



## Choanal polyp originating from the middle turbinate: A case report

### Orta konkadan kaynaklanan koanal polip: Bir olgu sunumu

Süha Ertuğrul<sup>1</sup>

#### Abstract

Choanal polyps are most frequently sinus in origin and a great majority of them are in the form of antrachoanal polyps. Apart from that, atypical localization sites including the superior turbinate, septum, cribriform plate have rarely been reported. Cases of choanal polyps originating in the middle turbinate are very rare. This paper reports a concha-choanal polyp case originating from the middle turbinate, which was excised via endoscopic surgical technique, in the light of clinical and radiological findings.

Key Words: Endoscopic sinus surgery, polyp, choana, concha, middle turbinate.

<sup>1</sup> Karabuk University, Faculty of Medicine, Department of Otorhinolaryngology, Karabuk, Turkey.

Informed Consent: The written consent was received from the patient who was presented in this study.

Hasta Onamı: Çalışmada sunulan hastadan yazılı onam alınmıştır.

Conflict of Interest: No conflict of interest was declared by the authors.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

This case has been presented as a poster presentation in 12th International ORL-HNS Congress.

Bu olgu 12. Uluslararası ORL-HNS Kongresi'nde poster olarak sunulmuştur.

Financial Disclosure: The authors declared that this case has received no financial support.

Finansal Destek: Yazarlar bu olgu için finansal destek almadıklarını beyan etmişlerdir.

Geliş Tarihi / Received: 24.07.2018

Kabul Tarihi / Accepted: 11.09.2018

Yayın Tarihi / Published: 30.11.2018

Sorumlu yazar / Corresponding author  
Süha Ertuğrul

Adres/Address: Sirinevler mahallesi, Alpaslan caddesi, no: 1, 78200, Merkez, Karabuk, Turkey.

e-mail: drsuhaertugrul@hotmail.com

Tel/Phone: +9005058260021

Copyright © ACEM

#### Öz

Koanal polipler sıklıkla sinüs orjinlidir ve bunların da büyük kısmı antrakoanal polip şeklindedir. Bunun dışında süperior konka, septum, kribriform plak gibi atipik lokalizasyonlar nadiren raporlanmıştır. Orta konka kaynaklı koanal polipler çok nadirdir. Bu yazıda endoskopik cerrahi teknik ile eksize edilen orta konkadan köken alan konka-koanal polip olgusu klinik ve radyolojik bulgular eşliğinde sunuldu.

Anahtar Kelimeler: Endoskopik sinüs cerrahisi, polip, koana, konka, orta turbinat.

## Introduction

Choanal polyp (CP) can be defined as benign, solitary, inflammatory soft tissue masses that extend towards the nasal cavity and the nasopharynx. CPs usually originate from the maxillary sinus, unusual origins, such as the middle turbinate, the ethmoid sinus, the nasal septum, the inferior concha, the sphenoid sinus, hard and soft palate, have been reported in the literature [1-3]. A CP originating from the middle turbinate is an extremely rare entity.

Herein, we present a rare case of CP, which originated from the posterior end of the middle turbinate in the light of clinical and radiological findings.

## Case report

A 78-year-old male patient presented to our clinic with the symptom of nasal obstruction that had been present for 30 years. He had no history of allergy. Anterior rhinoscopy revealed a single polypoid mass on the right side. Nasal endoscopic examination revealed a CP, originating from the posterior side of the right middle turbinate (Figure 1). In his computerized tomography (CT) and magnetic resonance images, it was observed that his soft tissue density started at the level posterior end of middle turbinate and extended to the choana (Figure 2, 3). His paranasal sinus aerations were natural. Considering the patient's age and absence of complete obstruction of the choana by the polyp, non-surgical follow up was recommended at first. However, due to the decision of the patient, surgical treatment was planned.

