Journal of Population Therapeutics & Clinical Pharmacology

**RESEARCH ARTICLE**
**DOI: 10.53555/e2r5vq08**

# RARE CASE OF NON-ODONTOGENIC NASOLABIAL CYST

**Dr Keshav Bhardwaj[1], Dr Geetanjali Jaiswani[2], Dr Garima Sinha[3], Dr Avinash Kumar[4*], Dr Rashmi Gautam[5], Dr Aditi Raina[6], Dr Anita Singh[7]**

[1]Post Graduate Resident, Department of Otorhinolaryngology – Head and Neck Surgery Saraswathi Institute Of Medical Sciences ( SIMS ) Anwarpur ,Hapur, U.P. Email id – Bhardwaj.keshavkdb@gmail.com
[2]MS Assistant Professor, Dept. of Otorhinolaryngology – Head and Neck Surgery Saraswathi Institute of Medical Sciences (SIMS) Anwarpur ,Hapur, U.P. Email id – jaiswanig@gmail.com
[3]M.D. Assistant Professor, Dept. of Anaesthesia and Critical Care, Government Institute of Medical Sciences (GIMS ) Greater Noida , U.P. Email id – garimasinha.doc@gmail.com
[4*]M.S. Associate Professor, Dept. of Otorhinolaryngology – Head and Neck Surgery Saraswathi Institute of Medical Sciences (SIMS) Anwarpur, Hapur, U.P. Email id – dravinashkr07@gmail.com
[5]MD Professor, Dept. of Pathology Saraswathi Institute of Medical Sciences (SIMS) Anwarpur ,Hapur, U.P. Email id – drrashmisingh203@gmail.com
[6]MD Professor, Dept. of Pathology Saraswathi Institute of Medical Sciences (SIMS) Anwarpur ,Hapur, U.P. Email id – draditiraina@gmail.com
[7]MD Assistant Professor, Dept. of Pathology Saraswathi Institute of Medical Sciences (SIMS) Anwarpur, Hapur, U.P. Email id – dr.anita.singh009@gmail.com

***Corresponding author:** Dr. Avinash Kumar
*Associate Professor, Dept. of Otorhinolaryngology – Head and Neck Surgery Saraswathi Institute of Medical Sciences (SIMS) Anwarpur ,Hapur, U.P. Email id – dravinashkr07@gmail.com
Email-id: dravinashkr07@gmail.com Mob- 8800858037[*]

## ABSTRACT
A Nasolabial cyst is an uncommon non-odontogenic soft-tissue cyst that develops in the sublabial region and the anterior maxilla. It typically presents as a painless, gradually enlarging swelling. Due to its location, it is often detected early, primarily because of cosmetic concerns.
The occurrence of nasolabial cysts is relatively rare, accounting for approximately 0.7% of all maxillofacial cysts. Nasolabial cysts can lead to nasal obstruction, with severity ranging from mild to significant, depending on the size and location of the cyst. Various treatment approaches have been described for managing nasolabial cysts, with surgical excision being the most effective and commonly used method.

**KEYWORDS:** Nasolabial cyst, Non odontogenic cyst , Sublabial , Caldwell luc approach

## INTRODUCTION
Nasolabial cysts are rare soft tissue lesions found near the alar cartilage of the nose, extending into the lower nasal meatus, the upper gingivolabial sulcus, and the floor of the nasal vestibule. These cysts were first described by Zuckerkandl in 1882 and are also known by several other names, including nasoalveolar cyst, nasal vestibular cyst, nasal wing cyst, and Klestadt's cyst.
Rao later refined the terminology, distinguishing nasolabial cysts as entirely soft tissue lesions, unlike nasoalveolar cysts, which can cause maxillary bone erosion. The exact cause of nasolabial

cysts remains uncertain, but two main theories exist. One theory suggests they originate from embryonic epithelial tissue trapped during the fusion of the maxillary and nasal processes, while the other proposes that they develop from residual nasolacrimal duct epithelium.
These cysts are most commonly observed in adult females, typically in their fourth or fifth decade of life. They usually present as a painless swelling in the nasogenian sulcus or beneath the nasal alar base. Diagnosis often involves flexible nasofibroscopy, computed tomography (CT), or magnetic resonance imaging (MRI). Surgical treatment, including marsupialization or complete excision, is generally required, with a low recurrence rate depending on the technique used.

