



RESEARCH

ANTROCHOANAL POLYPS: ANALYSIS OF 18 CASES

Selma KURUKAHVECİOĞLU, MD¹; Sumru YARDIMCI, MD²; Halit UZUN, MD³;
Ercüment AKMAN, MD²

¹Ufuk University Faculty of Medicine, Department of Otorhinolaryngology, Ankara, Turkey²Diskapi Yildirim Beyazit Training and Research Hospital, 2nd Otorhinolaryngology Clinic, Ankara, Turkey
³Güven Hospital, Department of Otorhinolaryngology, Ankara, Turkey

SUMMARY

Purpose: The purpose of this study was to evaluate the management of antrochoanal polyps with endoscopic sinus surgery. 18 antrochoanal polyps cases treated with endoscopic sinus surgery are presented. **Material and Methods:** Nine male and nine female antrochoanal polyp patients treated with endoscopic sinus surgery between the years 2002 and 2004 are reviewed. All of the patients were evaluated with preoperative and postoperative diagnostic nasal endoscopy and paranasal sinus computed tomography. **Results:** Etiologic investigation revealed allergy in six cases and chronic sinusitis in three cases. Among 18 cases treated with endoscopic sinus surgery, only one patient was found to have recurrent disease six months postoperatively and treated with revision endoscopic sinus surgery and sinuscopy. All the patients including the revision case were followed for 1.5 years postoperatively and no recurrence was seen. **Conclusion:** Endoscopic sinus surgery is an effective and reliable method for the treatment of antrochoanal polyps. Postoperative recurrence is lower than other surgical techniques such as Caldwell-luc operation. Endoscopic sinus surgery is also a reliable treatment for childhood antrochoanal polyps, which provides a major advantage.

Keywords: Antrochoanal polyp, surgical techniques, treatment, endoscopy, sinus surgery, recurrence

ANTROKOANAL POLİP: 18 VAKANIN ANALİZİ

ÖZET

Amaç: Bu çalışmada antrokoanal polip vakalarının endoskopik sinüs cerrahisi ile tedavisinin değerlendirilmesi amaçlandı. Endoskopik sinüs cerrahisi uygulanan 18 antrokoanal polipli vakanın sonuçları sunulmuştur. **Materyal ve Method:** 2002 ve 2004 yılları arasında antrokoanal polip nedeniyle kliniğimizde endoskopik sinüs cerrahisi uygulanan dokuz erkek ve dokuz bayan toplam 18 hasta değerlendirilmiştir. **Sonuçlar:** Etiyolojik incelemede vakaların altısında allerji, üç vakada kronik sinüzit saptandı. Endoskopik sinüs cerrahisi ile tedavi edilen 18 antrokoanal polip vakasının sadece birinde postoperatif altıncı ayda nüks saptandı ve revizyon endoskopik sinüs cerrahisi ve sinuskopisi uygulandı. Tüm hastalar uygulanan cerrahi tedaviden sonra bir buçuk yıl takip edildi ve nüks saptanmadı. **Tartışma:** Endoskopik sinüs cerrahisi antrokoanal polip tedavisinde efektif ve uygun bir tedavi metodudur. Postoperatif nüks oranı Caldwell-luc gibi cerrahi yöntemlere oranla daha düşüktür. Endoskopik sinüs cerrahisinin çocukluk çağındaki antrokoanal poliplerin tedavisinde de etkili bir yöntem olması ayrıca bir avantaj sağlamaktadır.

Anahtar Sözcükler: Antrokoanal polip, cerrahi teknik, tedavi, endoskopi, sinüs cerrahisi, nüks

INTRODUCTION

Antrochoanal polyp (ACP) is a benign lesion of soft tissue originating from the maxillary sinus^{1,2}. Of all nasal polyps, the incidence of ACP is reported as 5%¹. ACP is more common in pediatric population. Two components of ACP are defined³. The solid component grows through the sinus ostium into the nasal cavity towards the choana while cystic component lies in the maxillary sinus. Most of the ACP grows through an accessory ostium into the nasal cavity. With time, the tissue between the accessory and the natural ostium is absorbed due to the pressure caused by the ACP and a very large ostium is created. The solid component of the ACP can be large enough to fill the oropharynx.

Most common symptom is unilateral nasal obstruction^{1,3,4}. Epistaxis, excess secretion and symptoms of chronic sinusitis can also be present¹. Nasal endoscopy and paranasal sinus computed tomography are used for diagnosis. The etiology of the ACP is unclear^{1,3}. Chronic antral disease especially chronic sinusitis and allergy are believed to be the possible etiologic factors^{1,5}. Importantly, allergy is reported to be present in 50-67% of the ACP cases¹.

ACP is treated with surgical excision. Endoscopic sinus surgery (ESS) presents a reliable and effective treatment³. In this study, 18 ACP cases treated with ESS are presented.

MATERIAL and METHODS

Nine male and nine female ACP patients referred to our clinic between the years 2002 and 2004 are evaluated. Mean age of the patients were 26

Corresponding Author: Selma Kurukahvecioğlu MD; Ufuk Üniversitesi, KBB, Ankara, Türkiye, Telephone: +90 312 3170505 E-mail: selmakurukahveci@yahoo.com

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years and four patients were children (22%). Major symptom of all the patients was unilateral nasal obstruction. Four patients (22%) were also complaining of excessive nasal secretion. All of the patients were evaluated with preoperative and postoperative diagnostic nasal endoscopy and paranasal sinus computed tomography.

