

Sphenochoanal polyp: radiological diagnosis

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Abstract

A sphenochoanal polyp is seen as an isolated soft tissue density mass that arises from the sphenoid sinus and extends to the choana on computed tomographic scans. Distinction from its more common counterpart, antrochoanal polyp which arises from the maxillary sinus, is essential prior to surgery. A case is presented to illustrate that CT scan of paranasal sinus plays an important role in the identification of the sinus of origin.

Case report

A 47-year-old male presented to Prince of Wales Hospital with a one year history of right sided progressive nasal obstruction following an episode of upper respiratory tract infection. The obstruction was worse on forced expiration and more noticeable during

swimming. Nasal endoscopy revealed a right sided solitary polypoid mass with a slender pedicle extending from the sphenothmoidal recess to the choana.

An unenhanced CT scan of paranasal sinuses (5 x 5 mm coronal scans) was performed on a GE 8800 scanner (Milwaukee, USA). A soft tissue polyp extending from the right sphenoid sinus/sphenothmoidal recess to the right choana was demonstrated. Chronic right sphenoid sinusitis with reactive sclerosis was seen. Inside the sphenoid sinus there was a convex upper margin to the soft tissue which indicated the presence of either a mucous retention cyst or a polyp. The other paranasal sinuses were clear (Figures 1-4).

The clinical and radiological findings indicated a sphenochoanal polyp. The patient was admitted for excision under general anaesthesia. Under endoscopic control, the anterior wall of the sphenoid sinus was opened and the polyp, together with its sphenoidal component, was removed. No recurrence was noted two years after surgery.

Discussion

A choanal polyp results from prolapsed mucosa of an isolated paranasal sinus and accounts for 3-6% of nasal polyps.^{1,2} Characteristically, it passes through the enlarged sinus ostium and protrudes into the choana leading to unilateral nasal obstruction, rhinorrhea and sinusitis.

Choanal polyps from sphenoid sinus are rare but share the characteristic similarity with the more common counterparts which arise from the maxillary sinus. They are invariably unilateral in distribution and common in males between the second and fourth decades.¹⁻³ Contrary to conventional nasal polyps, choanal polyps are believed to be

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Figure 1: Coronal CT scan showing normal maxillary and ethmoid sinuses. No nasal polyposis is evident and the osteomeatal units are patent.



Figure 2: Coronal CT scan through the posterior maxillary sinuses which are clear. A soft tissue opacity with a convex upper margin is seen in the sphenoid sinus (arrowhead). There is soft tissue in the sphenoidal recess representing the stalk of the polyp (arrow).

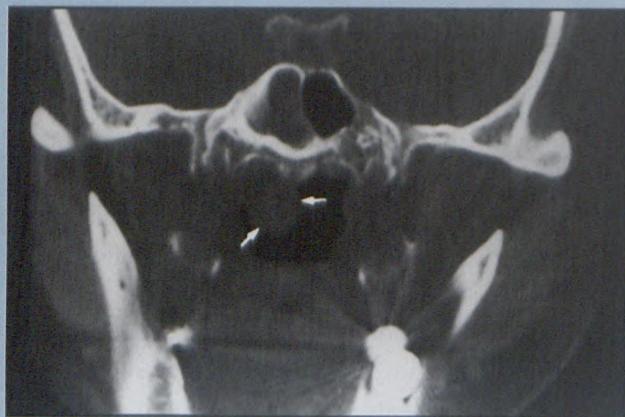


Figure 3: The polyp (arrow) is seen in the right nasopharynx. The right sphenoid sinus is opaque and there is associated reactive osteitis.

of inflammatory or infectious rather than allergic nature.¹⁻³

The origin of the polyps is controversial. Mills has suggested that the



Figure 4: Coronal CT scan showing the polyp in the right choana.

polyp may arise from the blocked acinous mucous gland and present as an extension of a mucocele.⁴ However, more evidence has suggested that the polyp is an extension of an asymptomatic intramural cyst from within a sinus through its natural ostium.⁵

The sinus of origin can be identified clinically and radiologically. With a 4 mm, zero degree nasal endoscope, the sphenoidal polyp is readily recognized as a solitary polypoid mass extending posteriorly from the recess between septum and middle turbinate to the choana. Further identification of a long pedicle protruding through the sphenoid ostium in the

sphenoidal recess is essential to confirm the diagnosis. Apart from endoscopy, CT scans of paranasal sinus is indispensable to the evaluation of an isolated nasal polyp of unknown origin. The radiological findings of sphenoidal polyps are characteristic. The CT appearance of the polyp is of a hypoattenuated mass arising from an isolated opaque sphenoid sinus without evidence of bony erosion. The natural ostium of the sphenoid sinus is usually enlarged.^{6,7} Occasionally, the sinus of origin may be difficult to

determine. If the sphenoid sinus is the only opaque sinus, a choanal polyp is probably sphenoidal, even if the connection cannot be demonstrated. If both the maxillary antrum and the sphenoid sinus are opaque, continuity between the polyp and the correct sinus of ori-

gin is important to document. In the case of an antrochoanal polyp, the polyp can be followed passing between the middle turbinate and the lateral wall of the nasal cavity. With a sphenoidal polyp, the polyp is between the nasal septum and middle turbinate. The differential diagnosis of a soft tissue mass in the sphenoidal recess/choana could include nasal polyp with sphenoidal sinusitis, nasopharyngeal carcinoma and lymphoma.

As simple avulsion of the intranasal portion alone is associated with recurrence of at least 20% within two years, the polyp should be resected together with the pedicle and its intrasphenoidal portion.¹⁻³ To decrease the morbidity associated with external approaches to the sphenoid sinus, endoscopic removal of the polyp together with sphenoidotomy remains the treatment of choice.

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