

# Nasolabial Cyst: 10 Years of Clinical Experience

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## Abstract

Nasolabial cysts are rare lesions of the maxillofacial region that exhibit slow growth and can remain asymptomatic for a long time. Common symptoms include swelling in the nasolabial region and nasal obstruction. These cysts have a female predilection and are usually diagnosed in the 4<sup>th</sup>-5<sup>th</sup> decades of life. Surgical excision via a sublabial approach and transnasal marsupialization are the preferred treatment modalities. In this study, we retrospectively examined 10 patients who were operated for nasolabial cysts at our clinic between 2009 and 2019. We aimed to present our clinical experience with nasolabial cysts.

**Keywords:** Nasolabial cyst, nonodontogenic cyst, sublabial excision

## INTRODUCTION

Nasolabial cysts, also known as nasoalveolar cysts or Klestadt's cysts, are developmental nonodontogenic cysts of the maxillofacial region (1, 2). These are rare cysts that account for 0.7% of all the jaw cysts (1-3). They are mostly unilateral, and bilateral presentation is uncommon (1, 3, 4). They are slow-growing and asymptomatic; however, when symptomatic, they cause facial deformity and nasal obstruction (2). In this study, we summarized the clinical characteristics of 10 patients who were operated for nasolabial cysts in the previous decade and discussed their general clinical characteristics along with their treatment.

## CASE PRESENTATION

The study was approved by the Ethics Committee of Süleyman Demirel University (Approval Date: May 13, 2020; Approval Number: 142), and informed consent was obtained from all the patients. Ten patients (9 women, 1 man), with a mean age of 37.7 years (range 18-67 years), were operated for nasolabial cysts between 2009 and 2019. Patient data were retrospectively reviewed (Table 1). Five and four patients had lesions on the right and left nasolabial regions, respectively; while one patient had a bilateral presentation. One patient was asymptomatic, and the cyst was detected during a nasal examination for another reason; while, nine symptomatic patients were admitted to our clinic. Four of these nine patients had nasal obstruction, four others had swelling in the nasolabial region; while, one had both nasal obstruction and swelling. Only one of the patients had a painful swelling. In the symptomatic patients, the mean duration of symptoms was 15.88 months (range: 1 month to 5 years). No patient had a history of nasal surgery or trauma. Physical examination revealed swelling at the entrance of the nasal cavity, in the sublabial region, and in both regions; in five, three, and two patients, respectively (Figure 1). Nine patients underwent preoperative paranasal sinus computed tomography (CT) (Figure 2), and one underwent preoperative facial magnetic resonance imaging (MRI) (Figure 3). Sublabial excision was preferred in nine patients (Figure 4) and transnasal marsupialization in one. In all patients, the procedures were performed under general anesthesia. The patients were hospitalized overnight and discharged with prescriptions of amoxicillin clavulanate 2x1000 mg and paracetamol 3x500 mg for seven days in seven patients, and cefuroxime axetil 2x500 mg and paracetamol 3x500 for seven days in three patients. The first follow-up examinations were conducted on the 7<sup>th</sup> day postoperatively. No complications were reported during the postoperative period. Histopathological examinations revealed benign epithelial cysts. Patients were followed-up for at least a year, and no recurrences were observed.

## DISCUSSION

Nasolabial cysts are nonodontogenic cysts of the maxillofacial region that account for 0.7% of all jaw cysts (1-3). There are two widely accepted theories for their origin. According to the fissural hypothesis, they are thought to occur due

