

## Case Report

# Choanal polyp originating from superior turbinate

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### ABSTRACT

Solitary, benign soft tissue masses starting at the nasal cavity and extending to the nasopharynx are termed choanal polyps. They most frequently originate in the maxillary sinus and are termed antra-choanal polyp. Cases of CP originating in the upper concha are rather rare and only one case has been reported in literature in the English language to the best of our knowledge. This paper discusses a CP case originating in the upper concha, which was treated by endoscopic surgical technique, in the light of its clinical presentation and radiological findings.

**Keywords:** Antrochoanal polyp, Endoscopic sinus surgery, Turbinate

### INTRODUCTION

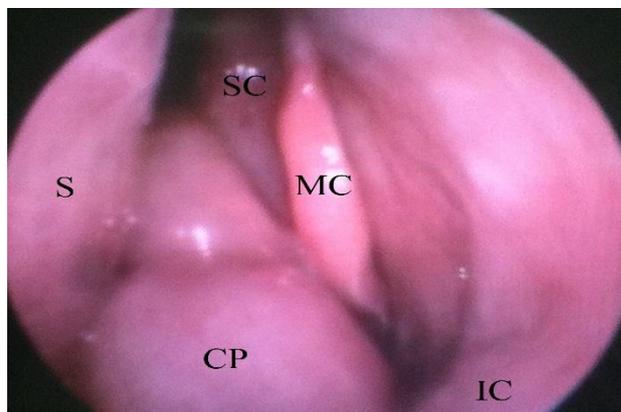
Solitary, benign soft tissue masses starting at the nasal cavity and extending to the nasopharynx are termed choanal polyps (CP). They most frequently originate in the maxillary sinus and are termed antra-choanal polyps (ACP). It is thought that the expansion of an intramural cyst into the nasal cavity plays a role in the development of CP.<sup>1</sup>

CPs of extra-sinusal origin are rather rare; however, atypical localization sites such as lower concha, middle concha and septum have been reported in the literature.<sup>2-6</sup> Cases of CP originating in the upper concha are rather rare and only one case has been reported in literature in the English language to the best of our knowledge.<sup>7</sup> This paper discusses a CP case originating in the upper concha, which was treated by endoscopic surgical technique, in the light of its clinical presentation and radiological findings.

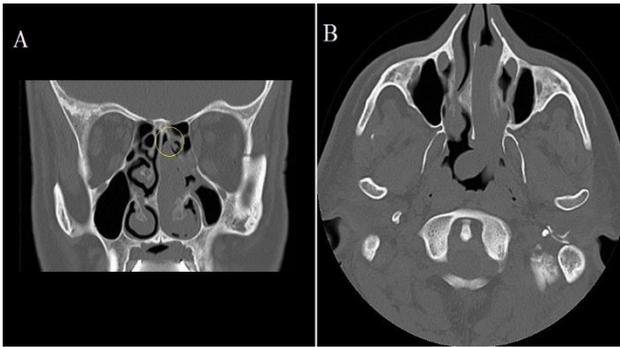
### CASE REPORT

The 55-years-old male patient presented to our clinic with the symptoms of nasal congestion, snoring and disorder

in the sense of smelling, which had been present for the last 2 years. He had no allergic symptoms. His anterior rhinoscopy revealed a solitary polypoid mass on the left side and septal deviation on the right side. His nasal endoscopic examination showed that the polyp originated in the upper concha and extended into the nasopharynx through the nose (Figure 1).



**Figure 1: Endoscopic image of the left nasal cavity (CP: choanal polyp, IC: inferior concha, MC: middle concha, S: septum, SC: superior concha).**



**Figure 2: A) Paranasal tomography shows the site of attachment of the polyp to the upper concha in the coronal section. B) Axial section shows the extension of polyp to the nasopharynx.**

In his computerized tomography (CT) image, it was observed that his soft tissue density started at the level of upper concha and extended to the choana between the middle and lower concha and the septum. His paranasal sinus aerations were natural (Figure 2). He was operated on under general anesthesia. It was observed that the polyp was originating in the medial wall of the upper concha. Along with the partial upper concha resection, the CP was excised and removed via the trans-oral route. The polyp dimensions were measured at 7x4 cm (Figure 3). His post-operative histopathological examination was reported as inflammatory polyp. No post-operative complications were observed. No recurrence was observed in the 1-year-long follow-up of the patient.