Surgical procedure	Patients	(%)
Uncinectomy +Middle meatal antrostomy	14	(78%)
Uncinectomy +Middle meatal antrostomy + Total anterior ethmoidectomy (Left)	1	(6)
Bilateral anterior ethmoidectomy	3	(16%)
Total	18	(%100)

Table 1: Surgical procedures performed for the treatment of antrochoanal polyps.

RESULTS

All the ACPs were unilateral and most of the ACPs were localized in the right nasal cavity (67%,12 cases). One patient had accompanying isolated nasal polyp in the contralateral nasal cavity. Three patients had bilateral concha bullosa. The solid components of the ACPs were found to be in the middle meatus in six patients (33%), in nasal cavity in nine patients (50%) and in nasopharynx in three patients (17%). During etiologic evaluation, six patients (33%) were found to have allergy and three patients were found to have chronic sinusitis. All the patients were treated with ESS. Intraoperatively, polyps were found to pass through the accessory ostium in 67% of the cases. In the remaining cases, polyps were passing through the natural ostium and the ostia were enlarged. Our standard ESS procedure for ACP was total excision of all components of ACP, uncinectomy and middle meatal antrostomy. The rationale of uncinectomy and antrostomy was to enlarge the maxillary sinus ostium while connecting all the accessory ostia with the natural ostium for drainage and ventilation of the sinus. Associated pathologies like concha bullosa and isolated polyp were treated with the appropriate surgical procedures. The types of surgical procedures performed are given in Table 1. For the patient who had isolated nasal polyp in one nasal cavity and ACP in the other, the ACP side was treated with standard procedure and isolated polyp side was treated with total anterior ethmoidectomy. For patients with concha bullosa, middle turbinate was opened and the lateral wall of concha bullosa was resected. All the ACP components were removed using angled telescopes, angled forceps and microdebrider. Care was taken to open all the accessory ostia. Only in one patient,

sinoscopy was needed for total removal of the ACP component in the maxillary sinus. All surgical specimens were sent to our pathology department and the specimens were confirmed to be benign inflammatory polyps. In the follow up period, only one patient (5.5%) was found to have recurrent ACP after six months postoperatively. For the revision surgery, endoscopic resection was combined with sinuscopy. All the patients including the revision case were followed for 1.5 years after their surgical treatment and no recurrent disease was seen.

DISCUSSION

ACPs are benign lesions of soft tissue. The definitive treatment of ACP is surgical removal. Caldwell-Luc (CL) procedure, polypectomy and ESS are performed for ACP treatment. Regardless of the type of surgery used, the most important point for surgical treatment of ACP is the total removal of all ACP components. Insufficient surgery results in recurrence⁶. Recurrence rate is especially high if the pedicle of the ACP is not completely removed³.

ESS reinforced with sinuscopy is reported to be a successful treatment modality³. The cystic component of the ACP can also be removed from the maxillary sinus totally by using angled telescopes, angled forceps and microdebrider during endoscopic surgery. ESS procedure alone can be enough for total removal of either component of the ACP but if there is any doubt about total removal, suitable surgical procedure should be employed. We were able to remove the ACPs totally by using endoscopes and powered instruments however; in one patient for whom we performed revision surgery, sinuscopy provided minimally invasive approach to maxillary sinus. Since most of the ACPs pass through the accessory ostia, it is important to connect all the accessory ostia with natural ostium⁷. We performed uncinectomy and middle meatal antrostomy to connect the accessory ostia with natural ostium. The most important point about excision around ostia is that it should not be carried far anteriorly to avoid lacrimal sac injury. Of the 18 ACP patients treated with ESS, only one adult patient had recurrent disease at 6 months postoperatively. Since we were able to view maxillary sinus walls with angled telescopes through the enlarged ostium, we believe the chance of inadequate resection is very low. The reason for recurrence in this patient can be persistent polypoid degeneration of antral mucosa which was reported to be a factor in recurrent ACP⁸. We performed sinuscopy with two trochars for resection of the recurrent ACP form the maxillary sinus. Sinoscopy, combined with endoscopic approach,



provides a minimally invasive procedure for total removal of ACP.

All the patients including the patient undergone revision surgery were followed for 1.5 years after surgical treatment and no recurrence was observed. ESS proves to be an effective treatment method for ACP. For the treatment of childhood ACP, ESS is reported to be more reliable than the classical CL procedure³. For ESS, there is significantly less postoperative morbidity than the CL procedure^{3,6}. During CL procedure, maxillary sinus and the dental development areas can be injured⁶. Also infraorbital nerve anesthesia and paresthesia as well as prolonged recovery period are disadvantages of CL procedure. Inferior meatal antrostomy performed during CL has also additional morbidity. Also due to the presence of unerupted teeth in children below nine years to the CL procedure is contraindicated⁹. Friedman et al believe that the risk to dentition and facial growth in children is an overstated contraindication to the CL procedure¹⁰. Consequently, ESS is also a reliable treatment for childhood ACPs, which provides a major advantage.

Recurrence rates are higher for CL and polypectomy procedures^{2,3,8}. Lorry et al reported the recurrence rate following CL as 12.5%⁸. DeFreitas and et al reviewed 670 CL procedures and found that 5.4% of the cases had recurrent polyps¹¹.

ESS provides adequate treatment for ACPs and associated nasal pathologies. If there is any doubt about total excision of ACP, it is always possible to combine ESS with sinuscopy. As a result, we believe ESS has proved itself as an effective and reliable surgical procedure for the treatment of antrochoanal polyps.

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