A Transnasal Microscopic Approach for Nasolabial Cyst Extirpation

Yu-Hsun Chiu, Chia-Ming Liu[1], Fei-Peng Lee[2], Hann-Tsong Chen, Hung-Meng Huang

Department of Otolaryngology, Taipei Municipal Women and Children Hospital, Taipei, Taiwan; Department of Otolaryngology[1], National Taiwan University Hospital, Taipei, Taiwan; Department of Otolaryngology[2], Taipei Medical University Hospital, Taipei, Taiwan

ABSTRACT

Objectives: sublabial approach and lateral rhinotomy have been widely used in the past for nasolabial cysts, but are accompanied by various complications. For this reason, we designed a less invasive, safer and more effective procedure for thorough transnasal extirpation of cystic lesions under microsope. Between 1995 and 1999, 11 patients were treated with the new method. **Patients and Methods:** All procedures were performed using local anesthesia. Under microscope, the operative field was clear and the cyst could be easily separated from surrounding tissue by bimanual manipulation. The cyst was removed as a whole in all 11 patients. **Results:** There were none of the cosmetic problems associated with traditional approaches and tissue damage was minimal. Nasoendoscopy showed normal epithelialization without pus accumulation at the operative site four to six weeks after surgery. **Conclusion:** We feel that the transnasal microscopic method described is a useful alternative to traditional approaches. (***Tzu Chi Med J*** 2002; **14**:359-363)

Key words: nasolabial cyst, extirpation, microscopic, transnasal

INTRODUCTION

The nasolabial cyst is an uncommon non-odontogenic cyst in the nasofacial area. These cysts typically present in the 4 th and 5 th decades, but can appear from four months up to 76 years of age. In terms of gender, male: female ratios of 1:3.5 and 1:4 have been previously reported [1]. Klestadt [2] hypothesized that the etiological basis of these cysts was embryonic epithelium trapped in the developmental fissures between the lateral nasal, medial nasal and maxillary processes, and this is the theory generally accepted by most authors. Bruggemann [3] hypothesized that these cysts may originate from degeneration of part of the nasolacrimal duct, and Lopez-Rios et al [4] found extensive apocrine changes in cyst lumens on microscopic examination. Bruggeman's hypothesis has been discounted due to lack of evidence of apocrine cells in the nasolacrimal ducts [4].

Clinical symptoms include swelling in the nasal vestibule, disappearance of the nasolabial fold, flaring of the nasal ala and even nasal and facial asymmetry. These cysts may grow large enough to cause unilateral nasal obstruction. If secondary infection occurs after trauma or surgical intervention, pain may be the chief complaint. Spontaneous rupture of the cyst may occur with discharge of fluid into the oral or nasal cavities. Though its diagnosis is readily made on clinical grounds due to the typical location and significant features, radiographic findings help to exclude cysts of dental origin.

Owing to the risk of facial deformity and infection, surgical excision is always indicated. Extranasal approaches, sublabial extirpation [5-8] and lateral

Received: April 1, 2002, Revised: April 18, 2002, Accepted: July 11, 2002
Address reprint requests and correspondence to: Dr. Hung-Meng Huang, Department of Otolaryngology, Taipei Municipal Women and Children Hospital, 12, Fu Cho Street, Taipei, Taiwan

rhinotomy [9], have frequently been used for removal of nasolabial cysts. However, post-operative hemorrhage, wound infection and painful swelling have been reported. In this article, we introduce a new method allowing thorough transnasal extirpation of nasolabial cysts under a microscope. This method allows complete removal with minimal complications.

PATIENTS AND METHODS

Between 1995 and 1999, 11 patients (two men and nine women) with nasolabial cysts were treated using our transnasal microscopic approach. The patients' ages ranged from 41 and 68 years, with a mean of 55.6 years. The table lists the age, sex, involved side and whether or not there was infection for each of the patients. Most patients presented with unilateral painless swelling behind a nasal ala with minimal disappearance of the nasolabial fold, except for one patient who described tenderness when the area was palpated. Fluctuation was noted and secondary infection seemed likely in this patient , and transnasal microscopic extirpation took place after a five-day course of antibiotics. All patients had computerized tomographic scans of their sinuses which typically revealed a soft tissue mass, with or without a hypodense core, located between the inferior meatus down to the labio-gingival sulcus beneath the nasal floor (Fig. 1).

