ISOLATED SPHENOCHOANAL POLYP: A RARE CLINICAL ENTITY

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Abstract: Choanal polyps almost always appear as solitary growth and most commonly arise from the maxillary sinus. Isolated polyp originating from the anterior wall of the sphenoid sinus or from its interior and extending as choanal polyp in to the nasopharynx are extremely rare clinical entities. Here we report a 34- year- old male presenting with a history of headache, intermittent nasal discharge and nasal obstruction. A diagnosis of sphenchoanal polyp (SCP) was made on nasal endoscopy and magnetic resonance imaging. The SCP was removed endoscopically via a transnasal sphenoidotomy and histopathologically it was confirmed as inflammatory polyp. In this paper we discuss the clinical presentation and surgical management of this rare clinical entity.

Key words: Choanal polyp, Sphenoid sinus. Endoscopy.

INTRODUCTION:

The entity of SCP is recognized but acknowledged as rare. It is often been compared with the better known antrochoanal polyp. There are similarities: each is a singular polypoidal mass originating from its respective sinus to the posterior part of the nasal cavity and nasopharynx and therefore the generic term of choanal polyp is used. The key to its management is preoperative differentiation from the antrochoanal polyp because surgery is sinus specific. Isolated sphenoid sinus disease is underreported because of its lack of recognition. Sphenoid sinus disease often has an insidious onset with nonspecific symptoms. Furthermore, optimal physical examination is difficult due to the relative inaccessibility of the sinus. Some of reported patients were asymptomatic and the disease was diagnosed incidentally and the first presentation of this disorder might be with complication. The symptoms are essentially due to the anatomical location of the sinus and its proximity to the intra-cranial and orbital contents, to which infection may easily spread. Nasal endoscopy serves as the primary diagnostic tool, while CT and/ or MRI serves as invaluable tools in these cases for making the differential diagnosis. Preoperative biopsy and radiological localization of the polyp is essential in planning the extent of surgery. Polyp in the sphenoethmoid recess are often neoplastic, hence preoperative diagnosis is important as it influence the extent of surgery required. Endoscopy assisted dissection is the most effective surgical treatment for a SCP.

CASE REPORT:

A 34 years old male was admitted with a two year history of central headache, intermittent nasal discharge and right side nasal obstruction since last four months. Anterior rhinoscopy showed a whitish mass in his right nasal cavity. Nasal endoscopic examination (Fig.1) revealed that the polypoid mass was filling the right nasal cavity and running into the posterior choana (Fig.2). The stalk of the polyp was seen communicating with the right sphenoid ostium through a pedicle (Fig.1). MRI (Fig.3) on T2 weighted and Ciss 3D images demonstrate hyper intensity in sphenoid sinus on right side suggestive of inflamed mucosal polyp and hyper intense mucosal polyp also seen posterior in right nasal cavity (choanal region). Other paranasal sinuses were clear. On the basis of nasal endoscopic and MRI finding a diagnosis of SCP was made. Surgical removal of the polyp was

planned. At surgery, nasal endoscopy detected obstruction of the nasal cavity and posterior choana by a polyp. The superior portion of the polyp was traced to the right sphenoid ostium. The inferior choanal portion of the polyp was removed transnasally with a grasping cup forceps. Later, the pedicle of the sphenchoanal polyp was excised. The sphenoid sinus ostium was enlarged and the anterior wall of sinus was resected in order to remove the intrasinusoidal part completely with an upward, through-cutting forceps. At follow up after three months the patient was symptom-free and without any evidence of recurrence of disease on endoscopic examination.

DISCUSSION:

