

Persistent Nasal Obstruction in a 21-year-old Female: An Unusual Case of Unilateral Choanal Atresia

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Abstract

Choanal atresia is a rare congenital obstruction of the posterior nasal aperture. Unilateral choanal atresia may remain undiagnosed until adulthood and typically presents as chronic unilateral nasal obstruction. A 21-year-old female presented with right-sided nasal obstruction and intermittent snoring since childhood. She had undergone adenotonsillectomy at 11 years of age without improvement. Examination revealed septal deviation to the left, right inferior turbinate hypertrophy, and absent right nasal airway patency. Nasal endoscopy identified a right posterior choanal atretic plate, and computed tomography of the paranasal sinuses confirmed complete right-sided mixed choanal atresia. The patient was treated with endoscopic transnasal posterior septectomy and removal of the atretic plate. Recovery was uneventful. Follow-up endoscopy at 1 and 4 months demonstrated a widely patent neochoana with complete symptom resolution. Adult unilateral choanal atresia is uncommon and often misdiagnosed. Clinicians should consider this diagnosis in patients with lifelong unilateral nasal obstruction, and endoscopic transnasal posterior septectomy offers a safe and effective treatment option.

Keywords: Unilateral choanal atresia; Adult presentation; Endoscopic posterior septectomy

Journal of Green Life Med. Col. 2026; 11(1): 30- 32

Introduction:

Choanal atresia is a congenital anomaly in which the normal opening between the nasal cavity and nasopharynx fails to form, usually due to persistence of bucconasal membrane. The condition occurs in roughly 1 in 5000–8000 live births and tends to be unilateral, right-sided, and more frequent among females.¹

Newborns with bilateral atresia usually present early with respiratory distress, whereas those with unilateral disease may not be recognized until adolescence or adulthood. Many such cases are initially treated as allergic rhinitis or chronic sinusitis before the correct diagnosis is made.^{2,3}

Case Presentation:

A 21-year-old female presented with right-sided nasal obstruction and occasional snoring since childhood. She had undergone adenotonsillectomy at age 11, but her symptoms still persisted. She underwent multiple medical therapies including intranasal steroids, antihistamines, and leukotriene antagonists but they provided minimal benefit. She had no history of trauma, nasal surgery, or allergic disease.

On general examination, she appeared healthy and stable. Anterior rhinoscopy revealed a deviated septum to the left with compensatory hypertrophy of the right inferior turbinate. Nasal airway was not patent on the right and partially preserved on the left. Diagnostic nasal endoscopy demonstrated complete obstruction of the right posterior choana with an atretic plate, while the left choana was patent.

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Received: 24.09.2025

Accepted: 15.12.2025

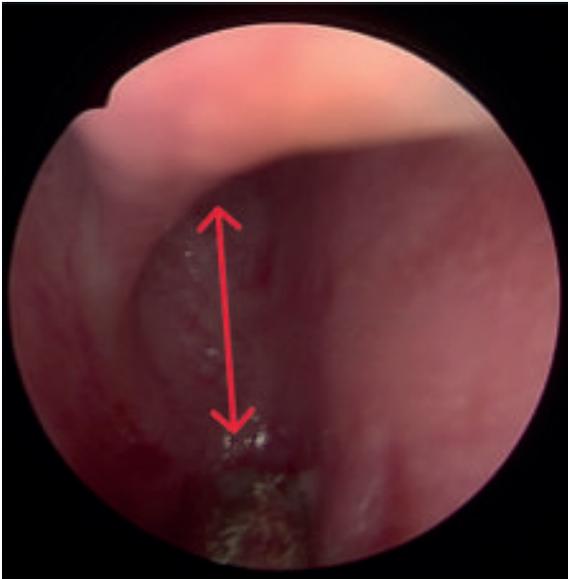


Figure 1: Preoperative naso endoscopic view of the right choana showing atretic plate

Computed tomography (CT) of the paranasal sinuses confirmed right-sided mixed (bony and membranous) choanal atresia with septal deviation to left.