Endoscopic endonasal sinus surgery was performed under local anaesthesia. At the operation, removal of the CP and partial resection of the middle turbinate were performed. No post-operative complications were observed. No recurrence was observed in the 1-year-long follow-up of the patient.

Written informed consent was obtained from the patient.

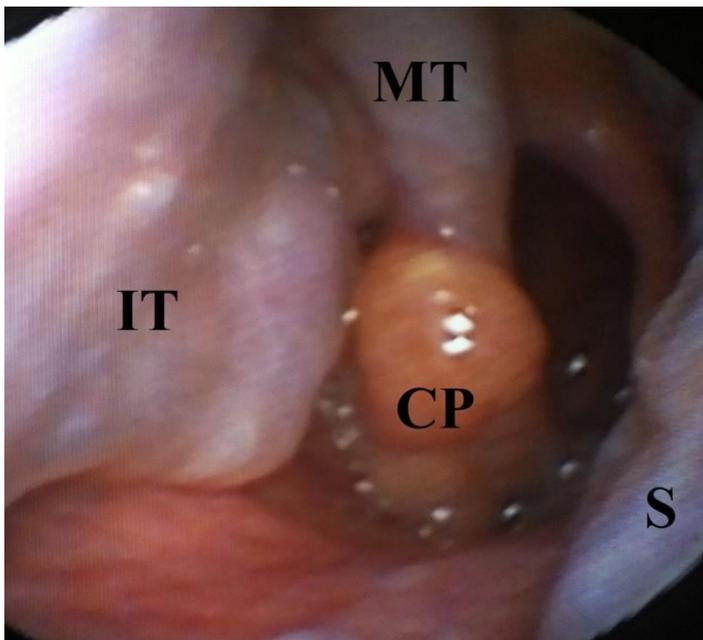


Figure 1. Endoscopic image of the right nasal cavity (CP: choanal polyp, IT: inferior turbinate, MT: middle turbinate, S: septum).

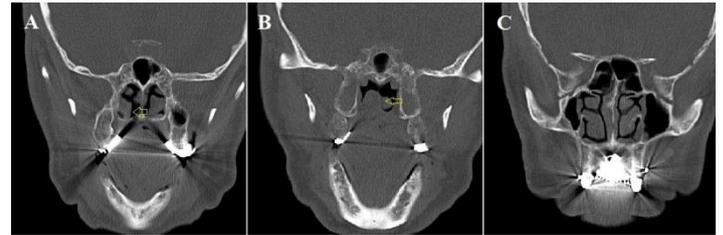


Figure 2. Computed tomography image A. Paranasal tomography shows the site of attachment of the polyp to the middle turbinate in the coronal section B. Choanal portion of the polyp. C. Aeration of the paranasal sinuses was normal.

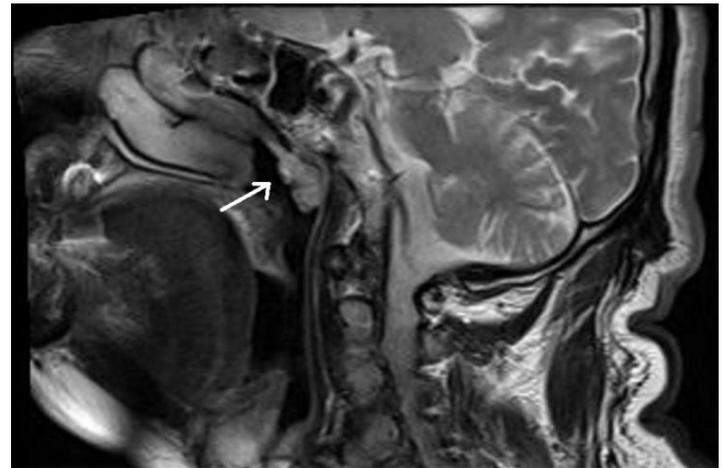


Figure 3. Magnetic resonance image shows the soft tissue density (arrow) started at the level posterior end of middle turbinate and extended to the choana.