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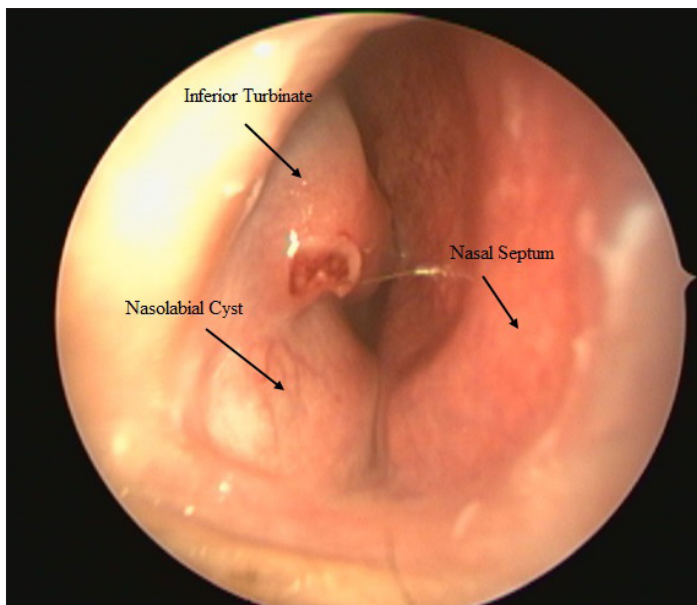
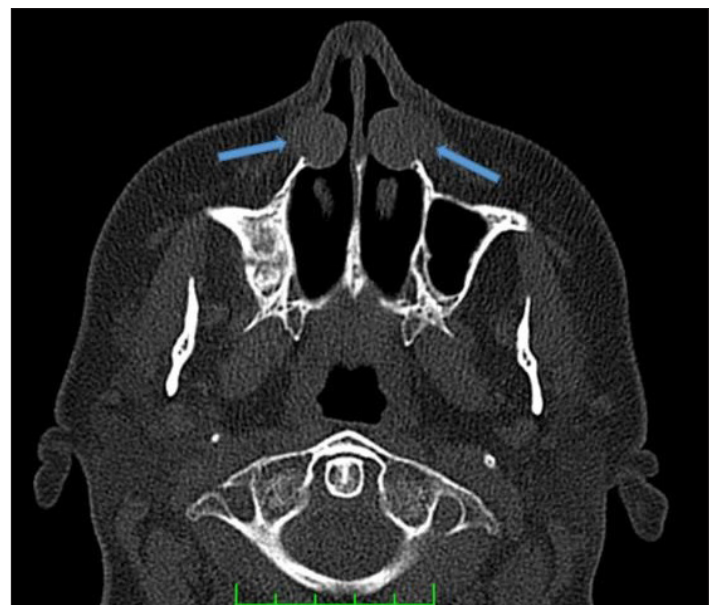
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**Table 1.** Age, gender, and clinical features of the patients

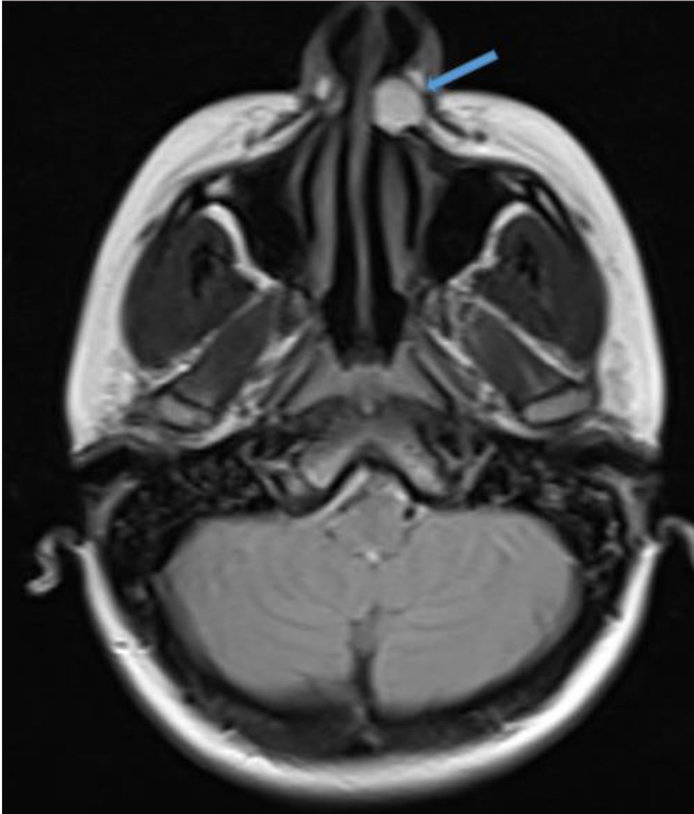
Patient	Age	Gender	Location	Symptoms	Duration of Symptoms	Physical Examination Findings	Surgical Technique	Complications/ Recurrences
1	32	Female	Right	Nasal obstruction	12 months	Swelling at the nasal cavity entrance (right)	SE	-
2	29	Female	Right	Swelling in the nasolabial area	2 months	Swelling in the sublabial area (right)	SE	-
3	18	Male	Right	Swelling in the nasolabial area	1 month	Swelling in the sublabial area (right)	SE	-
4	42	Female	Left	Swelling in the nasolabial area, nasal obstruction	2 months	Swelling at the nasal cavity entrance (left) Swelling in the sublabial area (left)	SE	-
5	37	Female	Left	Swelling in the nasolabial area	1 month	Swelling in the sublabial area (left)	SE	-
6	39	Female	Left	Swelling in the nasolabial area, pain	5 months	Swelling at the nasal cavity entrance (left) Swelling in the sublabial area (left)	SE	-
7	53	Female	Bilateral	Nasal obstruction	24 months	Swelling at the nasal cavity entrance (bilateral)	TM	-
8	28	Female	Left	Asymptomatic	-	Swelling at the nasal cavity entrance (left)	SE	-
9	67	Female	Right	Nasal obstruction	60 months	Swelling at the nasal cavity entrance (right)	SE	-
10	32	Female	Right	Nasal obstruction	36 months	Swelling at the nasal cavity entrance (right)	SE	-

SE: sublabial excision; TM: transnasal marsupialization.

