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Case Report

Bilateral antrochoanal polyp: a rare entity

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ABSTRACT

Antrochoanal polyps (ACPs) are benign polyps that arises from inflamed and edematous mucosa of maxillary antrum. They arise most commonly from posterior wall of maxillary sinus. They occur more commonly in children and young adults without any sex predilection. The etiopathogenesis of ACPs is not clear but chronic sinusitis and allergy have been implicated. Patient usually present with nasal obstruction, may also have symptoms of epistaxis, rhinorrhoea, foreign body sensation. The diagnosis of the disease is done based on endoscopic examination of nasal cavities, computed tomography (CT) scan findings, and histopathologic results. ACPs are usually unilateral but can be bilateral in extremely rare cases. Based on adequate history and clinico-radiological examination misdiagnosis can be avoided which may lead to no improvement of symptoms and mandating revision surgery. Treatment of ACPs is always surgical. Functional endoscopic sinus surgery (FESS) and powered instrumentation during FESS is safe and effective method. Treating surgeon should focus on detecting the exact origin and extent of polyp to prevent recurrence. We herein presented extremely rare case of bilateral ACP in a 46 years female.

Keywords: Antrochoanal polyp, Bilateral, Maxillary sinus

INTRODUCTION

The Antrochoanal polyps (ACPs) also known as Killian polyps were first described by Gustav Killian in 1960.[1] ACPs are benign prolapsed part of oedematous mucosa of nose and paranasal sinuses that originate from maxillary antrum. The etiopathogenesis of ACPs is not clear although Chronic sinusitis and allergy have been implicated without any proved conclusive proof. They are different from common nasal polyps as they are solitary, contains few mucous glands and eosinophils.[2] It grows into the nasal cavity by growing through the natural or accessory ostium and extends to the choana, nasopharynx and sometimes to the oropharynx. Main symptoms include nasal obstruction and rhinorrhea. ACPs are almost always unilateral although extremely rare cases of bilateral ACPs have been reported in literature.[3] In 1955, first bilateral AC polyp was described in a fit 12 years child.[4] To our knowledge only 12 cases of bilateral ACPs have been reported in literature from 1996 to 2022.[5] Diagnostic nasal endoscopy and CT scans are required for making diagnosis and planning treatment. Treatment is always surgical.

CASE REPORT

A 46 years female with no pathological antecedents (no history of associated asthma or allergy) presented with complaints of bilateral mucoid nasal discharge and gradually progressive bilateral nasal obstruction for last 3 years. It was associated with mouth breathing and intermittent snoring. She also had decreased sense of smell and mild headache since last four months. The patient denied history of recurrent bouts of sneezing, nasal itching and epistaxis.

Anterior rhinoscopy revealed pale polypoidal mass in both nasal cavities. Diagnostic nasal endoscopy confirmed these polypoidal mass apparently arising from middle

meatus area reaching upto floor of nose (Figure 1). Endoscope assisted visualization of nasopharynx showed choanal part of bilateral polypoidal mass in the nasopharynx (Figure 1). The rest of otorhinolaryngological examination was normal.

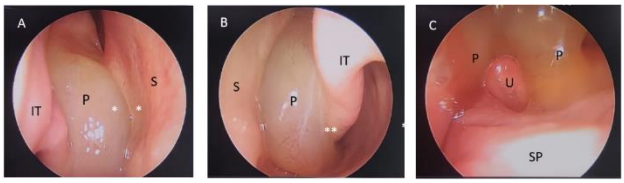

Figure 1: Endoscopic view of (A) right; (B) left antrochoanal polyp arising from middle meatus reaching the floor of nasal cavity; and (C) endoscopic view of nasopharynx showing polyp extending into nasopharynx.

Note: P- polyp, S- septum, IT- inferior turbinate, U- uvula, SP- soft palate.

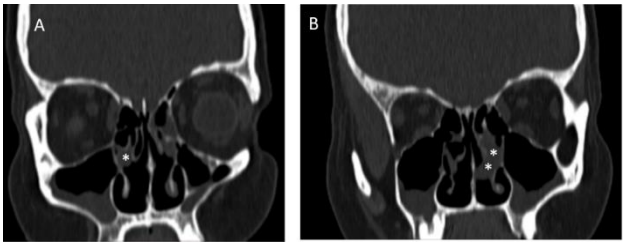

Figure 2: NCCT PNS coronal sections showing attachment of polyp to (A) anterior fontanelle on; and (B) to posterior fontanelle on.

Note: *-Right side, and **-left side.

Non-contrast CT of paranasal sinus (NCCT PNS) showed soft tissue density in bilateral nasal cavity extending till floor. Attachment on right side seemed to be near anterior fontanelle and on left side at posterior fontanelle (Figure 2).

