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Case Series

Antro-naso-choanal polyp (proposed name)/antrochoanal polyp (famous name): excision without recurrence by combined endoscopic approach

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ABSTRACT

The primary goal of treatment for antro-naso-choanal polyp must be in the form of complete removal with total cleaning of the maxillary sinus to prevent recurrence. This retrospective case series study with (Institutional Review Board cod is R.25.08.3334), included 20 patients with antro-naso-choanal polyps (ANCP) (the proposed name for the usual name of the antrochoanal polyp). Patients were 14 males and 6 females with ages ranged from18-40 years. Under general anesthesia all cases were operated by combined transnasal and sublabial endoscopic approach. There was any recurrence through the average 18 months of follow up period. It is concluded that combined transnasal and sublabial endoscopic excision of antro-naso-choanal polyp is the best approach for complete removal without recurrence.

Keywords: Antrochoanal polyp, Combined endonasal, Polypectomy, Maxillary antrum

INTRODUCTION

In adult antro-naso-choanal polyps represent only ~5% of sinonasal polyps but in children it constitutes 33% of all nasal polyps.[1] In overall incidence it is more common in adults especially in their 3rd to 5th decades.[2] They are slightly more common in males than females. Maxillary sinus is the original site of the polyp that fills the antrum then prolapse into the nasal cavity through the narrow ostium of the sinus. It has 3 parts antral, nasal and choanal parts. the antral part and the nasal part are attached by a thin constricted part at the maxillary ostium. The choanal part is in the nasopharynx and sometimes extends to the oropharynx behind the soft palate.[3] In rare cases this polyp may extend to hypopharynx causing respiratory obstruction and change of voice.[4] The ANCP represents 4-6% of all nasal polyps. Males are more affected than females. Many factors may contribute in pathogenesis of ANCP without a firm certainty of any. From those contributing factors are chronic rhinosinusitis, allergic rhinitis, deviated nasal septum and idiopathic. observation on the infiltration in the subepithelial inflammatory cells and fibrosis indicate that the antro-naso-choanal polyp is more intimately associated with an inflammatory process.

In most cases there were impaired ventilation by a valve like obstruction of the accessory and main ostium of maxillary sinus leading to pressure pull and push force of the antral mucosa towards nasal cavity in the form of prolapse. The antral part is cystic or polypoid but the nasochoanal part is solid polypoidal.[5] Simple polypectomy in the form of avulsion, a common practice, is associated with a high recurrence or even residual rates. Cald well luc operation alone is not enough to

completely remove the polypoid component of the polyp especially in the anterior and lateral wall of the antrum which are difficult to be visualized as well as the operation has many morbidities as cheek edema, devitalization of teeth, fistula formation, numbness in the upper lip and gingiva.[6] Inferior antrostomy which is done as a step of cald well luc operation for drainage and pack insertion is found to be very dangerous where it causes recurrent sinus infections. With the advent of endoscopic nasal surgery, endoscopic excision of the antronasochoanal polyp is the best chance to completely excision of the three components of the polyp. The transnasal endoscope is easily to approach the nasochoanal parts whereas it is not able to approach the intra sinus part especially the lateral and anterior antral components. The best technique to approach these difficult parts is by introducing the endoscope and instruments through the anterior sinus wall in the canine fossa.

CASE SERIES

After taking the consent from all patients and approval from our institutions, this retrospective case series observational descriptive study was applied on 20 patients with antrochoanal polyps diagnosed by clinical examination, nasal endoscopy and CT scanning. Cases were collected from two hospitals, Mansoura university hospital, Egypt and A Maaly general hospital, KSA. Cases were operated in the period 2012 to 2022. There were 14 males and 6 females, their ages ranged from 18-40 years.

The main presenting symptom was nasal obstruction with other symptoms including mouth breathing, nasal discharge, headache and snoring patients were operated by transnasal endoscope 0 and 30 degrees and sublabial trans canine endoscopic technique. The nasal endoscopic step was to achieve three actions; remove the nasochoanal part, dilation of the natural ostium together with accessory ostia and removal of medial part of antral polyp. The trans canine endoscopic approach was to achieve complete removal of antral polyp in the lateral, superior, inferior and anterior wall.