All operations were performed with local anesthesia. The procedures were performed with bimanual transnasal manipulation under a microscope. Cotton pledgets rinsed in two percent xylocaine containing 1: 10000 epinephrine were used to shrink the nasal mucosa of the affected side and were removed after 10 minutes. Using a microscope, the nasolabial cyst and inferior turbinate were clearly identified. A 2% xylocaine solution containing 1:10000 epinephrine was then infiltrated into the anterior nasal vestibule and the area around the nasolabial cyst. A small scalpel was used to make a curved incision along the anterior border of the cyst near the mucocutaneous junction of the anterior nasal floor (Fig. 2). If excessive bleeding occurred at the incision, epinephrine-rinsed cotton pledgets were applied until the bleeding subsided enough to leave a clear operative field. Two small skin hooks were used to retract the edges of the incision to provide clear exposure of the operative field. Small sharp scissors were then used to dissect and find the cystic wall. Separation of the cystic wall from the surrounding tissue then proceeded. Dissecting along the plane, the cyst was freed from its superior relation (nasal mucosa) and anteroposteriorly, back to its posterior aspect. The lower half of the cyst was separated inferolaterally from the surrounding tissue in the same way (Fig. 2). If the cyst was too large to manipulate, some of the mucus in the cyst was aspirated to debulk the cyst. Finally, the posterior aspect of the cyst was separated from the nasal floor with scissors, allowing the cyst to be extirpated as a whole (Fig. 3). Then, the upper covering nasal mucosa was replaced over the raw surface of the inferior meatus (Fig. 4). Vaseline impreg-

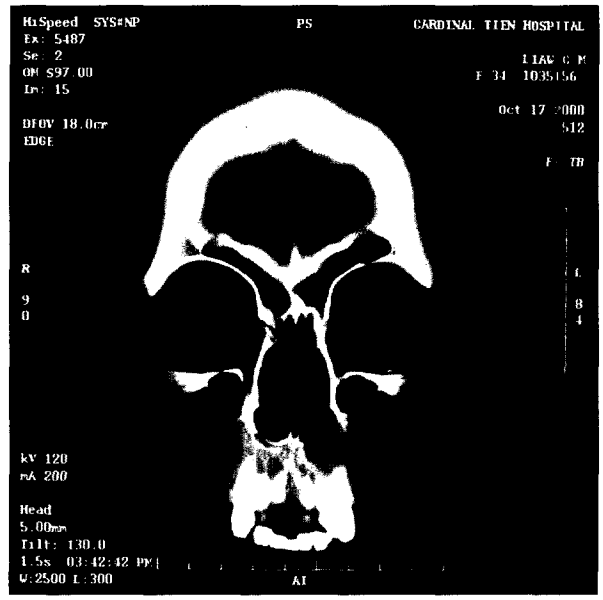


Fig. 1. Preoperative sinus computed tomography images of a 34-year-old woman showing a nasolabial cyst over the left premaxillary area.

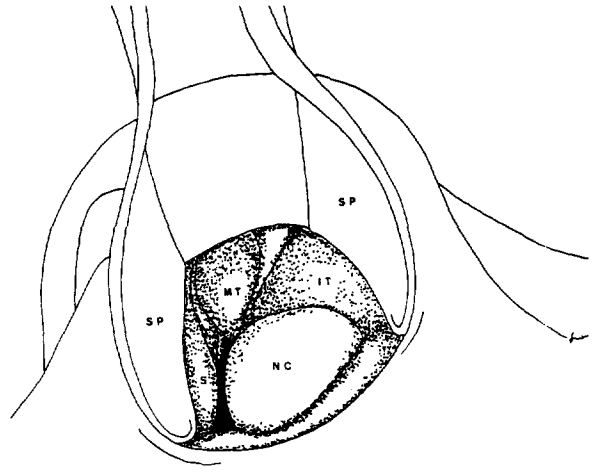


Fig. 2. A curved incision was made between the nasolabial cyst and its surrounding tissue. (IT: inferior turbinate, MT: middle turbinate, NC: nasolabial cyst, S: septum, SP: speculum)

nated gauze strips were inserted for compression of the wound and hemostasis in the anterior nasal chamber. The gauze was removed two days after surgery.

