

Surgical Management of Nasolabial Cyst

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Abstract

Statement of the Problem: Surgical excision via a sublabial approach is considered the standard treatment for nasolabial cysts. Although, transnasal marsupialization has been proposed as an alternative method, we compared the two surgical methods.

Methodology and Theoretical Orientation: 30 patients diagnosed with nasolabial cysts were divided into two groups according to the surgical technique. In the sublabial approach group, the cysts were excised completely using a sublabial approach, while in the transnasal marsupialization group; the cysts were marsupialization transnasally under the guidance of nasal endoscopes. The operating time was measured and postoperative pain was evaluated using a visual analog scale. Complications after the procedure were assessed and recurrence was determined according to the clinical symptoms and postoperative radiologic findings.

Findings: The transnasal marsupialization group had significantly shorter operating time, less postoperative pain, lower complication rate, and shorter duration of side effects than the sublabial approach group. No recurrence occurred in either group after a 1-yr follow-up period.

Conclusion and Significance: Although both methods are effective for treating nasolabial cysts, the transnasal marsupialization of nasolabial cysts has many benefits over the conventional sublabial approach. Therefore, we propose that transnasal marsupialization be the treatment of choice for nasolabial cysts.

Keywords: Nasolabial Cyst; Sublabial Approach; Transnasal Marsupialization

Introduction

Nasolabial cyst is a nonodontogenic soft tissue cyst seen in nasal alar region of midface. Nasolabial cysts were first described by Zuckerkandl [1].

The term nasolabial cyst was coined by Rao [2], and remains the most common name for this lesion, which has also been reported as nasoalveolar cyst, nasal vestibular cyst, mucoid cyst of the nose, and Klestadt's cyst, among a variety of other names.

To explain the pathogenesis of nasolabial cysts two theories have been explained.

Klestadt in 1913 suggested that nasolabial cyst arise from trapped epithelium where the maxillary, medial nasal, and lateral nasal processes fuse and become inclusion cyst (fissural cyst).

Bruggeman in 1920 had suggested that nasolabial cysts develop from developmental cyst. The nasolacrimal ducts are lined by pseudostratified columnar epithelium, which is found in the nasolabial cyst cavity. Currently, this is the most widely accepted theory.

Nasolabial cysts shows a female preponderance of a ratio ranging between 2.7:1 and 3.7:1 [3,4]. Nasolabial cysts are found most often in the fourth to fifth decade of life.

Clinical feature include slow growing painless mass which results in blockage of nasolabial sulcus, nasal vestibule and maxillary labial sulcus. When palpated the lesion is soft and fluctuant in consistency. Patients generally report to clinician for the cosmetic reason or problem of nasal blockage.

Sublabial approach is the treatment of choice for nasolabial cysts [5].

The complications associated with the procedure include facial swelling, gingival numbness, decreased sensation of the teeth, and wound infection.

In 1999, nasolabial cyst was operated through transnasal marsupialization which proved to have several benefits over the conventional sublabial approach.

Aim

To compare the surgical procedure in terms of

- Operating time
- Postoperative pain
- Complications
- Recurrence rate between the two surgical methods.

Materials and Methods

A prospective study was carried out on July 2014 and June 2018 on patients diagnosed with unilateral nasolabial cyst.

Both clinical presentation and Computed tomography (CT) findings was taken into consideration while making this diagnosis.



Figure 1: CT scan of the lesion.

30 patients diagnosed with nasolabial cysts were divided into two groups according to the surgical technique.

Surgical technique	No. of patients
Sublabial Approach	15
Transnasal Marsupilization	15

Table 1

All Blood Investigations (Complete blood count/HIV/Hbsag/BT/CT/TSH/Creatinine/Random blood sugar) as done. As per protocol Written consent was taken from all the patients prior to surgery.

Sublabial approach

The surgical procedure was performed under general anaesthesia. 2% lidocaine containing 1:100,000 epinephrine was injected at the incision site. The incision was made in upper gingivobuccal sulcus below the pyriform aperture. The tissues were dissected and cyst was removed completely.

Transnasal Marsupialization

The surgical procedure was performed under general anaesthesia. The nasal cavity was packed using 4% xylocaine + adren-

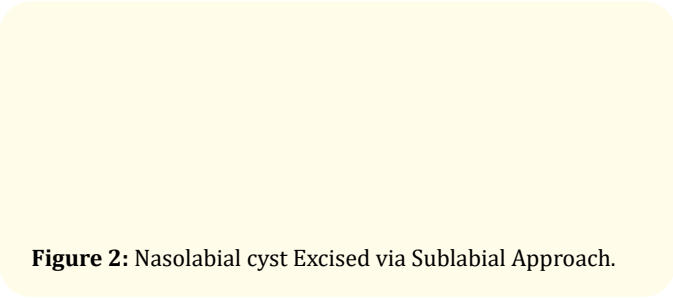


Figure 2: Nasolabial cyst Excised via Sublabial Approach.

