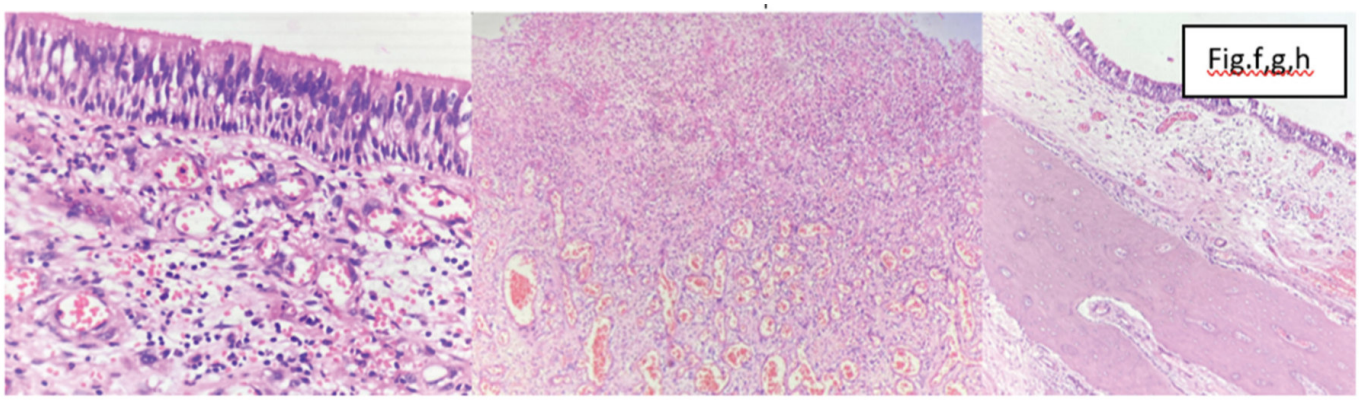

Fig. 1 f, g, h. Histopathology - hematoxylin and eosin staining with 40x and 10x magnification : Respiratory epithelial lining with congested vessels and lymphoplasmacytic infiltrate, with granulation tissue with area of necrosis and hemorrhage.

Case 2 : 17 year old male presented with bilateral nasal obstruction for 3 months and hyponasal voice. In anterior rhinoscopy no mass was visualised, although a polypoidal mass was seen hanging into the oropharynx. endoscopically, there was a single smooth fleshy pinkish polypoidal mass medial to left middle turbinate arising from the sphenoethmoidal recess reaching into the choana. A CT scan showed non enhancing polypoidal smooth marginated soft tissue mass measuring approximately 6 x 1.7 x 2.6 cm seen arising from left sphenoid sinus extending into the nasopharynx causing luminal compromise.

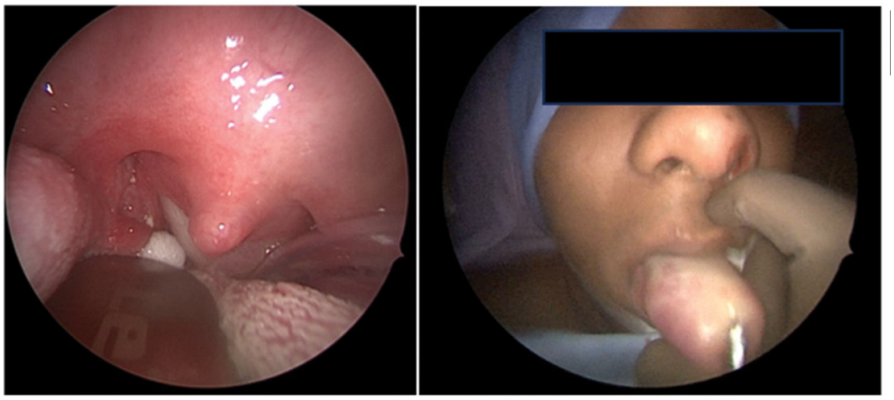

Fig. 2 a, b, c. Intraoperative picture : mass seen in the oropharynx and being delivered out through the oropharynx

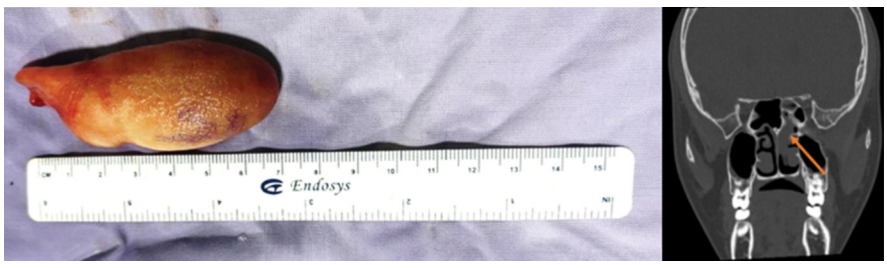

Fig. 2d. CT image showing mass soft tissue density in the sphenoid sinus reaching till the nasopharynx

Case 3 : 27 years old female came with complaints of left ear discharge for the past 2 years. Incidentally on examination of the nose a smooth polypoidal mass was seen at the level of middle turbinate on the left side of the nasal cavity. Endoscopically, a small polyp was seen arising from the sphenoethmoidal recess reaching medial to the middle turbinate. A CT of the nose and PNS showed 3.2 x 1.2 x 2.1cm smooth homogenous soft tissue density in the left sphenoid sinus reaching into the nasal cavity. She also had a medium central perforation of the left tympanic membrane with mild conductive hearing loss.

