

## Fronto choanal polyp, 25 years old Ethiopian male rare case report

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### Abstract

#### Background

Fronto choanal polyp is a large, unilateral, solitary polyp that spreads from the frontal sinus to the choana. To date, only 4 cases have been reported in the literature.

#### Case presentation

We report a rare Fronto choanal polyp in a 25-year-old male Ethiopian patient. Endoscopic polypectomy, right-side maxillary antrostomy, anterior ethmoidectomy, plus Frontal sinusotomy was done. Histopathology results come as an inflammatory polyp.

#### Conclusion

Fronto choanal polyp is a rare type of choanal polyp. Diagnosis is made with the help of nasal endoscopic examination, paranasal sinus computer tomography, and histopathology examination. Endoscopic sinus surgery is a treatment of choice.

**Key words:** choana; frontal sinus; polyp

### Background

Choanal polyps are large, unilateral, solitary polyps that spread from the site of origin to the choana. (1, 2, 3)

They can come from different areas of the nose and paranasal sinuses; they usually originate in the maxillary sinus antrum. (1,2,3)

The literature has revealed that the nasal septum, sphenoid sinus, frontal sinus, middle turbinate, cribriform plate, and ethmoidal cells are other infrequently observed locations where they may originate. (5,8)

Unilateral choanal polyps are frequently initially diagnosed as antrochoanal polyps during initial examinations because they most frequently originate from the maxillary sinus antrum.

One of the most typical signs of choanal polyps is nasal blockage on one side. (2,9).

Endoscopic examination and paranasal sinus CT are necessary in the differential diagnosis of nasal obstruction to identify uncommon diseases such as frontochoanal polyps. This case report we are going to discuss the clinical presentation of frontochoanal polyps as well as the management of nasal obstruction in a 25-year-old male patient.

### Case presentation

A 25-year-old Ethiopian male patient presented with complaints of right nasal obstruction, right nasal discharge, and swelling in the right nostril.

The symptoms have been going on for the past one year, with the swelling becoming noticeable two months ago. There is no history of nasal bleeding, headache, visual disturbance, or any other chronic illness such as diabetes, hypertension, or cardiac disease.

Nasal endoscopy revealed a pale polypoid mass filling the right nasal cavity, extending to the right choana. However, the origin of the mass could not be identified. The left nasal cavity showed normal findings.

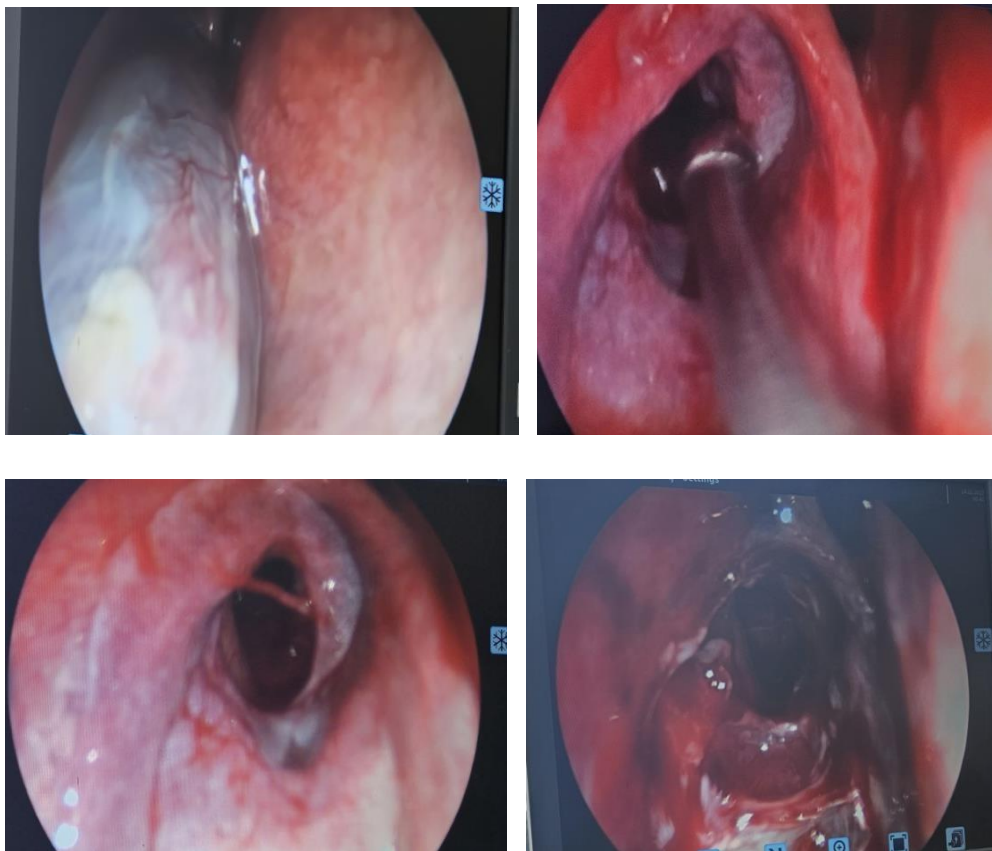
A computed tomography (CT) (Figure1A&B) scan was performed, which showed a 3cm x 1cm x 3cm lesion having soft tissue attenuating and iso density ipsilateral opacification of the frontal sinus and extended caudally into the nasal cavity. No erosion of skull base and lamellapapyracia. The other paranasal sinuses are free.

