Sphenchoanal polyp – a rare diagnosis in nasal obstruction

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Abstract One of the most common nasal pathologies to present to an otolaryngologist is polyposis. Two well-recognized forms occur, the common antrochoanal polyp and the rare sphenchoanal polyp. Differentiation between the two is necessary for proper management by endoscopic sinus surgery.

Keywords Sphenchoanal polyp · Endoscopic sinus surgery · Polyposis

Introduction

One of the most common nasal pathologies to present to an otolaryngologist is polyposis. Apart from the common antrochoanal and ethmoidal polyps which are regularly diagnosed and treated, a rarer entity is that of sphenchoanal polyp. The key to its management is preoperative differentiation from the antrochoanal polyp because surgery is sinus specific.

Case report

A twenty year old girl presented to us with a history of unilateral left sided nasal obstruction and unilateral purulent rhinorrhoea since one year. On anterior rhinoscopy, a whitish polypoidal mass was seen deep in the left nasal cavity. Posterior rhinoscopy revealed a whitish globular mass filling up both the choanae. However, on diagnostic nasal endoscopy, the polyp was seen arising medial to the middle turbinate with an empty middle meatus. Coronal CT scans revealed a soft tissue mass extending from the sphenoid ostium into the sphenothmoid recess (Fig. 1) and on contiguous axial sections could be followed into the nasal cavity between the middle turbinate and the nasal septum (Fig. 2). The polyp widened the sphenoid ostium. The left maxillary sinus, the middle meatus and the space between the middle turbinate and the lateral wall of the nasal cavity were clear excluding the maxillary antrum as the origin of the choanal polyp. The polyp was resected endoscopically and delivered through the nasopharynx. The histological diagnosis was inflammatory polyp.

Discussion

A choanal polyp is an isolated solitary sinus mass or cyst which has passed through the sinus ostia and protruded into the choana between the nasal cavity and nasopharynx [1]. Two well-recognized forms occur, the common antrochoanal polyp and the rare sphenchoanal polyp.

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Fig. 1 Coronal CT scan showing a soft tissue mass extending from the sphenoid ostium into the sphenoid recess

Fig. 2 Axial CT scan showing polyp in the nasal cavity between the middle turbinate and the nasal septum

Ethmoidochoanal polyps have also been described but are extremely uncommon [2].

Sphenoidochoanal polyps are reported to occur in adolescence and early adulthood with equal male female distribution. Sphenoidochoanal polyps often present similarly to antrochoanal polyps.

The pathogenesis of both has also often been assumed to be the same. It is suggested that choanal polyps develop from a precursor intramural cyst in the antrum or sphenoid sinus [3]. Benign intramural cysts, found in 4 % of the normal asymptomatic population, have the potential to

gradually enlarge through the ostium, and develop into a choanal polyp. Crampette et al [4] had a case of sphenoidochoanal polyp that was histologically similar to antrochoanal polyp. Lopatin et al [5] had a series of choanal polyps from various sinuses that could not be differentiated morphologically. This possibly suggests that antrochoanal as well as sphenoidochoanal polyps are associated with inflammatory processes as a result of chronic infection and allergy. Min et al [6] suggested they are the result of edematous hypertrophy of respiratory epithelium, similar to that of common nasal polyps.

Choanal polyps must not be assumed to be antrochoanal polyps until they have been proven to be so. Cases have been described where a sphenoidochoanal polyp was mistaken as having an origin in the maxillary sinus, resulting in the inappropriate operation being performed⁴. The proper management is to differentiate between the two using endoscopy and radiologic imaging and ultimately to perform endoscopic surgery. CT scan is of utmost importance in differentiating between sphenoidochoanal and antrochoanal polyps. If the sphenoid sinus is opaque and the maxillary sinus is clear, a choanal polyp is probably sphenoidochoanal, even if the connection cannot be clearly demonstrated. In the case of an antrochoanal polyp, the polyp can be followed into the middle meatus passing between the middle turbinate and the lateral wall of the nasal cavity. In contrast to a sphenoidochoanal polyp, the space between the nasal septum and the middle turbinate is clean. Whereas in a sphenoidochoanal polyp, the polyp is between the nasal septum and the middle turbinate with both the middle meatus and the space between the middle turbinate and the lateral wall of the nasal cavity being clear. However CT scans are unable to differentiate between polyp and secondary sinusitis due to obstruction of the ostia, and so of limited value if both the maxillary antrum and sphenoid sinus are affected.

In such cases a diagnostic nasal endoscopy must be done. The middle turbinate is a major landmark in functional sinus surgery. It also holds the key to determining the source of a choanal polyp. Sphenoidochoanal polyps pass between the nasal septum and the medial aspect of the middle turbinate, leaving the middle meatus clear. Antrochoanal polyps, however, pass between the lateral surface of the middle turbinate and the lateral wall of the nose. As in our case, the stalk of the polyp must be followed to identify the sinus ostium of its origin.

Choanal polyps may occasionally degenerate into angiomatous polyps [1]. These are non-neoplastic lesions that should be managed in the same fashion as choanal polyps. Because of increased vascularity or due to superadded infection, they may be confused with less benign vascular lesions such as nasopharyngeal angiofibromas, hemangiopericytomas etc. Even on CT, the vascularity of an angiomatous polyp may be confused with other nasopharyngeal tumours or angiomatous.

Treatment of sphenchoanal polyps is by endoscopic sinus surgery, the traditional Caldwell – Luc surgery has no role in its management.

Conclusion

From this case report, we believe that sphenchoanal polyps are Inflammatory in origin and that they may well be more common than is thought, but most are small and asymptomatic. Failure to recognise its existence may result in an erroneous diagnosis of antrochoanal polyp with inadequate treatment of the sphenoid sinus and a risk of recurrence. Computed tomography and diagnostic nasal endoscopies are a must prior to surgery in every case of choanal polyp.

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