

Chapter 17 – Antrochoanal Polyp

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An antrochoanal polyp was first described by Killian in 1906.[1] The polyp usually originates within the maxillary sinus and is characterized by the symptom of unilateral nasal obstruction. It is more common in the pediatric age group and represents the most common nasal and sinus tumor in children. In the general population it is said to account for 4% to 6% of all nasal polyps.[2] In a recent study of 24 patients the mean age was 23 years (range, 11 to 40).[1]

The etiology of antrochoanal polyps remains controversial, and both allergic and infectious causes have been promulgated.[1,3] Though classically thought to not have an allergic component, two series have found a significant atopic predisposition in their patients with antrochoanal polyps.[1,4] Medical treatment, such as antibiotics, decongestants, and systemic and topical steroids, has not proved to be curative. Recurrence of symptoms after cessation of such medical therapy is common, as is recurrence after inadequate surgical procedures such as nasal polypectomy. Because of the high incidence of recurrence after simple polypectomy, a more complete surgical procedure must be performed.

Schramm and Efron[5] studied 32 children ranging in age from 7 to 16 years who underwent a Caldwell-Luc operation as a primary or secondary procedure for the removal of antrochoanal polyps. Only one of these children required a reoperation for recurrence. The operative complication rate of 3% for all surgical procedures performed is equal to that reported in the adult literature for the Caldwell-Luc operation.

All current series advocate an endoscopic approach to this lesion, which is our preference.[4,6,7]

PATIENT SELECTION

Patients with an antrochoanal polyp generally have unilateral nasal obstruction. There may be a report of associated thick mucopurulent exudate. In the pediatric population, sleep disturbance and mouth breathing are common. In adults, the symptoms of nasal obstruction may be accompanied by snoring and headache. Patients will usually have received multiple courses of antibiotics before being evaluated by an otolaryngologist.

Physical examination reveals a gray-white or sometimes hyperemic polypoid mass generally filling the nose and nasopharynx. Occasionally, the mass may be seen in the nasopharynx simply on examination of the oral cavity when the palate is elevated. Thick mucopurulent exudate may be found in the nasal cavity on anterior rhinoscopy. Patients with unilateral nasal obstruction who are old enough to tolerate office-based nasal endoscopy must undergo it in the fully decongested state. In this case, barring a severe septal deviation, the antrochoanal polyp will be easily visualized between the middle turbinate and the lateral nasal wall (Fig. 17-1). The polyp may be seen extending posteriorly into the nasopharynx if it has reached sufficient size. Classically, the polyp does not exit via the natural ostium; instead, in our series it has always exited the maxillary sinus via an accessory ostium. The implication of this finding in the cause of the condition is unexplained.