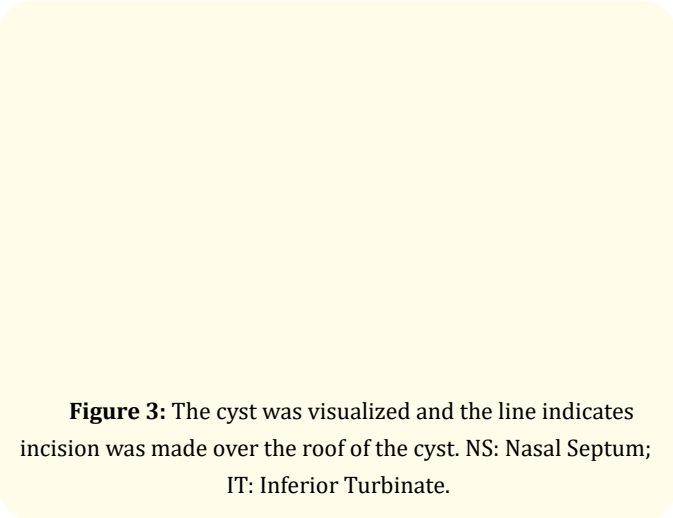


Figure 3: The cyst was visualized and the line indicates incision was made over the roof of the cyst. NS: Nasal Septum; IT: Inferior Turbinate.

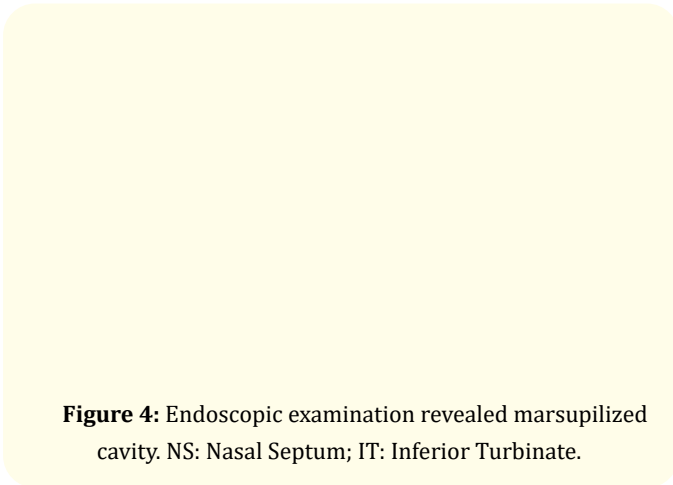


Figure 4: Endoscopic examination revealed marsupialized cavity. NS: Nasal Septum; IT: Inferior Turbinate.

aline (1:1000). Mucosal surface over the cyst was infiltrated by Injection Xylocaine 2% with Adrenaline (Epinephrine) 1:200,000. Under the guidance of 4-mm diameter 0° nasal endoscopes (Karl Storz, Tuttlingen, Germany), an incision was made over the roof of the cyst (Figure 3). The incision was widened with a microdebrider (Medtronic XOMED XPS 3000 MICRODEBRIDER (Figure 4), and the cyst margins were converted into smooth surface.

Postoperative pain was compared in both groups using a visual analog scale (VAS). A zero score indicated no pain, while a score of 10 indicated extreme pain. During follow-up the patient were examined for cheek swelling, facial pain, facial bruising, facial tingling, facial numbness, numbness of the teeth or gingiva, and nasal bleeding.

Results

The transnasal group comprised 3 men and 12 women with a mean age of 42.6 years; the sublabial group comprised 6men and 9 women with a mean age of 44.5 years.

Some of the patients presented with intermittent swelling over the nasolabial area. In few of them, the swelling extended from the upper lip or effaced the nasolabial fold.

The patient were followed up from 6 to 24 months. Both surgery were successful for both the group. There were no major complications.

The time taken for transnasal marsupilization was significantly shorter than sublabial group.