Fig. 3. CT showing isolated left sphenoid sinus polyp

In all three patients Frustenbergs sign and cough impulse was negative. The mass was insensitive to touch and did not bleed, probe passed all around except superiorly. The first two patients were taken up for surgical intervention. The third patient did not comply with surgical management of the nasal mass along with grafting of the tympanic membrane.

Management : After haematological and preanesthetic evaluation patients underwent Endoscopic Polypectomy with Functional Endoscopic Sinus Surgery, anterior to posterior Messeklingers approach.

FESS was done to avoid obstruction of the sinuses draining into the middle meatus. Hence a wide middle meatal antrostomy was done on the affected side for both the patients. This was followed by opening up of the anterior and posterior ethmoidal air cells leading to the sphenoid sinus by trimming the superior turbinate. This approach was used to make the sphenoid sinus drain into the middle meatus along with the other paranasal sinuses effectively and for post operative cleaning; to ensure that there is no recurrence. Intraoperatively polyp was seen arising from floor of sphenoid ostium extending to choana till the tip of epiglottis in the first case and touching the posterior one third of tongue ion the second case. This huge polyp measuring about 10 cm in length was excised in toto and was sent for biopsy.

Histopathology reported both the cases to be inflammatory sinonasal polyp with areas of necrosis and Infarction. There were also areas of congested and dilated blood vessels with lymphoplamacytic infilterates.

Postoperatively, patients were given intravenous amoxicillin clavulanate 1.2g twice a day with gastroprotectant. Nasal pack was removed on the second day followed by nasal douching thrice a day and discharged. All three patients were given oral antibiotics and oral steroids in the dosage 1g/kg body weight for 7 days. After 1 week post op, regular FESS cleaning was done at fortnight interval and the patients have been on 6 months follow-up after surgery until date and there has been no recurrence. The third patient has lost to follow up after the first 3 months. She had completed a course of steroids under antibiotic cover.

Discussion

Nasal polyps can originate from any of the paranasal sinuses. Those due to allergic etiology present more anteriorly, probably attributed to the allergen exposure occurring anteriorly. Larger polyps spread to the choana and nasopharynx as this part of the nasal cavity is mroomy and the hard palate also descend downwards posteriorly. The sphenoid sinus ostium that is situated posteriorly is one of the major reasons for these polyps to present more towards the choana.[1,2] Zuckerkandl initially reported these rare sphenochoanal polyps in 1892. These are more

commonly seen in younger adults as compared to sinonasal polyposis.[3] only 11 cases have been found with sphenochoanal polyps in children.[1] They represent 4-6% of the nasal polyposis. There is less association between choanal polyp and allergic diseases along with aspirin triad but still the aetiology of the choanal polyp remain uncertain.[4,5] According to Berg's study these choanal polyp are believed to arise from intramural cysts in the antrum or the sphenoid sinus. Inflammatory aetiologies accounted for 61%–82% of isolated sphenoid lesions in the major documented series.[3,4,5]

Sphenochoanal polypi symptoms are nonspecific. In children with acute isolated sphenoid sinusitis, unilateral nasal symptoms like nasal discharge , nasal obstruction common which later progresses to bilateral symptoms when the polyp reaches the choana.[1] There may be head ache more over the vertex and occipital region, aural fullness related to eustachian tube obstruction and even ophthalmic symptoms depending on the degree of disease.[2,3,6]

The diagnosis is made with the help of radiological imaging, such as computer tomography or magnetic resonance imaging of the paranasal sinuses. when radiation exposure is a risk factor.[3] This is because, clinical examination gives deceptive impression of a maxillary antrochoanal polyp or in certain cases, meningocoele, meningoencephalocoele, rathkes pouch or nasopharyngeal angiofibroma due to its posterior location and origin from the sphenoethmoidal recess.[3,4,5] These uncommon lesions seen in 1% to 2.7% of people with a diagnosis of paranasal sinus illness is treated surgically after ruling out the possibilities of encephaloceles, vascular malformations, and vascular neoplasms. Antrochoanal polyps, benign lesions like inverted papillomas, fungal sinusitis, foreign bodies, malignant tumors, lymphomas, pituitary lesions and Thorwaldt cysts, are among the conditions included in the differential diagnosis.[4,5]

Histology confirms the diagnosis as they are found to have a cystic core encircled by oedema and inflammatory cells, with respiratory epithelium covering the surface.[6,7,8]

The preferred course of action for Sphenochoanal polyps is functional endoscopic sinus surgery, that is considered as the "gold standard" [1] which aims to remove the polyp En -bloc and widen the sphenoid ostium along the inferior and medial wall as well as clear the sinuses. Compared to simple polypectomy, endoscopic procedures are less aggressive and better visualised due to the close relationship between the sphenoid sinus and important anatomical structures, reducing the likelihood of recurrence. [1,4,5]

The stalk of the polyp needs to be excised with care as yanking the polyp under improper vision may lead to injury to the proximal structures like the optic nerve and the internal carotid artery.[6]

Conclusion

Sphenochoanal polyps are rare,[8] but not uncommon in younger age groups. There is no clearcut cause postulated for isolated sphenoid sinus polyp. Cases of isolated sphenoid sinusitis are the most common cause of sphenoid lesions. They can be misleading as a possibility of intracranially extending benign nasal mass such as meningocoele, encephalocole, rathkes cleft cyst, angiofibromas needs to be ruled out with radiological imaging before diagnosing as isolated sphenochoanal polyp. During excision, drainage of all the paranasal sinuses adequately into the middle meatus is essential in preventing iatrogenic sinusitis. Similar to the CRS with polyposis, post operative steroids is crucial to prevent recurrence.

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