

CASE REPORT

Giant antrochoanal polyp in an elderly patient: case report

Polipo antrocoanale gigante in un soggetto anziano: descrizione di un caso clinico

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SUMMARY

Antrochoanal polyp is an infrequent nasal mass and is uncommon in elderly people. The case is presented of a 65-year-old man who developed a giant antrochoanal polyp which blocked the right maxillary sinus, nasal cavity, nasopharynx, oropharynx and hypopharynx. Endoscopic removal of the polyp as well as the base of the polyp was performed.

KEY WORDS: Nose • Giant antrochoanal polyp • Elderly • Surgical treatment • Endoscopic surgery

RIASSUNTO

Il polipo antrocoanale è una neoformazione nasale di non frequente riscontro, soprattutto nel soggetto anziano. Descriviamo il caso di un uomo di 65 anni affetto da un polipo antrocoanale gigante, interessante il seno mascellare destro, la cavità nasale destra, il rinofaringe, l'orofaringe e l'ipofaringe. Il paziente è stato sottoposto ad asportazione endoscopica del polipo con rimozione della sua base di impianto.

PAROLE CHIAVE: Naso • Polipo antrocoanale • Età avanzata • Trattamento chirurgico • Chirurgia endoscopica

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Introduction

Antrochoanal polyps originate in the lining of the maxillary antrum and gradually prolapse through the ethmoidal infundibulum or an accessory opening in the medial wall of the maxillary sinus into the nasal cavity increasing in size towards the posterior choana and nasopharynx. This polyp usually occurs in isolation and is seen mainly in patients < 40 years of age. Treatment is complete surgical removal of the polyp¹⁻³.

Case history

The patient, a 65-year-old man, complained of a foreign-body sensation in his mouth that had been present for approximately 3 years. The sensation was associated with difficulty in breathing and swallowing. Early complaints were unilateral nose blocking, post-nasal drainage, slight headaches, snoring, hyposmia and rhinorrhea. The patient reported having previously been healthy and had no history of allergy. Examination of the mouth revealed a large polypoid mass hanging from the nasopharynx through the hypopharynx. This mass had anteriorly and superiorly displaced the uvula and soft palate, both of which were oedematous. The mass was mobile upon palpation with a tongue depressor but the end of the mass was not

clearly detected. Upon examination with a nasal speculum, a whitish soft-tissue mass was seen in the right nasal cavity and, upon palpation with a suction tube, the mass was found to be mobile. Nasal endoscopy revealed that the mass arose from the right middle meatus and extended into the nasopharynx. At laryngeal endoscopy, the mass could be clearly seen closing the right pyriform sinus of the hypopharynx.

Coronal computed tomography (CT) images demonstrated an almost complete opacification of the right maxillary sinus and the presence of a soft-tissue mass passing through an accessory ostium into the posterior nasal cavity and choana (Fig. 1a).

Midsagittal magnetic resonance imaging (MRI) showed that the mass almost completely blocked the right nasal cavity, nasopharynx, oropharynx and touched the epiglottis (Fig. 1b). On gadolinium-enhanced MRI, the sinusal part showed little peripheral enhancement; however, the nasochoanal, nasopharyngeal and oropharyngeal part, corresponding to the mass, showed strong enhancement.

The patient was taken to the operating theatre under local anaesthesia for endoscopic excision of the polyp. At endoscopy of the right nasal cavity, it was confirmed that the mass in the nasal cavity had originated in the right middle meatus. Before removing the intranasal mass, the tip of the inferior portion was grasped with forceps and ligated



Fig. 1a. Coronal CT.

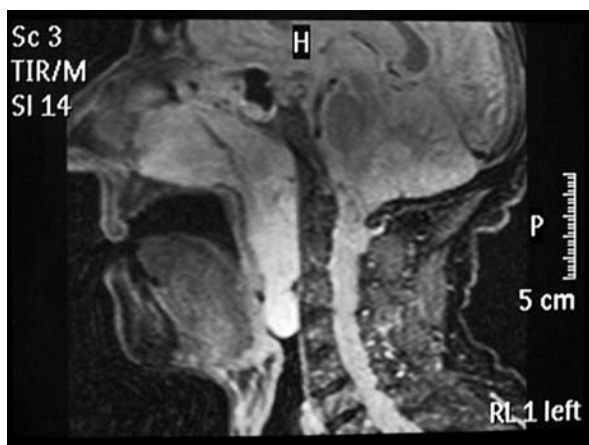


Fig. 1b. Sagittal MRI.

with 1/0 silk. After separating the intranasal component of the mass, the nasopharyngeal portion was removed via the oral cavity by pulling the silk. Choanal and oropharyngeal portions are shown in Figure 2.

