

## Case Report

# Antrochoanal polyp in a six year old child: a rare presentation

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### ABSTRACT

Antrochoanal polyp is a benign solitary sinonasal polyp arising within the maxillary sinus and extending into nasopharynx via sinus ostium. It is reported commonly in young adults mainly in 3rd to 5th decades. Antrochoanal polyp accounts 4% to 6% of sinonasal polyps in general population and approximately 33% in paediatric population. Here we are reporting a case of antrochoanal polyp in just six year child because of its relative rarity. We report a case of six year old female patient who presented with left sided nasal obstruction for 3 months. It was associated with nasal discharge. Anterior rhinoscopy showed presence of a single polypoidal mass filling left nasal cavity, posterior extent of the mass could not be assessed clinically due to small age of the patient. Non-contrast computed tomography of nose and paranasal sinuses was done to see the exact extent of the mass. The mass was removed completely by endoscopic approach and histopathologically confirmed as antrochoanal polyp. Antrochoanal polyp should be kept in differential diagnosis when a patient comes with unilateral nasal obstruction and discharge. Though it is commonly seen in young adults, rarely, children younger than 10 years of age can be affected. Complete endoscopic excision is necessary to avoid recurrence.

**Keywords:** Antrochoanal polyp, Maxillary sinus, Sinus ostium, Sinonasal polyp, Non contrast computed tomography scan

### INTRODUCTION

Antrochoanal polyp also termed as Killian's polyp is a benign solitary polyp originating from the maxillary sinus and passing into nasopharynx via sinus ostium.<sup>1</sup> Antrochoanal polyps comprise of ~4-6% of sinonasal polyps in general population and approximately 33% in paediatric population.<sup>2</sup> Antrochoanal polyps are commonly reported in adolescent age groups and rarely in children below 10 years of age. The presence of antrochoanal polyp in less than 10-year-old patient is very rare when cystic fibrosis as a cause is excluded.<sup>3,4</sup> In paediatric age group, there is no clear gender difference, however, in adults, they are more common in males.<sup>5</sup> These polyps are mostly unilateral. Diagnosis is made on the basis of nasal endoscopy and computed tomography scan. Treatment for antrochoanal polyps is surgical

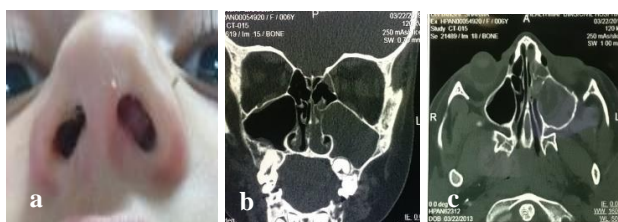
excision.<sup>2,5</sup> Here we are reporting a very rare case of antrochoanal polyp in a 6-year-old child.

### CASE REPORT

A 6-year-old female patient came with chief complaint of left sided nasal obstruction for 3 months which was insidious in onset, gradually progressive, and persistent. It was associated with left sided nasal discharge which was insidious in onset, gradually progressive, intermittent, mucoid, not blood stained. There was no headache, blurring of vision, fever, trauma, facial fullness or ear fullness.

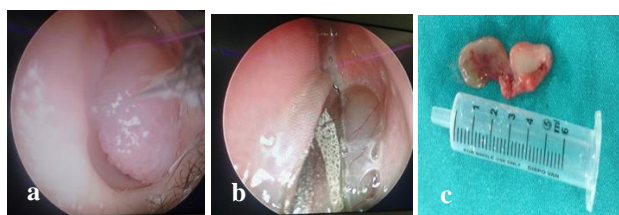
On general examination, patient's vitals were stable. Anterior rhinoscopy showed presence of a single polypoidal mass filling the left nasal cavity completely,

anteriorly the mass was reaching up to the vestibule (Figure 1a). The posterior extent of the mass could not be assessed because of young age, as the child was uncooperative for posterior rhinoscopy and nasal endoscopy. The mass was soft and did not bleed on touch. Probe could be passed all around the mass except laterally. Functional tests were done. On cold spatula test, there was decreased misting on left side, cotton wool test showed decreased movement on left side and sense of smell was decreased on left side. Patient underwent non-contrast computed tomography of nose and paranasal sinuses to see the exact extent of the mass posteriorly, which showed complete opacification of left maxillary sinus along with opacification of left osteomeatal complex and expansion of sinus. Soft tissue was seen extending along left maxillary ostium into left nasal cavity and anteriorly till external nasal opening and posteriorly involving one third of left nasal cavity, suggestive of antrochoanal polyp (Figure 1b and c).