RESULTS

We were able to remove the cyst as a whole in all 11 patients. The time required to complete the procedures ranged between 20 and 30 minutes and blood loss was always less than 20 mL. After surgery, there were no obvious complications such as recurrent hemorrhage, painful nasal or facial swelling, purulent discharge or spiking fever. Nine patients complained of nasal obstruction on the involved side one to three days after removal of the nasal packing. This was due to obstruction of the inferior and common meati by crusting as the wound healed. All cases of nasal obstruction resolved within one to two weeks with only local measures and close observation required. Nasoendoscopy showed that epithelialization of the wound was complete four to six weeks after surgery in all patients. The cavity of the nasolabial cyst was obliterated to become a shallow groove in the 11 patients 1 year after surgery (Fig. 5). The patients also had computed tomographic scans of their sinuses six months after surgery which revealed normal soft tissue density on the operative site and no recurrence of cystic lesions.

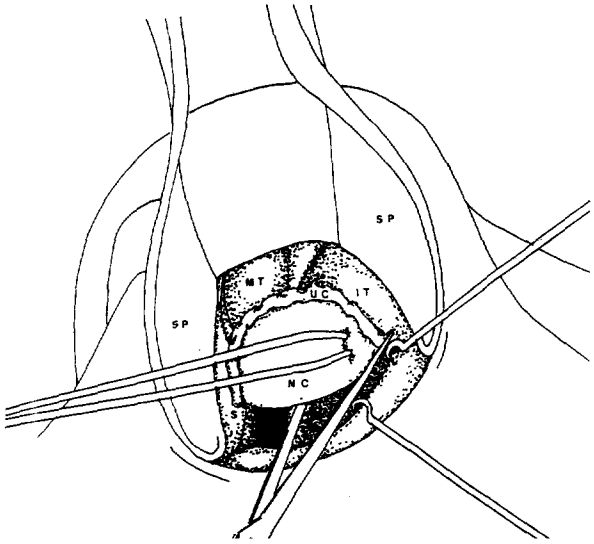


Fig. 3. Dissection was performed between the cystic wall and surrounding tissue. The upper covering (nasal mucosa) has been reversely flapped from the upper cystic wall. (IT: inferior turbinate, MT: middle turbinate, NC: nasolabial cyst, S: septum, SP: speculum, UC: upper covering)

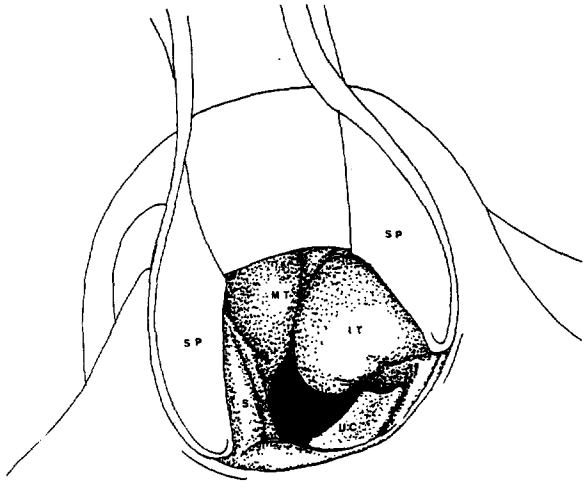


Fig. 4. The upper covering (nasal mucosa) of the nasolabial cyst was replaced in the fossa. (IT: inferior turbinate, MT: middle turbinate, S: septum, SP: speculum)



Fig. 5. The cavity of the nasolabial cyst was obliterated to become a shallow groove 1 year after surgery.

DISCUSSION

Various management strategies for nasolabial cysts have been reported over the past few decades. Sublabial approaches and lateral rhinotomy have been widely used and discussed in the past, however, with these approaches there is typically more hemorrhage, scarification of normal tissue, postoperative bleeding, painful nasal or facial swelling and wound infection. David and O'Connel [8] reported complications in a case where a sublabial approach was used for an oronasal fistula. Additionally, cosmetic considerations are important if a lateral rhinotomy is to be performed.