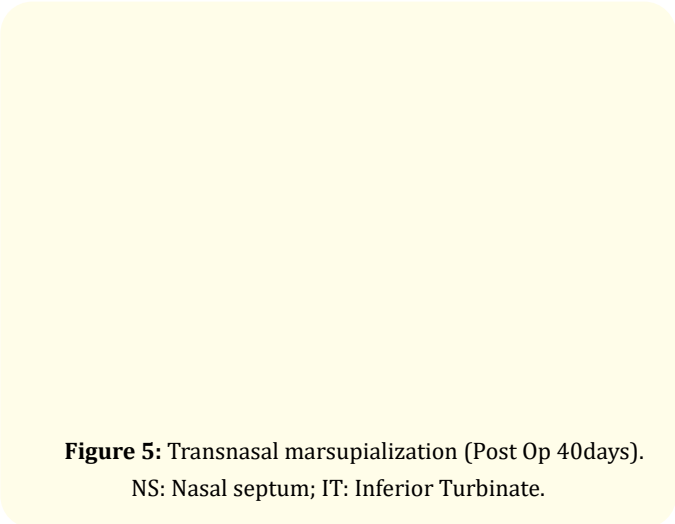
Surgical technique	Time
Sublabial	1hr 30 min ± 20 min
Transnasal marsupialization	20min ± 10 min

Table 2

The transnasal marsupialization was much cheaper than the sublabial approach. The costs included all expenses from the operation and postoperative hospitalization.

The postoperative pain was comparatively less in transnasal marsupialization.

During follow-up, it was found that complications like facial swelling, facial pain, facial bruising, and gingival and teeth numbness were predominant in patient operated via sublabial approach.



Discussion

Less than 1% of all maxillary and mandibular cysts is nasolabial cyst [6,7].

Nasolabial cyst are unilateral with an expectation of few bilateral case reported over the last few decades.

Nasolabial cyst are cystic mass anterior to the pyriform aperture, showing no erosion or separation of the underlying maxilla on CT and readily distinguishable from vestibular or odontogenic abscesses, odontogenic cysts, or other nonodontogenic maxillary cysts that occur in identical locations [8].

CT is a useful tool for diagnosis and determination of the surgical approach for nasolabial cyst [9].

Indications for surgery include prevention of secondary infection and correction of facial deformity. Sublabial excision has the lowest recurrence rate but it has the most common drawback of nasal floor defect. In 1999, Su., et al. [5] demonstrated transnasal endoscopic marsupialization for nasolabial cysts in a simple, effective and less invasive approach.

Recently Chen., et al. [10]. have reported microdebrider-assisted endoscopic marsupialization for the nasolabial cyst.

The sublabial approach was more time consuming because of the critical steps of gingival flap elevation and dissection the cyst from the surrounding vascular tissue.

The transnasal marsupialization was more effective as it was done under direct endoscopy using microdebridor.

Histopathologically, an inner lining of nasolabial cyst is lined by ciliated respiratory epithelium.

After Transnasal Marsupialization histology of nasolabial cyst is similar to mucosa of the paranasal sinuses and nasal cavity, which act like a normal paranasal sinus with ventilation and drainage functions without mucus accumulation.

Conclusion

The transnasal marsupialization of nasolabial cyst has the following benefits

- Easily and safely performed
- Shorter operating time
- Reduced postoperative pain
- Low complication rate.

Therefore, transnasal marsupilazation is preferred over sublabial approach.

Bibliography

1. E Zuckerkandl. "Normale und pathologische Anatomie der Nasenhohle". W. Braunmuller (1882).
2. RV Rao. "Nasolabial cyst". *The Journal of Laryngology and Otol-ogy* 69 (1955): 353-354
3. Chinellato LE and Damante JH. "Contribution of radiographs to the diagnosis of naso-alveolar cyst". *Oral Surgery, Oral Medi-cine, Oral Pathology* 58 (1984): 729-735.

4. Sheikh AB., *et al.* "Nasolabial cysts: A systematic review of 311 cases". *Laryngoscope* 126 (2016): 60-66.

5. Su CY., *et al.* "A new transnasal approach to endoscopic marsupialization of the nasolabial cyst". *Laryngoscope* 109 (1999): 1116-1118.

6. Allard RH. "Nasolabial cyst: review of the literature and report of 7 cases". *International Journal of Oral Surgery* 11 (1982): 351-359.

7. Choi JH., *et al.* "Nasolabial cyst: a retrospective analysis of 18 cases". *Ear, Nose and Throat Journal* 81.2 (2002): 94-96.

8. Hillman T., *et al.* "Pathology quiz case 1: nasoalveolar cyst". *Archives of Otolaryngology-Head and Neck Surgery* 128 (2002): 452-454.

9. Kato H., *et al.* "Nasoalveolar cyst: imaging findings in three cases". *Clinical Imaging* 31.3 (2007): 206-209.

10. Chia-Nan Chen and Chih-Ying Su. "Microdebrider-assisted endoscopic marsupialization for the nasolabial cyst: Comparisons between sublabial and transnasal approaches". *American Journal of Rhinology and Allergy* 23 (2013): 232-236.

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