With the possible diagnosis of a right frontochoanal polyp, the patient was operated on under general anesthesia. Intraoperatively, polypoid tissue filled the right nasal cavity with an extension to choana, with the attachment site from the right frontal sinus posterior wall medializing the right middle turbinate.

The patient underwent endoscopic sinus surgery with polypectomy, right-side maxillary antrostomy, anterior ethmoidectomy, plus Frontal sinusotomy was done. (Figure2) And tissue subjected to histopathology. The patient was discharged with analgesic, advised on saline nasal irrigation, and appointed after one week.

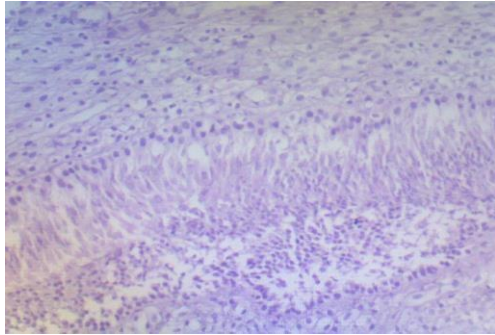


**Figure1:** computed tomography paranasal sinus.



**Figure 2:** Intra operative finding.

Histopathology result comes as an inflammatory polyp; the section shows partly respiratory epithelium and partly stratified squamous epithelium lined polypoid tissue supported by inflamed & edematous subepithelial stroma with areas of inflammatory cell infiltrate consisting of eosinophils admixed with plasma cells and lymphocytes. (Figure3)



**Figure 3:** Histopathology.

## Discussion

Anthro-choanal polyps, the predominant form among choanal polyps, represent approximately 3-6% of nasal polyps in adults and a substantial 28% in children(2,4). Their formation often involves chronic inflammation and obstruction within the maxillary sinus, prompting the development of cystic structures. Under the influence of gravitational forces, turbulent airflows, and negative pressure within the maxilla, these polyps begin to extend from the lateral wall of the nose into the nasal passage and choana(4,9,10).

The primary complaint associated with choanal polyps typically revolves around ipsilateral nasal obstruction(1,3). However, patients may also present with a symptom including nosebleeds, snoring, headaches, postnasal drip, and anosmia (inability to smell). In more advanced cases where the polyps extend to the oropharynx, difficulty swallowing may also be reported(1,2,9).

To effectively diagnose choanal polyps and differentiate them from other nasal pathologies, endoscopic examination and paranasal sinus CT scans are indispensable. While anterior rhinoscopy aids in identifying common causes of nasal obstruction, it often falls short in revealing underlying osteometal complex and posterior nasal cavity pathologies(12).

Frontochoanal polyps, although rare, necessitate thorough endoscopic examination and paranasal sinus imaging for accurate diagnosis. Detection typically occurs through CT scans, while MRI or CT imaging is instrumental in determining the precise location and extent of the polyps(8). Paranasal sinus CT scans typically reveal soft tissue involvement in a single sinus with extension to the choana, although biopsy remains crucial for definitive diagnosis.

Treatment of choanal polyps invariably involves endoscopic sinus surgery, serving both diagnostic and therapeutic purposes. Surgical intervention aims to meticulously remove the polyps and cleanse the affected area. Importantly, excising the sinus ostia from which the polyps originate is imperative to forestall recurrence.

Literature reports a recurrence rate of approximately 25%, underscoring the significance of comprehensive surgical management and post-operative care to mitigate this risk(3).

Despite their rarity, frontochoanal polyps do not deviate significantly from the treatment protocols applied to other choanal polyps, emphasizing the importance of tailored surgical approaches and meticulous follow-up care in achieving favorable outcomes(2).

## Conclusion

Frontochoanal polyp is a rare condition. Usually, patients present with unilateral nasal obstruction. Endoscopic examination and paranasal sinus CT scans are essential to diagnose frontochoanal polyps. Endoscopic surgery is the treatment choice, and it can provide immediate relief of symptoms with minimal morbidity.

## Declarations

**Ethics approval and consent to participate.**

There are no ethical concerns about this case report.

## Consent for publication.

Written informed consent was obtained from the patient to publish this case report and accompanying images. A copy of the written consent form is available for review by the journal's editor-in-chief.

## Availability of data and materials

The corresponding author has all the data and materials for this case report.

## Competing interests

We declare that there are no competing interests.

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We received no financial support for this case report.

## Authors' contributions

Waltengus Birhanu: writing, Editing, Review, and patient follow-up. Samson Dires: reviewing the original draft, and Supervision. Hikma Amin: writing, editing, and patient follow-up. Melat Teklegiorgis: writing, reviewing, editing, and patient follow-up. Lidya Zewdie: writing, editing, and patient follow-up.

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Not applicable

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