The polyps which arise from the paranasal sinuses and pass through the sinus ostia in to the nasal cavity or hang on a large pedicle in to the nasopharynx are defined as choanal polyp.¹ Nasal polyps arise most frequently in the middle meatus. These polyps usually arise from the maxillary sinus; however, an unusual origin such as sphenoid or ethmoid sinus has occasionally been reported.^{2,3,4} Isolated polyp originating from the anterior wall of the sphenoid sinus or from its interior and extending as choanal polyp into nasopharynx are extremely rare. We have diagnosed only one case of isolated SCP at our centre in the last 15 years. SCP is difficult to document, however antrochoanal polyps account for 4 to 6% of all nasal polyps. Only one case of simultaneous antrochoanal and sphenchoanal polyps was reported in the literature.⁵ SCP may have a variety of anatomical origins. Although most SCP arise in the sphenoid ostium, some have been reported to originate in adjacent areas and in the sphenoid sinus.⁶ Hence it is important to keep in mind adjacent sites as possible origins of such polyps. In our case it originated from the sphenoid sinus. SCP is reported to occur in adolescence and early adulthood, the youngest age reported was 11 years old. Choanal polyp typically present with nasal obstruction and sinusitis symptoms although less frequent presentation include middle ear effusion, secondary to Eustachian tube obstruction. In our case the presenting symptoms was headache, intermittent nasal discharge and nasal obstruction. SCP often present similarly to antrochoanal polyp and pathogenesis of both has also often been assumed to be the same. Crampette et al.⁷ had a case of SCP that was histologically similar to antrochoanal polyp. Chronic sinusitis and chronic obstruction of the sinus ostia, as well as allergy have been suggested to play a role in the development of

Fig.1. Endoscopic view sphenchoanal polyp protruding from Right sphenoid ostium and filling the right nasal cavity.

Fig.2. Endoscopic view sphenchoanal polyp extending to the posterior choana

Fig.3. MRI scans show a sphenchoanal polyp originating in the right sphenoid sinus with extension down to the choana (sphenoid and choanal part).

choanal polyps.⁸ For descriptive purpose, clinicians divide them into inflammatory and non-inflammatory with prevalence of the former. In our case it was histopathologically confirmed as inflammatory polyp. Nasal endoscopy provides a clear view of the sphenoethmoidal recess and postnasal space, hence definitive diagnosis can be made in nasal endoscopy by identification of the sinus ostium from which the stalk of the polyp pass through, which was also seen in our case. CT or MR imaging is an ideal method for demonstration of choanal polyp. In the case of SCP, the cystic part of the polyp is located in the sphenoid sinus.⁴ Usually, the involved sinus appears completely or partially opacified in the paranasal sinus CT scan, although its pedicle may not always be identified. In our case the stalk of the SCP was not identifiable. SCP is treated surgically and endoscopic techniques are widely used for their removal.⁸ We also preferred the endoscopic technique (Endoscopic transnasal sphenoidotomy) for the treatment of our patient. In order to prevent recurrence, we removed the intrasinusoidal cystic portion of choanal polyp completely along with the nasal part. There is no recurrence in our patient 3 months after surgery. The choice of operative techniques in patients with sphenoid sinus disease depends on the extension of the lesion and the surgeon's experience. The endoscopic approaches to the sphenoid sinus include transnasal, transethmoid, transseptal and the endoscopic pterygoid fossa. Endoscopic transnasal sphenoidotomy with or without partial middle turbinectomy and without ethmoidectomy is considered most appropriate. Partial middle turbinectomy at the time of surgery facilitates the approach, as well as postoperative cleaning and surveillance. For the experienced surgeon, all of the possible approaches are safe. For surgeons who do not perform sphenoid sinus procedures often, the transseptal approach is safest because it is a midline approach in an area anatomically familiar to most otolaryngologists.

The transseptal approach is useful because it is easy, rapid; cosmetically pleasing and allows maximal visualization and safety with minimal morbidity. In endoscopic transseptal technique using the rigid nasal endoscopes is begun by lateralizing the middle turbinate, exposing the sphenoethmoidal recess, and natural ostia of the sphenoid sinuses. A semilunar incision is made posteriorly on the vomer and mucoperiosteal flaps are elevated bilaterally. The vomer is resected saving the inferior portion as a landmark for midline. The anterior wall of the sphenoid sinus is removed starting at the natural ostia. The intersinus septum is removed

and the Hardy speculum is placed deep between the mucoperiosteal flaps as far down as the open sinus. Operative complications of endoscopic sphenoid surgery are rare, but surgeons must be aware of close neighborhood of such critical anatomical structures surrounding the sphenoid sinus, as the internal carotid artery, optic nerve, dura mater, cranial nerves III to VI and cavernous sinus.

CONCLUSION:

Isolated SCP is a rare. Diagnostic nasal endoscopy, imaging studies such as the CT and MR scan are indispensable in making an accurate diagnosis. Increasing use of fibre-optic endoscopy in routine nasal examination and advances in imaging techniques of this area will probably result in more frequent diagnosis of this lesion.

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