## CASE REPORT

A 30-year-old medically healthy female presented with a left nasal swelling that began three years ago. The swelling showed a gradual increase increase in size over the period of time, accompanied by nasal obstruction on the left side, there was no complaints of pain or any other associated symptom. She denied any history of medical conditions, trauma, or previous surgeries.
On examination, there was a left-sided nasolabial mass. **IMAGE 1** shows the mass measuring approximately 3 × 4 cm with associated facial asymmetry It was round, fluctuant, and without any discharge or noticeable changes in the overlying skin.

**IMAGE 1 – Preoperative picture showing the Nasolabial swelling**

The Nasal endoscopic examination showed a mass obstructing most of the left nasal aperture. **IMAGE 2A AND 2B** - CT scan revealed a space-occupying lesion in the right inferior nasal alar region, measuring approximately 3.2 × 2.2 × 2.5 cm. The lesion displayed an isodense to hypodense appearance without any signs of enhancement or bone destruction. It exerted a mass effect on the maxilla, leading to a scalloped appearance.

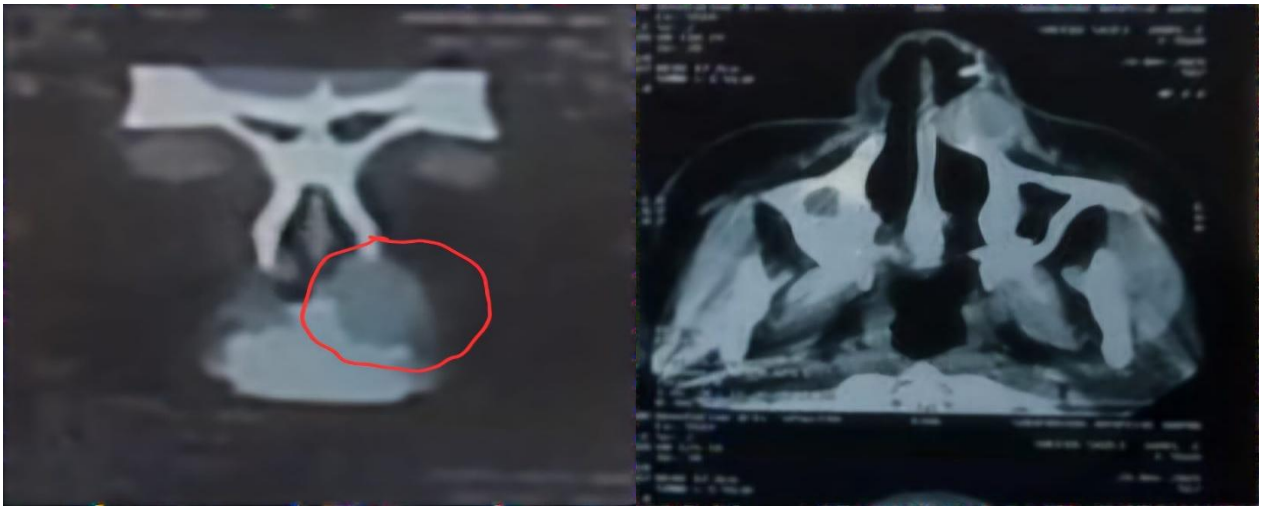

**IMAGE 2A** **IMAGE 2B**

A diagnosis of left Nasolabial cyst was established based on clinical findings and CT scan findings. Therefore, no additional evaluation is required. The cyst was excised via the sublabial approach and was sent for histopathological examination. Histopathology confirmed it as nasolabial cyst ( **IMAGE 3**).