**Figure 1: (a) Pinkish polyp in left nasal cavity, (b) non contrast CT scan of nose and paranasal sinus coronal cut nasal cavity, (c) non contrast CT scan of nose and paranasal sinus axial cut nasal cavity.**

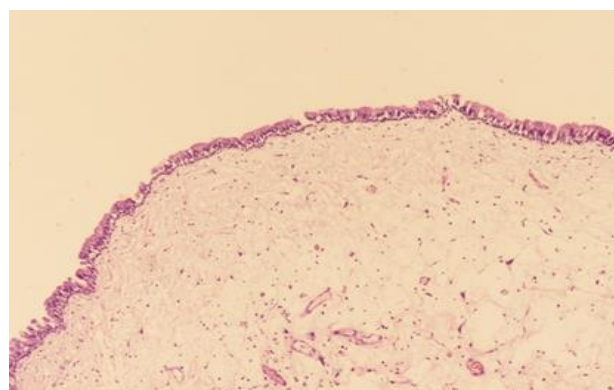
After getting written and verbal consent from the patients relatives, patient was subjected for endoscopic excision of antrochoanal polyp under general anaesthesia. After thorough decongestion of nasal cavity, endoscopic assessment was done. It showed that polyp was filling left nasal cavity with the stalk arising from anteroinferior wall of maxillary antrum (Figure 2a and b). Posteriorly, it was extending along the floor of nasal cavity upto the ground lamella of left middle turbinate. Left sided uncinectomy was done and maxillary sinus ostium widened with the help of backbiting forceps. The stalk of polyp was excised and polyp was removed in toto from nasal cavity. The excised mass was about 5×1 cm (Figure 2c).



**Figure 2: (a) Endoscopic view showing polyp in left nasal cavity, (b) endoscopic view showing origin of polyp from left maxillary sinus in nasal cavity, (c) antrochoanal polyp after complete removal.**



**Figure 3: Widened left maxillary sinus opening.**



**Figure 4: Polypoid tissue lined by respiratory epithelium, the subepithelium shows edema stellate cells and inflammatory cells (H & E, 100X).**

Mucosal hypertrophy was noted in left maxillary sinus, which was debried to avoid any recurrence (Figure 3). Haemostasis was achieved and left nasal cavity was packed with half mereocele. On post-operative day one, nasal pack was removed and patient was discharged in stable condition. Histopathology report was consistent with antrochoanal polyp (Figure 4). Patient has been on regular follow up and is asymptomatic after 6 months.

## DISCUSSION

Antrochoanal polyps were first described by Palfyn in 1753, however, in 1906, Killian documented exact origin of antrochoanal polyp in the mucosa of wall of the maxillary sinus.<sup>6</sup> These are seen more commonly in children and young adults but can manifest at any age.<sup>7</sup> They are usually seen prior to age of 40 years.<sup>8</sup>

Our case reported antrochoanal polyp in a 6-year-old child. On review of literature on antrochoanal polyps, it has been noted that majority of patients in the studies belonged to adolescent age group and it was comparatively rare in children less than 10 years. In one study, mean age for antrochoanal polyp was 20 years.<sup>8</sup> A retrospective study of 200 cases of antrochoanal polyp reported only 4% of patients below the age of 10 years.<sup>9</sup> Majority of patients in a study were between ages of 30

and 70 years.<sup>10</sup> Another study of patients with antrochoanal polyp showed only 8% cases in 0-10 year age group.<sup>11</sup> Based on this review of studies, the above mentioned case is a rare finding of antrochoanal polyp in a child less than 10 years.

Another condition that can lead to nasal polyposis in children is cystic fibrosis with incidence ranging from 15 to 40%. Patients with cystic fibrosis usually develop nasal polyposis after 5 years or prior to 20 years of age.<sup>12</sup>

Antrochoanal polyp comprises of two components: cystic component which is the antral part and solid component which is the part of polyp extending into nasal cavity. It can originate from posterior, inferior, lateral or medial wall of maxillary sinus; however, posterior wall is found to be the most common site.<sup>13</sup>

Most common clinical presentation is nasal obstruction and nasal discharge, which was also observed in our case. Rarely, in severe cases, symptoms of epistaxis, dysphagia, dyspnea and weight loss can occur. Epistaxis, snoring and obstructive sleep apnea are more commonly seen in children than in adults. The symptoms of antrochoanal polyp may mimic those found in encephaloceles, juvenile angiofibroma or nasopharyngeal malignancy, therefore, all other possibilities should be ruled out with proper investigations.<sup>2,7</sup>

The treatment of antrochoanal polyp is always surgical. Previously, simple polypectomy and a Caldwell Luc procedure were the preferred methods for treatment of antrochoanal polyps. Simple polypectomy has a high recurrence rate. However, in recent years, functional endoscopic sinus surgery has become the preferred surgical technique.<sup>14</sup> Removal of polyp in this case was done via endoscopic sinus surgery to decrease chances of recurrence. The key of successful treatment is complete removal of polyp from its site of origin in maxillary antrum, which helps in avoiding postoperative recurrences.<sup>1,2</sup>

## CONCLUSION

We conclude that antrochoanal polyp is an infrequent lesion usually seen in children and young adults. Though it is commonly seen in young adults, rarely, children younger than 10 years of age can be affected. Although it is a rare lesion but the possibility of antrochoanal polyp should be considered when a child comes with unilateral nasal obstruction and discharge. Complete endoscopic excision is necessary to avoid recurrence. This case shows a rare occurrence of antrochoanal polyp in the age of 6 years.

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