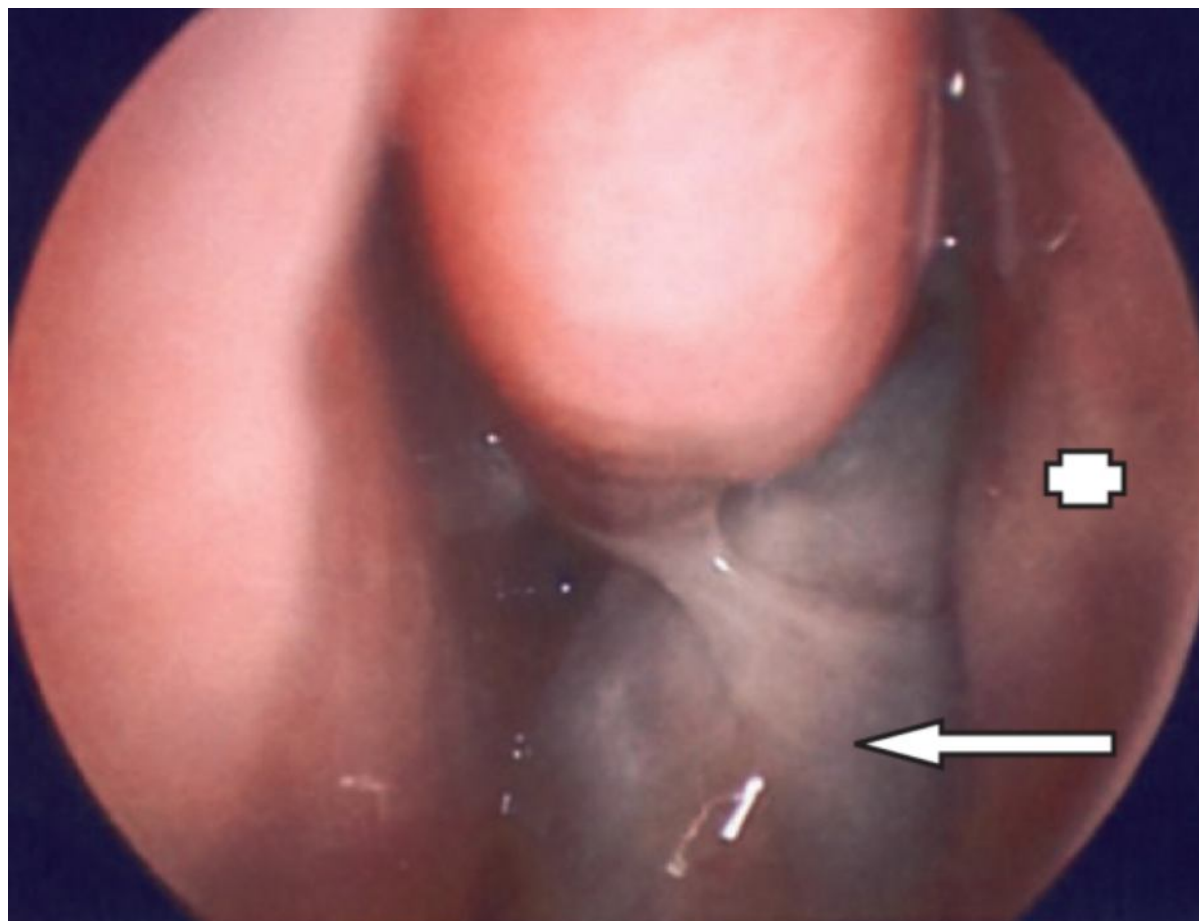


Figure 17-1 Endoscopic view of the left nasal vault demonstrating an antrochoanal polyp (*arrow*) exiting into the nose via an accessory ostium behind an intact uncinete process (*cross*).

PREOPERATIVE PLANNING

Imaging with computed tomography (CT) is important in confirming the clinical impression of an antrochoanal polyp. Radiographic evaluation reveals unilateral opacification of the maxillary antrum and rarely associated opacification of the ethmoid sinuses. CT scanning will reveal the mass associated with opacification of the maxillary sinus on the involved side (Fig. 17-2).

