ABSTRACT: Isolated sphenoid sinus polyp originating from anterior wall of sphenoid sinus, or from its interior and extending as polyp in the choana is a very rare clinical situation. Here we report a 31 yr old male presenting with a history of 1yr, central and occipital headache, intermittent, mucoid nasal discharge and right side nasal obstruction. DNE examination revealed that the polypoidal mass was filled in the right nasal cavity more so posteriorly diagnosis confirmed on CT scan and managed by FESS. In this paper we discuss the clinical presentation and surgical management of this rare case.

KEY WORDS: Sphenoid Sinus, Polyp

INTRODUCTION: Polyp is a hypertrophied, edematous and pedunculated mucous membrane of that particular part. Nasal polyps arise from one of the sinuses, commonly from maxillary sinus known as antro-choanal polyp and ethmoidal sinus-known as ethmoidal polyp. Sphenoid polyp though rare, often confused with A-Cpolyp because each is a singular polypoidal mass seen in the posterior part of the nasal cavity and nasopharynx. Since the surgery is sinus specific pre-operative differentiation is important. Some of the reported patients were clinically asymptomatic and were diagnosed incidentally. The symptoms are mainly due to sinus proximity to intra cranial and orbital contents, where infection may spread. Nasal endoscopy serves as a primary diagnostic tool while CT is gold standard test for paranasal sinus examination. Nasal mass in the sphenoid- ethmoidal recess may be many times neoplastic, hence proper pre-operative diagnosis is essential. Endoscopic sinus surgery is the most effective surgical treatment for sphenoidal polyp.

CASE REPORT: A 31 years old male was admitted with a one year history of central and occipital headache, intermittent, mucoid nasal discharge and right side nasal obstruction since last six months. Anterior rhinoscopy revealed a pale, glistening mass in his right nasal cavity. DNE examination revealed that the polypoidal mass was filling the right nasal cavity and choana. The stalk of the polyp was seen communicating with the right sphenoid ostium through a pedicle. Other paranasal sinuses were clear. On the basis of nasal endoscopic and CT finding a diagnosis of isolated sphenoid polyp was obvious.

DISCUSSION: The polyps which originate from the paranasal sinuses through the sinus ostia into the nasal cavity or hang on a pedicle into the nasopharynx are defined as choanal polyp. Nasal polyps arise most frequently in the middle meatus. These polyps usually arise from maxillary sinus however an unusual origin such as sphenoid or ethmoidal sinus has occasionally been reported\textsuperscript{1,2}. Isolated polyp arising from the anterior wall of sphenoid sinus from its interior & extending as choanal polyp into nasopharynx are very rare. We have diagnosed one case of isolated sphenoid polyp, at our centre in the last 8yrs. Isolated sphenoid polyp is difficult to document however
Antrochoanal polyps account for 4-6% of all nasal polyps. Only 1 case of simultaneous antrochoanal & sphenochoanal polyps were reported in the literature, which may have a variety of anatomical origins. Although most of them arise from sphenoid ostium, some have been reported to arise in adjacent areas & sphenoid sinus. Hence it is important to keep in mind adjacent sites as possible origins for such polyps. In our case it originated from sphenoid sinus. Isolated sphenoid polyp is reported to occur in adolescence & early adulthood, the youngest age reported was 11yrs old. Choanal polyp typically present with nasal obstruction & sinusitis symptoms. However less frequent presentation includes middle ear effusion secondary to Eustachian tube obstruction. In our case presenting symptom was headache, intermittent nasal discharge & nasal obstruction. Isolated sphenoid polyp often presents similarly to antrochoanal polyp & pathogenesis of both has also often been assumed to be the same. Crampette et al reported a case of isolated sphenoid polyp that was histologically similar to antrochoanal polyp. Chronic sinusitis & chronic obstruction of sinus ostia, as well as allergy have been attributed in development of choanal polyps. For many descriptive purpose clinicians divide them into inflammatory & non inflammatory with prevalence of the former. In our case, it was confirmed as inflammatory polyp on histopathological examination. DNE provides a clear view of the sphenoethmoidal recess & choana, hence definitive diagnosis can be made in nasal DNE by identification of sinus ostium from which the stalk of the polyp pass through, which was also quite obvious in our case. CT imaging is an ideal method for demonstration of nasal polyp. In our case, a small cystic part of the polyp was located in the sphenoid sinus. Usually, the involved sinus appears completely or partially opacified in the paranasal sinus CT scan, although its pedicle may not always be identified.

Nasal polyps are treated surgically & endoscopic techniques are widely used for their removal. We also prefer to use endoscopic techniques (endoscopic transnasal sphenoiodotomy) for the surgery of our patient. To prevent recurrence, we removed the intrasinusoidal cystic portion of choanal polyp completely along with nasal part. No recurrence was noted in our patient even after 3 months of surgery. The choice of operative techniques in patient with sphenoid sinus disease depends on the extension of the lesion & the surgeon’s experience. The endoscopic approaches to the sphenoid sinus include transnasal, transethmoid, trans-septal & the endoscopic pterygoid fossa. Endoscopic transnasal sphenoiodotomy with or without partial middle turbinectomy & without ethmoidectomy is considered most appropriate. Partial middle turbinectomy at the time of surgery facilitates the approach, as well as post-operative cleaning & follow up. For the experienced surgeon, all of the possible approaches are safe. For surgeons, who do not perform, sphenoid sinus procedures often, the trans-septal approach is safest because it is a midline approach in an area anatomically familiar to most ENT surgeons. The trans-septal approach is useful because it is easy, rapid, cosmetically pleasing & allows maximal visualization & safety with minimal morbidity. Endoscopic trans-septal technique using the rigid nasal endoscopes is begun by lateralizing the middle turbinate, exposing the sphenoethmoidal recess & natural ostia of the sphenoid sinuses. A semilunar incision is made posteriorly on the vomer & mucoperiosteal flaps 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 & hardy’s 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- VI & cavernous sinus.

CONCLUSION: Isolated sphenoid sinus polyp is a rare. DNE, imaging studies such as the CT scan is the gold standard investigation of choice. Advances in imaging techniques of this area will probably result in more accurate diagnosis of this lesion. Though rare, we could successfully treat using endoscopic sinus surgery.

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FIGURE 1: CT scan showing isolated sphenoid polyp on right side
FIGURE 2: Endoscopic picture
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