**Figure 3: Macroscopic image of the polyp.**

## DISCUSSION

Antrchoanal polyp (ACP) constitutes 3-5% of nasal polyps among adults and 28% among children and it has an incidence rate that is in the range of 1-2/10000.<sup>8</sup> Even though the etiology of ACPs has not yet been fully clarified, local reasons such as ostium obstruction and chronic sinusitis are blamed. Turbulent air flow and gravity are also local factors that may be involved in the development of choanal polyp (CP).<sup>9</sup> The widespread opinion is that it occurs through the expansion of an

intramural cyst into the nasal cavity.<sup>1</sup> The association between allergy and ACP is not clear. While allergy was identified at a rate of 50% in some studies, no cases were identified to have allergies in other studies.<sup>10</sup> Since our patient did not have history of allergy, a skin prick test was not conducted. Septum deviation may be a factor in the localization of CP. Septum deviation changes the air flow within the nose. An air current is formed in the concave side of the deviation, which is stronger as compared to the convex side. This, in turn, may cause the polyp to be in the concave side of the deviation. Also, in our case, a deviation with a right-oriented convexity and a CP on the left side were observed.

Choanal polyps originate most frequently in the maxillary sinus whereas they may also originate in the sphenoid, ethmoid or frontal sinus. Lopatin et al. conducted a study including 20 patients where they found the following origins of CPs: maxillary sinus in 11 patients, sphenoid sinus in 3 patients, posterior ethmoid in 4 patients, anterior ethmoid in 1 patient and middle concha in 1 patient.<sup>5</sup> However, CPs of extrasinusoidal origin are rather rare. In the literature, atypical localization sites such as lower concha, middle concha and septum plate have been reported.<sup>2-6</sup> A case of CP originating in the upper concha was reported once in the past. Our case is the second report in the literature in that regard.

The most frequent symptom in ACPs is one-sided nasal congestion. Our patient had snoring and disorder in the sense of smelling apart from one-sided nasal congestion. Even though disorder in the sense of smelling may accompany choanal polyps, we believe that this sign is more prominent in polyps that originate in the upper concha.

Nasal endoscopy and computerized tomography (CT) are mostly adequate in diagnosis. In the cases of ACPs, nasal endoscopy generally reveals a mass that is one-sided, smooth on the surface, grey-white in color and extends from meatus to choana.<sup>8</sup> However, it may not always be possible to identify the origin of polyp through nasal endoscopy. In our case, it could be seen under nasal endoscopy that the choanal polyp originated in the upper concha. As for the CT, it is typical with ACP to see a one-sided soft tissue density in the nasal cavity and choana. However, in cases where soft tissue density is observed in the nasal cavity and choana whereas the aeration of paranasal sinuses is normal, an atypically localized choanal polyp should be suspected as in our case. In differential diagnosis, mucocoeles, inverted papilloma, juvenile angiofibroma, olfactory neuroblastoma, nasopharyngeal malignancies, adenoid hypertrophy, nasal polyposis, meningoencephalocele and turbinate hypertrophies should be considered.<sup>3,8</sup>

Endoscopic sinus surgery is the effective method in both diagnosis and treatment. Excision of the diseased mucosa along with the polyp is of great importance for the prevention of recurrences.<sup>5</sup> In our patient, a partial

resection of the upper concha was performed in order to clean the diseased mucosa along with the choanal polyp. No recurrence was observed in his postoperative 1-year follow-up. In conclusion, a choanal polyp of atypical localization should be suspected in one-sided polyps especially if the paranasal sinus aeration seen in CT are normal and it should be taken into consideration that a polyp may also originate in the upper concha.

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