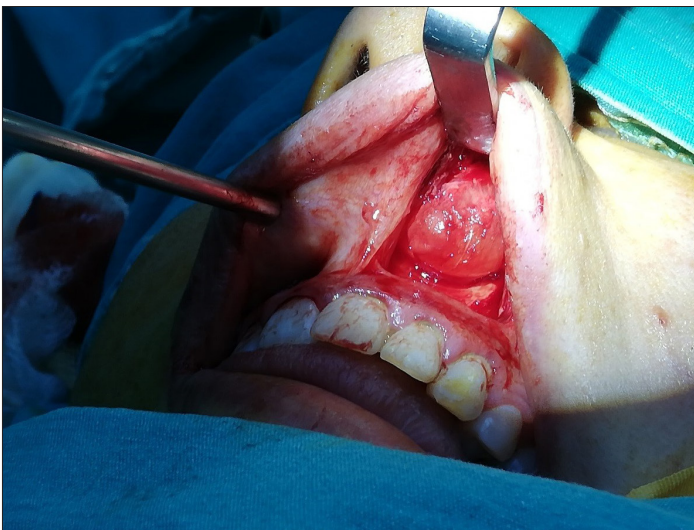
**Figure 1.** Nasolabial cyst, anterior rhinoscopy view (right)**Figure 2.** Bilateral nasolabial cyst, paranasal sinus computed tomography, axial section

to the epithelial inclusion during the fusion of the lateral nasal and maxillary process. Another hypothesis proposes that they originate from the remnants of the embryonic nasolacrimal ducts (5). These cysts are mainly covered with ciliated pseudostratified columnar epithelium (1). They are

frequently benign, and only one case of malignant transformation has been reported (6). Isolated occurrences of development of nasolabial cyst after rhinoplasty (7) and trauma (8) have also been reported.



**Figure 3.** Nasolabial cyst (left), facial magnetic resonance imaging, axial section



**Figure 4.** Image of the nasolabial cyst during sublabial excision

About 10%-11% cases are bilateral (1). Sheikh et al. (4) analyzed 79 studies describing 311 cases of nasolabial cysts; among which 30 were bilateral. In our study, one patient had a bilateral involvement, and this ratio was consistent with that in the literature. Studies have indicated that unilateral presentation is commonly seen on the left side (3). Conversely, in our study, five and four unilateral cysts were located on the right and left side, respectively.

Nasolabial cysts are more common in the black population (2, 6, 9). A female predilection has been observed with a female-to-male ratio of 4:1 (1,

3, 4); although, in our study this ratio was 9:1. The mean age of diagnosis has been reported as 40-50 years (3, 6, 9); and in our study it was 37.7 years.

Although, usually asymptomatic, nasolabial cysts may occasionally present with facial deformity and nasal obstruction (2, 4). The distribution of symptoms in our case series was consistent with this. These lesions that are usually slow-growing and painless may cause pain when infected. If they rupture, the contents of the cyst drain into the mouth or nose (9). Diagnosis is based on the clinical findings and physical examination (10). The contents and structure of the cyst are better revealed by MRI than by CT. Hence, the former is considered as the gold standard for diagnosis (10). Benign lesions such as radicular cyst, benign salivary gland tumors, periapical abscess, dermoid cyst, schwannoma, and malignant lesions of this region should be considered in the differential diagnoses of nasolabial cysts (5).

The conventional surgical treatment of nasolabial cysts is sublabial excision (11); however, aspiration, injection of sclerotic agents, transnasal marsupialization, drainage, incision, etc. are the alternative treatment methods (1, 9). Sublabial excision offers a wider surgical site and allows for a favorable total excision; whereas, transnasal marsupialization offers lesser postoperative pain and edema, lower risks of oronasal fistula and hematoma, shorter hospitalization, and lesser incidence of nerve injuries (9, 11). The recurrence rates for sublabial excision and transnasal marsupialization are similar (4). In our study, we preferred sublabial excision in nine patients and transnasal marsupialization in one. No complications or recurrences were reported in any of the patients.

## CONCLUSION

Nasolabial cysts show slow growth, can be asymptomatic for long periods of time, and may cause symptoms such as nasal obstruction and/or facial deformity over time. These lesions should be considered as part of the differential diagnoses in patients presenting with these symptoms. These cysts are rarely bilateral. Sublabial excision is the conventional treatment method, but transnasal marsupialization is also considered as a useful alternative.

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**Informed Consent:** Informed consent was obtained from the patients.

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