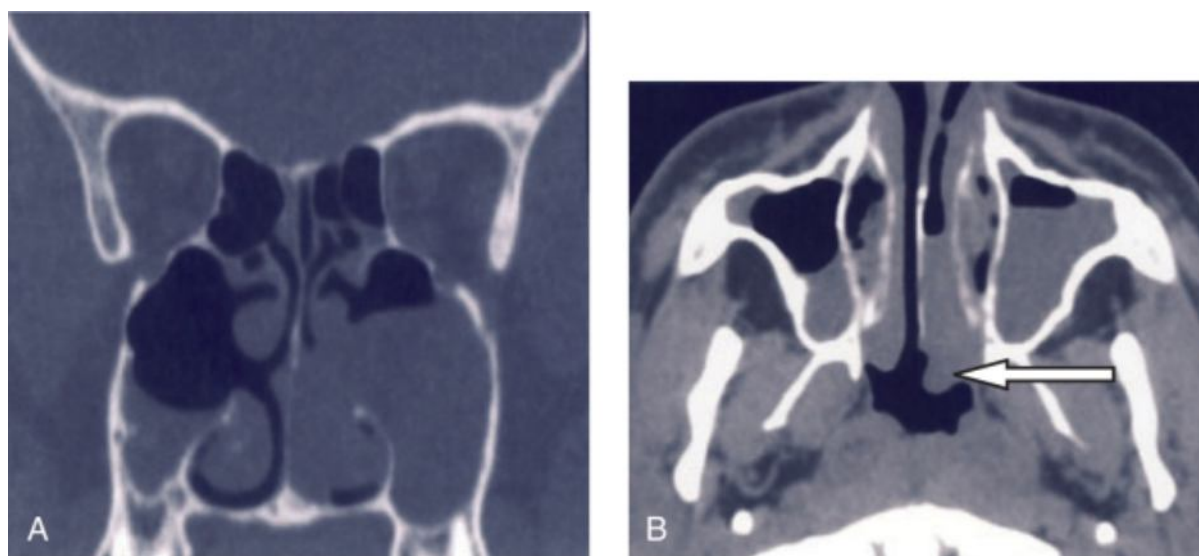


Figure 17-2 Computed tomography scan demonstrating an antrochoanal polyp from a left opaque antrum into the nose on a coronal image (A) and extending into the nasopharynx on an axial image (B) (*arrow*).

SURGICAL TECHNIQUE

Endoscopic Approach

Antrochoanal polyps must be completely excised to avoid recurrence. Endoscopically, this can sometimes be performed exclusively endonasally; however, even with 30- and 70-degree telescopes it is often necessary to also approach the maxillary sinus component via a canine fossa puncture.

The nasal component can easily be removed endoscopically. A maximal maxillary antrostomy allows full view of the sinus component and usually the stalk, which has a variable location within the sinus. If the stalk is not readily accessible through the transnasal route, a canine fossa puncture is performed. A standard 4-mm soft tissue shaver and a 30-degree telescope can be introduced with a minimally invasive technique. In some cases a double-barrel canine fossa puncture is performed to allow both the shaver and scope to be introduced—the scope through the trocar sleeve and the shaver directly through the front face of the maxilla. For the shaver, a standard canine fossa puncture is performed above the gingivobuccal sulcus superior to the canine tooth in the palpated fossa. An extended finger on the cheek prevents perforation of the posterior wall of the maxillary sinus after breaching the anterior wall. The nondominant hand may be kept on the orbital rim to prevent the trocar complex from sliding too superiorly on the front face of a dense maxilla and damaging the orbit.

Once the trocar and sleeve are within the sinus, the trocar can be removed and a telescope placed for full exposure. Best results with the shaver occur with removal of both the sleeve and trocar and placement of the device through the surgical tract created. A 30-degree scope is ideal for complete inspection of the maxillary sinus. No packing or dressings are needed, and additional surgery on the ethmoid sinus is almost never required.

External Approach

An antrochoanal polyp can also be removed via a Caldwell-Luc operation (see Chapter 8). In this procedure the sinus mucosa is removed en bloc to achieve a margin around the segment with the stalk of the polyp.

After the antral mucosa is mobilized, the soft palate is retracted and the polyp in the nasopharynx is grasped with a clamp. While the polyp is gently pulled into the oral cavity, the mucosa surrounding the natural ostium is dissected free under direct vision, and the polyp along with the resected portion of the antral mucosa is removed as one unit (Fig. 17-3).