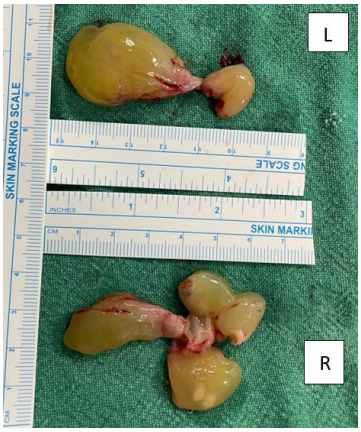

Figure 3: Excised specimen of bilateral antrochoanal polyp.

The patient underwent functional endoscopic sinus surgery (FESS) in the form of bilateral ACP removal with uncinectomy with middle meatal antrostomy and anterior ethmoidectomy. The polyp on right side was removed in toto (Figure 3). However on left side microdebridor was used to remove part of polyp near posterior fontanelle. The right anterior accessory ostia and left posterior accessory ostia were joined to main ostia. Histopathological examination of specimen was consistent with ACP (Figure 4). The patient experienced complete recovery with no recurrence one year post-operatively.

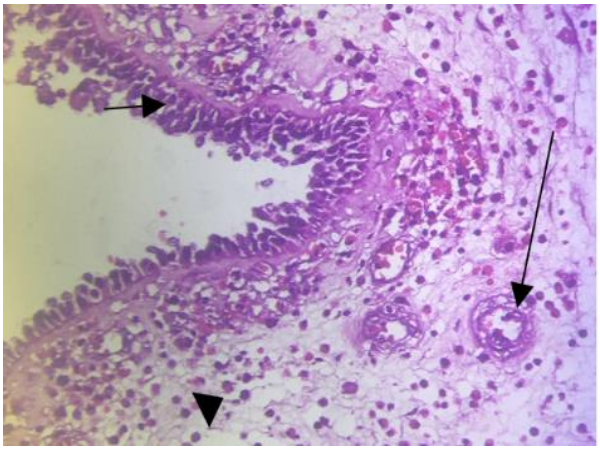

Figure 4: Hematoxylin and eosin stain (at 40X magnification) showing pseudostratified ciliated columnar epithelium (short arrow), mucosal edema with mixed inflammatory infiltrates comprising of plasma cells, lymphocytes (arrowhead) and few dilated vessels (long arrow).

DISCUSSION

Antrochoanal polyps originate most commonly from the posterior wall of the maxillary sinus.[6] They are believed to occur by the expansion of cysts into the maxillary sinus mucosa. They are more common in children with no sex predilection. As they are benign in nature, they do not damage the surrounding soft or bony tissues. Because of obstruction of nasal cavity, it may cause nasal obstruction and hyposmia or anosmia. Patients may also present with complains of rhinorrhea, epistaxis, snoring, foreign body sensation, halitosis, and headache. The diagnosis of the disease is done based on endoscopic examination of nasal cavities, CT findings, and histopathologic results. The differential diagnosis of ACPs should include juvenile angiofibroma, nasal glioma, meningoencephalocele, inverted papilloma, mucocele, mucus retention cyst, Thornwaldt's cyst, grossly enlarged adenoids, lymphoma, and nasopharyngeal malignancies. In one of the study the retention cysts, which formed as a result of chronic inflammation, herniate to the nasal cavity with the negative pressure effect created within the maxillary sinus. In this study it was postulated that accessory ostium may be an accelerating factor in the transformation of retention cyst to ACP. Furthermore, the changes in the nasal passage airflow on the opposite side suggested that nasal septal deviation contributed to this process.[7] It has been hypothesized that when a unilateral ACP fills the

nasopharynx, it prevents creation of enough negative intranasal pressure in the contralateral side to further pull maxillary contents into the nasal cavity, that can be considered one cause for rarity of bilateral ACP.[8]

The mainstay of treatment for ACP is surgery. Conservative approaches, such as polypectomy, are recommended in patients under 8 years old. Although recurrence is often observed after polypectomy. Functional endoscopic sinus surgery (FESS), the most common surgical treatment method, is the gold standard method. Although ACPs are common in otolaryngology practice, bilateral ACPs are extremely rare. In a patient with ACP, it must be kept in mind that, there may be another polyp on the opposite side.[9]

CONCLUSION

Bilateral ACP is a rare entity and should be considered in differential diagnoses of bilateral nasal obstruction and mouth breathing. Adequate preoperative clinicoradiological evaluation is mandatory to pick up the correct diagnosis and plan the appropriate surgical procedure. Endoscope assisted excision of the polyp is a safe and effective method of cure.

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