Attention was again focused on the right nasal cavity. The stalk of the antrochoanal polyp was found to be protruding from the natural ostium of the right maxillary sinus. The uncinate process was removed and the natural maxillary sinus opening was enlarged with a backbiter. The right antrum was found to be filled with the polypoid mass, which was removed with cup forceps. The origin of the polyp was determined to be the posteroinferior wall. It was clearly separated from the accessory ostium from which the polyp leaked.

The two ostia were connected creating a large maxillary antrostomy through which the inferior base of the antral polyp was well visualized and cleaned out with an angulated Blakesley forceps. The patient tolerated the procedure well. Post-operatively, the nasal pack was removed on the second day and the patient was discharged from hospital on the third day. The patient progressed very well and experienced complete relief of his nasal and oral airway obstruction. Histologic analysis confirmed that the mass was an antrochoanal polyp. The patient remained asymptomatic and disease-free, at follow-up, 4 months later.



Fig. 2. Monobloc choanal-opharyngeal portion of the polyp.

Discussion

Antrochoanal polyps are infrequent, solitary, benign polyps arising from the maxillary antrum and constitute 4-6% of all nasal polyps. They were first described by Killian in 1906. Although their aetiology remains unknown, allergy has been implicated^{1,2}. On the other hand, others have claimed that allergy plays no role in the aetiology of the antrochoanal polyp. However, the patients have sinonasal disease³. Further research is needed to establish the relationship between chronic sinusitis and antrochoanal polyps. Further work is also needed to investigate the role of inflammatory mediators (histamine, IgE, adhesion molecules, Platelet Activating Factor, as well as metalloproteases and nasal remodelling, and tumour marker expression in antrochoanal polyps. A similar polyp may arise from a sphenoid sinus, passing through the sphenoid ostium and herniating through the sphenothmoidal recess into the choana: this is known as a sphenchoanal polyp^{1,2,4}.

This kind of polyp usually occurs in isolation and is seen mainly in patients < 40 years of age and has a male predilection. Antrochoanal polyps are rare in children, except for some reports of increased incidence in children with cystic fibrosis⁵. Our patient was a 65-year-old man, making this case unique. The case is also unique on account of the size of the polyp and its extension all the way down to the epiglottitis.

While unilateral nasal obstruction is the most common symptom, other symptoms may be rhinorrhea, epistaxis, post-nasal drip, and snoring. Differential diagnosis includes other masses that have a maxillary antral component such as: mucocele, mucopyocele, inverting papilloma, allergic fungal sinusitis, or sinonasal polyps^{3,4}.

Imaging recommendations, for suspected nasal masses of unknown aetiology in teenagers and young adults, include CT with contrast enhancement in axial and coronal planes⁶. In the present case, on gadolinium-enhanced MRIs, the sinus part showed little or no peripheral enhancement; however, the nasochoanal part, corresponding to the angiomatous polyp, showed strong enhancement. An angiomatous polyp mimics a hypervascular mass lesion on enhanced MR studies. The anatomic location and association with a sinus part allows correct diagnosis^{6,7}.

Treatment is complete surgical removal with functional endoscopic surgery through the middle meatus. This has

replaced the traditional Caldwell-Luc antrostomy. Simple avulsion of the polyp has a high rate of recurrence, whereas the Caldwell-Luc procedure is associated with damage to the maxillary and dental growth centres^{2,8}. On the other hand, it is recommended that endoscopic middle meatal surgery be combined with transcanine sinuscopy to ensure complete removal of antrochoanal polyps⁹. Endoscopic removal of the antral portion of an antrochoanal polyp by powered instrumentation, an alternative to other methods for removing the antral portion of an antrochoanal polyp, is associated with excellent outcomes and minimal morbidities¹⁰. Endoscopic treatment of antrochoanal polyp in children is safe and effective. Early diagnosis and treatment of antrochoanal polyp is important as secondary rhinosinusitis can complicate the disease and surgery is more difficult¹¹.

Macroscopically, antrochoanal polyps have a cystic intramaxillary portion and a solid intranasal portion. Mi-

croscopically, they are similar to a maxillary cyst of the mucosa. Histological examination of antrochoanal polyps reveals lack of basement membrane thickening; stroma is less oedematous and more fibrotic than inflammatory polyps and large vascular spaces may be present^{1,2}.

Conclusion

- Although seen mainly in patients < 40 years of age, our case occurred at age 65.
- The polyp extended to the hypopharynx.
- It was concluded that endoscopic surgery of the antrochoanal polyp through the middle meatus could be performed as an outpatient procedure and is safe and reliable.
- There is significantly less post-operative morbidity than with the transantral approach and rates of complete cure are comparable.

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