

# Bilateral Antrochoanal Polyp in an Adult, a Rare Cause of Bilateral Nasal Blockage: Report of a Case and Review of the Literature—A Case Report

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## ABSTRACT

**Aim:** To present a clinical case of bilateral antrochoanal polyps (ACPs) in a 38-year-old patient without history of asthma or allergy.

**Background:** Antrochoanal polyps are benign tumors that originate from the maxillary sinus mucosa and emerge from the nasal cavity, arriving at the nasopharynx. The bilateral form of this entity is extremely rare and frequently appears as a bilateral nasal blockage, as we report in our review of the literature.

**Case description:** We report a case of a 38-year-old male with no antecedents of asthma nor allergy diagnosed with bilateral ACPs removed by functional endoscopic sinus surgery (FESS). We present the clinical and therapeutic approach as well as the outcome and possible causes of appearance.

**Conclusion:** Antrochoanal bilateral polyps are an extremely infrequent entity. Its diagnostic confirmation must be performed by histology, and its management is surgical. The present article recommends keeping the differential diagnosis of bilateral ACPs in cases of chronic bilateral nasal blockage.

**Clinical significance:** The patient that we present did not have a previous history of asthma, allergy, or any anatomical alteration. Given this fact, as well as the low prevalence of bilateral ACPs, we must take into consideration that this form can be caused by another physiopathological mechanism, yet to be determined, and that is why we consider it important to report this type of case.

**Keywords:** Bilateral antrochoanal polyp, Bilateral nasal blockage, Case report, Functional endoscopic sinus surgery, Nasal cavity.

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## BACKGROUND

Antrochoanal polyps (ACPs) are benign tumors that originate from the maxillary sinus mucosa and emerge from the nasal cavity, arriving at the nasopharynx.<sup>1</sup> They are usually seen in adolescents and young adults and have a slight male predominance.<sup>2,3</sup> The bilateral form is extremely rare.<sup>4</sup> Very few cases of bilateral ACPs in adults have been published in the English international literature (Table 1). In this paper, we present a case of bilateral ACPs in a 38-year-old patient.

## CASE DESCRIPTION

We report a case of a 38-year-old male with no antecedents of asthma or allergy, who consulted, presenting bilateral nasal blockage with mucosal hyaline rhinorrhea, alternant hyposmia and symptoms consistent with chronic rhinosinusitis for the past 10 years. A physical exam and endoscopy showed polypoid masses that occupied both middle meatus and reached the floor of the nasal cavity, extending to the choana. The computed tomography (CT) scan showed a bilateral occupation of both maxillary sinuses. The other sinuses were normally aerated (Fig. 1).

To establish the definitive diagnosis and treatment, we performed a functional endoscopic sinus surgery (FESS) for the removal of the lesion. Bilateral polypoid masses were observed emerging from both maxillary sinuses extending to the choana, without ethmoidal compromise, and were fully removed. The maxillary sinuses were opened, and their ostium were enlarged. Histopathology of the

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specimen revealed benign inflammatory polyps with respiratory epithelial cells, and an edematous stroma.

Seven years after surgery, a recurrence of the left polypoid mass was observed with endoscopy and CT scan (Fig. 1), and was removed surgically without complications. The patient is currently asymptomatic (Fig. 1) and no other recurrences have been found.

## DISCUSSION

Antrochoanal polyp or Killian polyp is a benign tumor named after Gustav Killian, who studied it in detail in 1906 and was the first

person to describe its maxillary sinus origin, from where it protrudes through its ostium generally towards nasopharynx.<sup>1</sup>

It constitutes 4–6% of the nasal polyps in adults and 33% of nasal polyps in children, with a slight male predominance.<sup>4</sup> The most frequent clinic presentation is nasal obstruction, posterior or anterior rhinorrhea, snoring and nasopharyngeal or oropharyngeal foreign body sensation. It is typically described as a unilateral polypoid mass. The bilateral ACP is rare and for some authors is considered exceptional.

The origin of this entity remains unclear. There are different theories explaining its etiopathogenesis. One of the most extended is the mechanical theory, according to which when the patient performs a maneuver that applies negative pressure on the nose, it can produce an exit of a maxillary sinus polyp through its natural or accessory ostium up to the nasal cavity.<sup>4</sup> Some other authors relate the origin of the ACP to chronic sinusitis during childhood. Other theories are based on allergic mechanisms and tissue remodeling of the mucosa in patients that suffer from chronic sinusitis.