The post-operative period was uneventful.

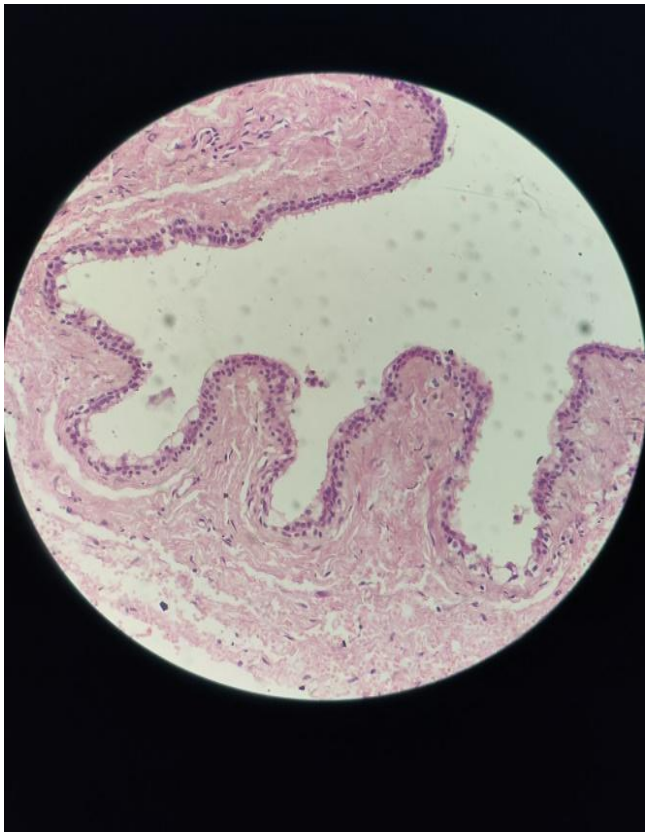

**IMAGE 3 – showing cyst wall lined by multilayered lining composed of cuboidal to columnar epithelium with interspersed goblet cells ( H&E 40 *10)**

## DISCUSSION

Nasolabial cysts are rare, comprising roughly 0.3% of maxillary cysts.[1,2] A 3.5:1 female to male ratio in the incidence of nasolabial cysts has been documented in the literature; majority of these cysts occur between the fourth and fifth decades of life, and are unilateral in 90% of instances.[3]

Nasolabial cysts are assumed to be developmental, arising from non-odontogenic epithelium. Although both are contentious, two basic ideas have been put up about their etiology.[4,5] The first implies that the cysts emerge as inclusion cysts produced from epithelial cells that are retained in the mesenchyme following fusion of the medial and lateral nasal processes and the maxillary prominence in the developing facial skeleton. The second argues that cysts are produced from the persistence of epithelial remnants from the nasolacrimal duct that stretch between the lateral nasal process and the maxillary prominence.[5]The two theories may not be mutually exclusive.

Classically, these cysts are typical in both location and clinical aspects. Bull et al.[6] identified the facial deformity of the nasolabial cyst as virtually pathognomonic.
Their submucosal position in the anterior nasal floor is characteristic and constant. The most typical appearance of is facial asymmetry owing to the cyst.[7] The patients may present with swellings of the midfacial soft tissue that are either intranasal, gingival, or perinasal.
The differential diagnosis includes oronasal cysts in general, particularly the nasopalatine cyst, which is the most frequent maxillary non-odontogenic cystic lesion.[8]

A diagnostic CT scan is highly significant and quite inexpensive. It has been described as the preferred imaging modality for assessing lesion boundaries. As a result, CT is regarded as critical for determining the extent and limitation of a lesion prior to surgery.[9] CT scans typically reveal a non-contrast enhancing cystic lesion anterior to the pirifom opening. Larger cysts may cause remodeling of the underlying maxillary bone, as observed in our instance.