## Discussion

CP was originally described by Killian in the year 1906 [4]. However, its etiology has not yet been fully established. Local reasons such as ostium obstruction and chronic sinusitis are considered at the forefront in the etiology. Chronic inflammation and negative pressure occurring in the antrum following ostium obstruction result in the development of a mural cyst at this site. Berg et al. identified that the expansion of an intramural cyst into the nasal cavity was important in the development of CP [5]. According to Myers, antrochoanal polyps (ACP) in children develop in association with bacterial infection and cystic fibrosis [6]. The association between allergy and ACP is not clear. Our patient did not have history of allergy; therefore, a skin prick test was not conducted.

Nasal obstruction is the most frequently observed symptom in CP patients. Furthermore, they may also develop snoring, sleep apnea, headache, feeling of a foreign body in the throat and swallowing problems [7]. Our case only had nasal obstruction.

CPs originate most frequently in the maxillary sinus whereas they may also originate in the sphenoid, ethmoid or frontal sinus. However, CPs of extrasinusal origin are rather rare. In 1906, Killian described the first case of CP, which originated from the posterior end of the middle turbinate [4]. Lopatin et al. [8] on the other hand, reported another CP originating from the lateral aspect of the head of the middle turbinate, which upon histopathological examination turned out to be an inverted papilloma.

Nasal endoscopy and CT are mostly adequate in diagnosis. In our case, it could be seen under nasal endoscopy

that the CP originated from the posterior end of the middle turbinate. As for the CT, it is typical with CP 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 CP should be suspected as in our case. In differential diagnosis, mucoceles, inverted papilloma, juvenile angiofibroma, olfactory neuroblastoma, nasopharyngeal malignancies, adenoid hypertrophy, nasal polyposis, meningoencephalocele and turbinate hypertrophies should be considered [9].

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 [8]. Our patient had an age of 78 and the polyp could not completely close the choana, so our patient could be followed without surgery. But the patient decided to undergo operation under local anesthesia because he wanted to get rid of nasal obstruction. In our patient, a partial resection of the middle turbinate was performed in order to clean the diseased mucosa along with the CP. No recurrence was observed in his postoperative 1-year follow-up.

In conclusion, a CP of atypical localization should be suspected in one-sided polyps especially if the paranasal sinus aerations seen in CT are normal and it should be taken into consideration that a polyp may also originate in the middle turbinate.

## References

1. Özgür ON, Kutluay L, Akkuzu G, Gungen Y. Choanal polyp originating from the nasal septum: a case report. *Am J Otolaryngol.* 2003;24:261-4.
2. Prasad U, Sagar PC, Shahul Hameed OAN. Choanal polyp. *J Laryngol Otol.* 1970;84:951-4.
3. Özcan C, Duce MN, Görür K. Choanal polyp originating from the middle turbinate. *Eur Arch Otorhinolaryngol.* 2004;261:184-6.
4. Killian G. The origin of choanal polyp. *Lancet.* 1906;2:81-2.
5. Berg O, Carefelt C, Silfversward C, Sobin A. Origin of the choanal polyp. *Arch Otolaryngol Head Neck Surg.* 1988;114:1270-1.
6. Myers EN, Cunningham MJ. Modified Caldwell-Luc approach for the treatment of antral choanal polyps. *Laryngoscope.* 1986; 96:911-3.
7. Yanagisawa E, Salzer SJ, Hirokawa RH. Endoscopic view of antrochoanal polyp appearing as a large oropharyngeal mass. *Ear Nose Throat J.* 1994;73:714-5.
8. Lopatin A, Bykova V, Piskunov G. Choanal polyps: One entity, one surgical approach? *Rhinology.* 1997;35:79-83.
9. Chen JM, Schloss MD, Azouz ME. Antrochoanal polyp: A 10 year retrospective study in the pediatric population with a review of the literature. *J Otolaryngol.* 1989;18:168-72.