This pathology originates frequently from the lateral or inferior wall of the maxillary sinus, even though its origin is difficult to precise and sometimes a widening of the accessory maxillary ostium can be observed. The differential diagnosis must include mucocele, inverted papilloma, juvenile angiofibroma and chronic maxillary rhino sinusitis, among others.<sup>3</sup>

An endoscopic exam and sinus CT scan are useful in the diagnosis, and histopathological confirmation by biopsy is required.<sup>3</sup> Endoscopic surgical resection is nowadays considered the best management option in these cases due to its lower complication ratio and the better recuperation during the post operators period.<sup>5</sup> Also, it does not interfere with the paranasal sinus development in children nor the definitive teething. The endoscopic procedure can be extended or complemented by external approach in cases of recurrence.<sup>3–17</sup>

We performed a literature review on APC case reports in adults, searching in the PubMed database for the terms (ACP) AND (bilateral), and selected the articles published in English about bilateral APC in adults. We found 14 cases. In Table 1, we present the nine articles that could be compared, six of which were men and three women, with a mean age of 39 years old. None of the articles described a history of allergy or asthma, as it happened in our case. All of them received surgical treatment with FESS, and there were no recurrences described. In the case that we report, there was a recurrence seven years after surgery, and the patient was re-operated without any other recurrence or new symptoms.

As mentioned before, our patient did not have a previous history of asthma nor allergy, we did not find any anatomic alteration of the sinuses that could have caused the protrusion through the ostium. Given this fact, as well as the low prevalence of bilateral ACPs, we must take in consideration that this form can be caused by another physiopathological mechanism, yet to be determined, and that is why we consider it important to report this type of case.

## CONCLUSION

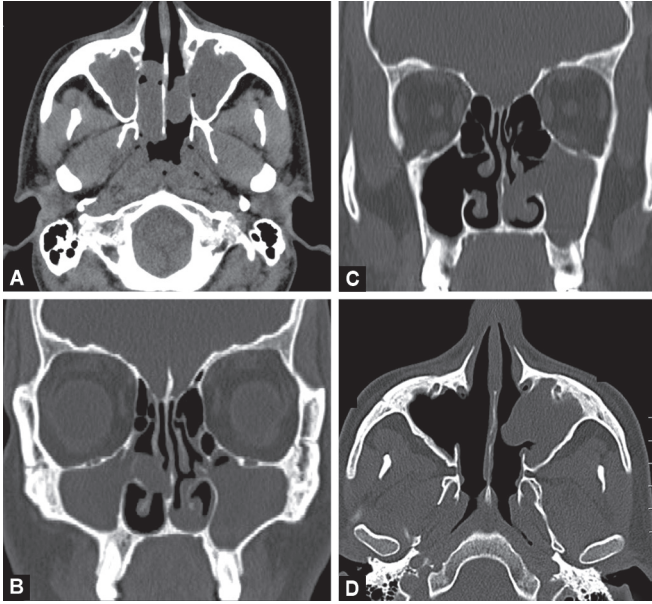
Antrochoanal bilateral polyps are an extremely infrequent entity. Its diagnostic confirmation must be performed by histology, and its management is surgical. The different theories relating to its etiopathogenesis, such as cystic-related origin, chronic sinusitis or allergy processes, are not able to explain the remarkably low prevalence of bilateral ACPs.

## Clinical Significance

It must be taken into consideration that bilateral ACPs can be caused by another physiopathological mechanism, yet to be determined, given the fact that our patient did not have a previous history of asthma, allergy nor any anatomical alteration. We should consider

**Table 1:** Previously published cases of bilateral ACP in adults

Authors	Date	Age	Sex	Allergic history/		Clinical presentation	Duration of the symptoms	Surgical technique	Recurrence
				Asthma					
Yilmaz et al. <sup>9</sup>	2007	24	F	No		Bilateral nasal blockage, snoring, rhinorrhea, foreign-body sensation		FESS	No
Sousa et al. <sup>10</sup>	2011	37	M	No		Bilateral nasal blockage	4 years	Maxillary antrostomy (Caldwell-Luc) with FESS	No
Pawan and Gupta <sup>11</sup>	2011	32	F	–		Bilateral nasal blockage	2 years	FESS	–
Ozdek and Ozel <sup>12</sup>	2014	27	M	No		Bilateral progressive nasal blockage, rhinorrhea	3 years	FESS	No
Sabino et al. <sup>13</sup>	2014	48	M	No		Bilateral nasal blockage, rhinorrhea	30 years	FESS	No
Chodankar and Tiwari <sup>14</sup>	2015	57	M	No		Bilateral nasal blockage	3 years	FESS	–
Oner et al. <sup>15</sup>	2015	20	M	–		Headache, rhinorrhea, hyposmia	6 months	FESS	–
Alashoura et al. <sup>16</sup>	2016	62	M	No		Bilateral nasal blockage	6 years	FESS	No
Iziki et al. <sup>17</sup>	2019	44	F	No		Bilateral nasal blockage, headache, hyposmia	2 years	FESS	No



**Figs 1A to D:** (A and B) Sino nasal preoperative CT scan. Both maxillary sinuses are occupied without ethmoidal or frontal occupation; (C and D) Left polypoid recurrence

the differential diagnosis of bilateral ACPs in cases of chronic bilateral nasal blockage.

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