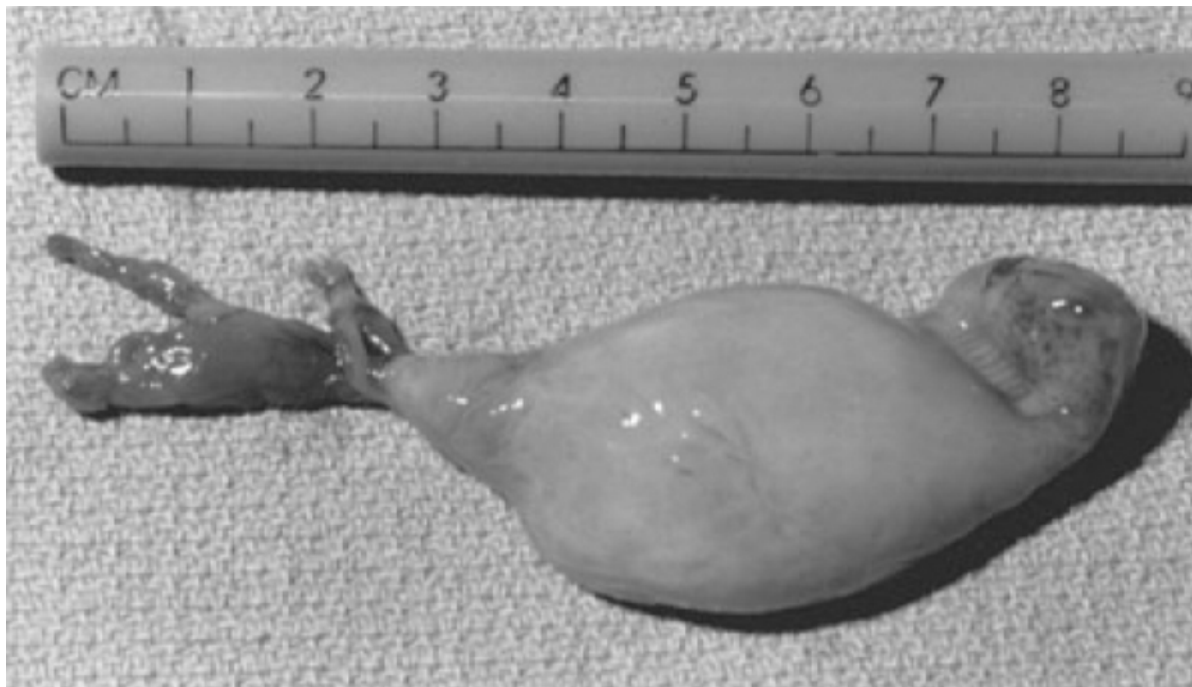


Figure 17-3 A specimen demonstrating the polyp (*right*) and the mucosa of the maxillary antrum (*left*) as a unit.

POSTOPERATIVE CARE

For the endoscopic approach, nasal saline irrigation usually serves as adequate postoperative care. Wide postoperative evaluation of the surgical site is afforded by the maxillary antrostomy. Thirty-degree tele-scopes and

even flexible laryngoscopes allow wide surveillance.

COMPLICATIONS

The pitfall in surgery for antrochoanal polyps is recurrence, which has been noted after limited surgical procedures such as polypectomy. Complete removal either endoscopically or through a Caldwell-Luc approach has been shown to minimize the likelihood of recurrence of the polyp in adults and children. The advantage of these techniques is that the polyp and involved antral mucosa are removed as a unit under direct visualization, thereby preventing any possibility of recurrence.

Precise surgery targeted to the maxillary sinus with removal of only a small amount of sinus mucosa at the stalk insertion site is facilitated by endoscopic visualization. Bleeding is minimal and packing obviated. Temporary hypoesthesia of the infraorbital nerve can occur even with a canine fossa puncture, and patients should be counseled about this complication.

PEARLS

- An antrochoanal polyp enters the nose via an accessory ostium in the posterior fontanelle of the maxillary sinus, but it does not usually have to be connected to the natural ostium.
- Removal of an antrochoanal polyp generally requires a large maxillary antrostomy, angled telescopes, and sometimes a canine fossa puncture.
- A soft tissue shaver is very useful for all aspects of antrochoanal polyp removal; however, the whole lesion does not have to be processed through the device.
- Specimens too large to be removed through the nose can be extracted transorally.
- Long curved frontal sinus instruments are sometimes useful for reaching the stalk of the lesion.

PITFALLS

- Perform a careful office endoscopic examination to rule out an inverted papilloma.
- Beware of a lesion that does not exit the maxillary sinus through an accessory ostium.
- The patient should be completely informed of the possibility of infraorbital hypoesthesia from a canine fossa puncture.
- Precise and complete removal is the only way to avoid recurrence.
- All material processed though the powered instrument should be collected in a specimen sock and sent to the pathology department to avoid an error in diagnosis.

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