Management:

The patient underwent endoscopic trans nasal posterior septectomy under general anesthesia. A powered drill and cold instruments were used to excise the bony atretic plate, creating a wide neo choana with posterior septectomy. Mucosal flaps were preserved, and no stent was placed. Postoperatively, she received saline nasal irrigation and topical steroid spray.

Outcome and Follow-Up:

Her recovery was uneventful. At 1- and 4-month follow-up, nasal endoscopy was done which confirmed a widely patent and well-epithelialized neo choana. She had complete relief of nasal obstruction and her snoring problems were resolved. There was no evidence of restenosis.



Figure 2: CT PNS showing right-sided choanal atresia (red arrow)



Figure 3: Postoperative nasoendoscopic view of the right choana showing a widely patent neo choana

Discussion:

Unilateral choanal atresia in adults is rare and can easily be missed, since the symptoms mimic more common problems like a deviated nasal septum, enlarged turbinate's, or chronic sinus infection.^{1,2} The most reliable method of confirming a diagnosis is still paranasal sinus CT scan, which helps with surgical planning and gives precise information about the type and degree of obstruction.³

For both adults and children, endoscopic transnasal choanoplasty is now the recommended surgical procedure. It often has few postoperative problems and enables direct visibility and accurate excision of the atretic plate.³ During surgery, a posterior septectomy lowers the risk of restenosis

and helps to generate a broader common aperture. The use of stents is still up for debate; some research supports stent-free repair, stating comparable results and fewer problems like granulation or infection.^{4,6}

In order to maintain the neochoana patent, recent research highlights the significance of creating a large incision, protecting the mucosa, and conducting meticulous postoperative monitoring.^{5,6} This instance demonstrates that individuals with persistent nasal obstruction should be suspected of having choanal atresia, even in adulthood. Significant symptom reduction and improved quality of life can result from early diagnosis and surgical treatment.

Conclusion:

Unilateral choanal atresia is a rare malformation in adult. It can be undiagnosed due to the non-specific nature of the symptoms. Diagnostic Naso endoscopy (DNE) and Computed Tomography (CT) SCAN are the Gold Standard for the diagnosis of that. Endoscopic assisted posterior septectomy is the successful treatment option to provide enduring patency and patient satisfaction.

Informed Consent:

Written informed consent for anonymized case presentation and publication was obtained from the patient.

Conflicts of interest:

All the authors declare that there is no conflicts of interest related to this publication.

References:

1. Shute WG, Wong EH, Agar NJM, Singh NP. Unilateral Choanal Atresia First Diagnosed in Adulthood and Repaired via Endoscopic Posterior Septectomy — A Case Series and Review of the Literature. *Aust J Otolaryngol.* 2021;4:2. pp. 1–6. doi: 10.21037/ajo-20-63
2. Elwany S, El-Dine AN, Ghorab S, Talaat M. Transnasal Endoscopic Repair of Choanal Atresia: Experience with 48 Cases. *Ann Otol Rhinol Laryngol.* 1996;105(7):552–557. pp. 552–557. doi: 10.1177/000348949610500713
3. Gundle L, Tikka T, Wilson J. Stenting Versus Stentless Repair for Bilateral Choanal Atresia: A Systematic Review. *Int J Pediatr Otorhinolaryngol.* 2021;150:110932. pp. 1–6. doi: 10.1016/j.ijporl.2021.110932
4. Newman JR, Harmon P, Shirley WP, Hill JS, Werkhaven J. Unilateral Choanal Atresia in the Adult: A Rare Presentation. *Am J Otolaryngol.* 2013;34(4):354–356. pp. 354–356. doi: 10.1016/j.amjoto.2012.12.009
5. Urbanëië J, Vozel D, Battelino S, Borsos I, Bregant L, Glavan M, Iglie È, Jenko K, Lanišnik B, Soklië Košak T. Management of Choanal Atresia: National Recommendations with a Comprehensive Literature Review. *Children (Basel).* 2023;10(1):91. pp. 1–18. doi: 10.3390/children10010091
6. Alsubaie HM, Almosa WH, Al-Qahtani AS, Margalani O. Choanal Atresia Repair With Stents and Flaps: A Systematic Review. *Allergy Rhinol (Providence).* 2021;12:21526567211058052. pp. 1–9. doi: 10.1177/21526567211058052.