However, a definitive diagnosis can be obtained through histological testing [10, 11]. As a result, cyst removal serves both diagnostic and therapeutic purposes by enabling for histological analysis [12]. Endoscopic marsupialization, surgical excision, incision and drainage, sclerotic agent injection, simple aspiration, and cauterization are some of the options for managing nasolabial cysts. Nasolabial cysts are often treated surgically using a sublabial technique. Although transnasal marsupialization has been suggested as an alternate approach.[13] Aside from endoscopic marsupialization and total surgical excision, all other methods have a significant recurrence incidence.
In this study we used the intra-oral enucleation technique with a sublabial approach followed by dissection along surgical planes to the piriform opening.

## Conclusion

Nasolabial cysts are rare, non-odontogenic lesions that commonly present as painless swellings in the nasolabial region, often causing facial asymmetry and nasal obstruction. Accurate diagnosis relies on clinical evaluation and imaging, particularly CT scans, to assess the extent of the lesion. Surgical excision, particularly via the sublabial approach, remains the gold standard treatment, offering both diagnostic confirmation and definitive management with minimal recurrence. In this case, complete surgical excision resulted in a successful outcome with no postoperative complications, reinforcing the effectiveness of this approach in managing nasolabial cysts. Histopathology revealed a non-ciliated columnar epithelium and mucus-producing cells.

## Competing interest statement by all the Authors:

The authors declare that they have no competing interest.

## Authorship statements by All Authors:

All authors of this article declare that we qualify for authorship as defined by ICMJE. Each author has participated sufficiently in work and takes public responsibility for appropriateness of content of this article.

## REFRENCES

1. Graamans K, van Zanten ME. Nasolabial cyst: diagnosis mainly based on topography? Rhinology 1983;21:239-49.
2. Golpes CC, Junior ABD, Vidolin C, Silveira FCA. Cisto nasolabial bilateral. Rev Bras Otorrinolaringol 1995;61:30-3.
3. Schuman DM. Nasolabial cysts: mechanisms of development. Ear Nose Throat J 1981;60:389-94.
4. El-Din K, el-Hamd AA. Nasolabial cyst: a report of eight cases and a review of the literature. J Laryngol Otol 1999;113:747–9.
5. Allard RHB. Nasolabial cyst. Review of the literature and report of 7 cases. Int J Oral Surg 1982;11:351–9.
6. Bull TR, McNeill KA, Milner G, Murray SM. Nasoalveolar cysts. J Laryngol Otol 1967;81:37–44.
7. Kuriloff DB. The nasolabial cyst-nasal hamartoma. Otolaryngol Head Neck Surg 1987;96:268–72.
8. Elliott KA, Franzese CB, Pitman KT. Diagnosis and surgical management of nasopalatine duct cysts. Laryngoscope 2004;114:1336-40.

9. Hashida T, Usui M. CT image of nasoalveolar cyst. Br J Oral Maxillofac Surg 2000;38:83-4.
10. Marcoviceanu MP, Metzger MC, Deppe H, et al. Report of rare bilateral nasolabial cysts. J Craniomaxillofac Surg. 2009;37(2):83–86. doi: 10.1016/j.jcms.2008.11.006.
11. Yuen H-W, Julian C-YL, Samuel C-LY. Nasolabial cysts: clinical features, diagnosis, and treatment. Br J Oral Maxillofac Surg. 2007;45(4):293–297. doi: 10.1016/j.bjoms.2006.08.012.
12. Righini CA, Baguant A, Atallah I. A nasolabial swelling. Eur Ann Otorhinolaryngol Head Neck Dis. 2017;134(2):137–138. doi: 10.1016/j.anorl.2016.11.011.
13. Lee JY, Baek BJ, Byun JY, Chang HS, Lee BD, Kim DW. Comparison of Conventional Excision via a Sublabial Approach and Transnasal Marsupialization for the Treatment of Nasolabial Cysts: A Prospective Randomized Study. Clin Exp Otorhinolaryngol. 2009 Jun;2(2):85-9. doi: 10.3342/ceo.2009.2.2.85