The endoscopic procedures included uncinectomy, wide middle meatal antrostomy (MMA), polypectomy and excision of the antral part. The main goal of these procedures was to achieve good ventilation after complete polyp excision. In some cases, there were deviated nasal septum interfering with complete visualization and then interfere with achieving the steps of surgery so septoplasty was performed in these cases to enable complete accurate operation. The origin of antronasochoanal polyps was medial wall and floor in 15 cases. In 5 cases the origin was not precisely detected. The antral part of polyps was cystic in 8 cases, while polypoidal in 12 cases. The septum was found deviated in 8 cases necessating septoplasty operation prior to polyp excision. The ancinate processes were atrophic in 8 cases. Minimal pain and or numbness occurred in 5 cases. Through the follow up period (range of 18 months) there was no recurrence (Tables 1-4).

Table 1: Epidemiological data.

Number	Male	Age	Female	Age
20 patients	14	18-40 (20±2.0)	6	20-35 (25±1.50)

Table 2: Symptoms.

Symptoms	Number
Nasal obstruction	20
Nasal discharge	20
Snoring	20
Mouth breathing	20
Headache	20

Table 3: Clinical findings.

Findings	Numbers
Deviated nasal septum	8
Cystic antral part	8
Polypoidal antral polyp	12
Uncinate process atrophy	8

Table 4: Complications.

Complication	Numbers
Cheek swelling	0
Numbness	5
Sublabial fistula	0
Recurrence	0

DISCUSSION

Although antrochoanal is the famous name of such polyp arising from the antrum of maxillary sinus and extending to choana. So, it is better to name it as antro-naso-choanal polyp (ANCP) to demonstrate that the polyp has three parts intra-antral, nasal and choanal parts. Unlike other sinonasal polyps, antronasochoanal polyps are usually found in non-atopic patients.[6] Classically patient with ANCP has unilateral nasal obstruction and nasal discharge, with a soft polypoid mass originating in the middle meatus then it extends into the choana, nasopharynx and eventually to oropharynx. In some cases, the polyp may appear as a soft red vascularized mass that bleeds on touch so should be differentiated from hemangioma or angiofibroma.[7]

It is usually unilateral disease and more on the left side but bilateral ANCP have been reported in rare cases.[8] Typical presentation includes nasal obstruction and discharge. Atypical symptoms may be headache, facial pain and respiratory obstructive apnea may occur in some patients.[9] CT scanning is the accurate method for

diagnosis especially in coronal scans due to the exquisite bony detail of the paranasal sinus anatomy. The typical CT features of antronasochoanal polyps homogenous soft tissue density in the maxillary sinus that passes through the ostium making it widened and the mass finds its way in the nose and nasopharynx. Non bone destruction is characteristic and differentiating from other pathologies.

Occasionally, antronasochoanal polyps may have a higher density in long-standing and/or have an associated fungal infection but may demonstrate peripheral enhancement.[10] ANCP is still unclear. The typical sign of ANCP is a smooth polypoid mass originating in the middle meatus and extends into the choana, nasopharynx and eventually to the oral cavity. The primary aim of treatment for antrochoanal polyp should be complete removal with total cleaning of the maxillary antrum. The author reported that the decision for the appropriate type of surgery for the ANCP is influenced by age of the patients, other pathology, recurrence after previous surgery, and possibility of total excision.[11] By the technique employed in this study there was no recurrence after combined middle meatal antrostomy (MMA) with trans canine approach.

A manuscript reported that middle meatal antrostomy alone is easily overlooked parts of the polyp in difficult antral corners out of reach by nasal endoscope.[12] Many authors reported that primary and recurrent polyps were best treated by combined transnasal and sublabial antrostomy for better visualization and complete excision.[13-15] Some author reported that transnasal middle meatal antrostomy alone can achieve complete removal of the antral part of the polyp together with diseased mucosa.[16,17]

A blade of electric shaver could be inserted through the canine fossa to remove the antral polyps.[15] Transoral approach may be added in excision of giant polyp with huge pharyngeal part.[18,19] Trans canine endoscopic antrotomy gave direct visualization of the antrum cavity in all directions enabling complete excision of pathology inside and ultimately reaching the main goal of complete cleaning of the antrum. By the trans canine endoscopic antrotomy there were no Cheek edema, numbness or fistula as were occurred after cald well luc operation.

The current study was of limited number of patients, with lack of multicenter studies.

CONCLUSION

The best approach to manage antrochoanal polyp is combined endoscopic approach, middle meatal antrostomy with transcanine antrostomy, where the transnasal step ensures complete removal of the nasal part of the polyp together with achieving a wide middle meatal antrostomy, while by transcanine sinus copy, the antral cysts and polyps removed through the trocar sheath also it ensures removal of antral polyps. Also, transcanine endoscopic approach avoid complications may be associated with cald well luc operation without retraction or incision.

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