

THE CLINICAL ANALYSIS OF ANTROCHOANAL POLYPS IN CHILDREN

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Summary

Introduction. Antrochoanal polyps (ACPs) occur most commonly in children and young adults. Antrochoanal polyps are associated with chronic sinusitis and/or allergy. The symptoms of ACPs are nasal obstruction, rhinorrhea, headaches and post-nasal drip. The treatment of choice is surgical.

Material and methods. In the study we analyzed the clinical data of 19 children with antrochoanal polyps who were treated in the Department of Pediatric Otolaryngology of Medical University of Warsaw from January 2005 to January 2011. We analyzed demographic characteristics, the localization of antrochoanal polyps, clinical symptoms and applied treatment.

Conclusions. Most patients with antrochoanal polyps have a history of chronic sinusitis and/or allergy. The dominating symptoms in children with ACPs are nasal obstruction and chronic rhinorrhea. Computed tomography is an important radiological examination of choice for evaluation of antrochoanal polyps. Functional endoscopic sinus surgery (FESS) with polypectomy has been the dominating surgical approach.

Key words: antrochoanal polyp, chronic sinusitis, allergy, symptoms, treatment

INTRODUCTION

Antrochoanal polyps originate from the inner wall of maxillary sinus, pass through the natural sinus ostia and/or assesory ostia, that are formed due to the destruction of the medial sinus wall, and extend into the choanae to the nasopharynx or oropharynx (4, 10). They occur most commonly in children and young adults.

Antrochoanal polyps represent 3 to 6% of all nasal polyps (4,1), however in children APCs may represent even 33% of all nasal polyps (2). ACPs are usually unilateral, although there are some cases of bilateral ACPs reported (7, 8). Antrochoanal polyps are associated with chronic sinusitis and/or allergy. Careful history taking, physical ENT and paediatric examination, laboratory test results are the crucial elements of forming the diagnosis. Computed tomography of sinuses and nasopharynx is an important radiological examination of choice for evaluation of antrochoanal polyps.

The most common symptoms of ACP are nasal obstruction, rhinorrhea, headaches and post-nasal drip (1, 2, 4), but there may be also more severe symptoms such as epistaxis, dyspnea, dysphagia and weight loss (1, 2).

The differential diagnosis consists of juvenile angiofibroma, encephalocele, nasal glioma, mucocele, nasopharyngeal malignancies, retention cyst, enlarged adenoids and turbinates, inverted papilloma and nasal polyposis (1, 9, 10). The treatment of ACP is always surgical (1, 3). However, despite the surgical management antrochoanal polyps, tend to recur.

MATERIAL AND METHODS

The clinical analysis was performed retrospectively. The clinical data of 19 patients with antrochoanal polyps, who were treated in the Department of Pediatric Otolaryngology of Medical University of Warsaw from January 2005 to January 2011, were analyzed.

RESULTS

In the group of patients there were 19 children with antrochoanal polyps. There was a slight female predominance (F: 53 %, M: 47%). The mean age was 10 years old, with a range from 6 to 14 years old.

The most common symptoms were nasal obstruction (84%), followed by chronic rhinorrhea (63%). Quite frequent symptoms were snoring (32%), nocturnal sleep apnea (16%), recurrent upper respiratory tract infections (16%). Rarely the patients were complaining of headaches, cough, unilateral facial pain.

42% of the patients had a history of allergy. The patients were allergic to different allergic substances such as dust mites, grass, corn, fur of animals, acetylsalicylic acid, chemical substances, food. However, in our study we did not do additional allergic tests.

Antrochoanal polyps were mainly situated in the right nasal cavity – 74% (n = 14), whereas in the left nasal cavity they were present in 36% (n = 5).

All patients underwent surgical treatment. The antrochoanal polyps were removed under general anesthesia. In most patients also functional endoscopic sinus surgery (FESS) (84%) was performed at the same time. In 2 cases endoscopic ethmoidectomy was performed

(11%), one patient had an endoscopic surgery of sphenoid sinuses. In 63% of the patients polyps of maxillary sinuses were reported intraoperatively, whereas polyps in nasal cavities in 25%. Post-operative follow up was carried out in ambulatory care.

DISCUSSION

The etiology of antrochoanal polyps has been discussed in many papers and there is still no accordance, whether they are associated rather with inflammation process and/or allergy. There are studies to confirm the role of chronic inflammation and/or to exclude the role of allergy (4, 5, 7, 8). On the other hand, there are authors that have found significant association with allergy (2, 6).

Nasal obstruction seems to be the most common presenting symptom according to our study and other authors (2, 9).

In our study ACPs were more often right-sided, whereas some studies show left-sided localization to be more frequent (2, 10).

There are many surgical treatments of ACPs described in the literature (1, 9). Simple polypectomy has a high recurrence rate up to 25% (1, 9). Caldwell-Luc surgery used to be one of the surgical method, however it is not recommended in children due to the risk for destruction of tooth buds and maxillary bone formation or facial parasthesia (1, 3, 9, 10).

Endoscopic approach has become the main surgical method of removing ACPs because of its good results, minimal risk of surgery and short recovery time (2, 5, 6). There are several endoscopic managements of APCs. Inferior meatal antrostomy with stenting has been more effective method of treatment comparing with middle meatal antrostomy with stenting in patients with ACP and chronic sinusitis according to Saito and all (3). Anterior ethmoidectomy with uncinectomy has been performed in patients with ethmoid sinusitis (9).

There are some authors who suggest to combine middle meatal antrostomy with transcanine sinusotomy in order to remove all the polyps properly, not to overlook any of them and minimize the risk of recurrence (11).

Functional endoscopic sinus surgery (FESS) gives good results, is safe and has become an important treatment (7, 9), however, its efficacy in children is controversial (10) and some authors do not indicate it in patients with antrochoanal polyps accompanied by chronic sinusitis (3).

The decision about the proper method should be influenced by patient's age, accompanying sinus pathology, the recurrence after the former operation and the possibility of total excision (9).

There are suggestions that chronic maxillary sinusitis, instead of being the cause of antrochoanal polyps, could result from ACPs due to the swelling and inflammation of sinus mucosa (10). The early diagnosis and treatment of ACPs is important because the concomitant chronic sinusitis can make both diagnosis and treatment more complicated (10).

In the initial treatment of ACPs nasal steroids are prescribed, as well as subsequently after the surgery, to prevent the recurrence. Antibiotic therapy is recommended when acute exacerbation of concomitant chronic sinusitis is present.

CONCLUSIONS

Most patients with antrochoanal polyps have a history of chronic sinusitis and/or allergy. The dominating symptoms in patients with ACPs are nasal obstruction and chronic rhinorrhea. Other common symptoms of ACPs in children are snoring, nocturnal sleep apnea and recurrent upper respiratory tract infections. Computed tomography is an important radiological examination of choice for evaluation of antrochoanal polyps. The treatment of choice is always surgical. Functional endoscopic sinus surgery (FESS) with polypectomy has been the dominating surgical approach. Nasal steroids are used in the initial treatment and after the surgical management in order to prevent recurrence. □

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