Table 1. Subject Details

No.	Sex	Age (years)	Involved side	Secondary infection
1	Female	54	Right	no
2	Female	47	Right	no
3	Female	56	Left	no
4	Female	41	Right	no
5	Male	66	Left	no
6	Female	53	Left	yes
7	Female	58	Right	no
8	Male	57	Right	no
9	Female	68	Left	no
10	Female	59	Left	no
11	Female	53	Left	no

Recently, transnasal endoscopic marsupialization was described [10]. The cyst was partially resected, leaving the pathogenic cystic wall in place. A new opening was created as an additional ostium of the normal paranasal sinus. Though neither mucus accumulation in the pocket nor recurrence of the cyst have been reported, this approach may require further study for it to gain wide acceptance. In addition, the majority of cysts tackled in that study were at the larger end of the spectrum. It could be that a large stoma created in a larger cyst has less chance of closing and causing recurrence than in smaller cysts.

Our new method uses a transnasal approach and hemorrhage is less likely to occur because the size of the incision is somewhat smaller than in open procedures. Additionally, over-destruction of surrounding normal tissue and post-operative bleeding are easily avoided. We had no cases of wound infection and vestibular stenosis. Since the procedure is performed transnasally, cosmetic disturbance is minimal. Another advantage is that the operative field can be magnified under the microscope to provide more direct visualization as needed. Unlike nasoendoscopic marsupialization, the pathogenic cystic tissue is extirpated as a whole, minimizing the risk of cyst recurrence. The transnasal microscopic method is suitable for both large and small nasolabial cysts. But when the anterior nasal orifice is too small for manipulation, marsupialization is preferred. After surgery, normal epithelium spreads over the operative site in place of the formerly pathogenic epithelium. To date, neither pus accumulation nor cyst recurrence have been found on patient follow-up.

The transnasal microscopic method described allows magnification of the operative field and provides a clear view as needed to faciliate en bloc extirpation of the nasolabial cyst. It avoids the disadvantages of extranasal approaches and nasoendoscopic marsupiliazation. With practice, the method is easily performed. We feel that the transnasal microscopic method is less invasive, safer and a more appropriate method for removal of nasolabial cysts.

REFERENCES

1. Allard RH: Nasolabial cyst. Review of the literature and report of 7 cases. Int J Oral Surg 1982; **11**:351-359.
2. Klestadt WD: Nasal cysts and facial cleft cyst theory. Ann Otol Rhinol Laryngol 1953; **62**:84-92.
3. Bruggermann A: Zysten als folgen von Entwicklungsstorungen im naseneingang. Arch Laryngol Rhinol 1920; **33**:101-105.
4. Lopez-Rios F, Lassaletta-Atienza L, Domingo-Carrasco C, Martinez-Tello FJ: Nasolabial cyst: Report of a case with extensive apocrine change. Oral Surg Oral Med Oral Pathol 1997; **84**:404-406.
5. Rao RV: Nasolabial cyst. J Laryngol Otol 1955; **69**:352-354.
6. Bull TR, McNeill KA, Milner G, Murray SM: Naso-alveolar cysts. J Laryngol Otol 1967; **81**:37-44.
7. Walsh-Waring GP: Naso-alveolar cysts: Aetiology, presentation and treatment. Six cases reported. J Laryngol Otol 1967; **81**:263-276.
8. David VC, O'Connel JE: Nasolabial cyst. Clin Otolaryngol 1986; **11**:5-8.
9. Hynes B, Martin LC: Nasoalveolar cysts: A review of two cases. J Otolaryngol 1994; **23**:194-196.
10. Su CY, Chien CY, Hwang CF: A new transnasal approach to endoscopic marsupialization of the nasolabial cyst. Laryngoscope 1999; **109**:1116-1118.

NATIONAL CENTRAL LIBRARY ROC

顯微鏡下經鼻道鼻唇囊腫之切除

邱昱勳　劉嘉銘[1]　李飛鵬[2]　陳瀚聰　黃弘孟

台北市立婦幼綜合醫院耳鼻喉科　國立臺灣大學附設醫院耳鼻喉部[1]　台北醫學大學附設醫院耳鼻喉科[2]

摘要

目的：鼻唇囊腫為一非齒源性良性腫瘤，診斷之平均年齡為四十至五十歲。過去對於鼻唇囊腫的切除方法，已知的有唇下進行切除(sublabial approach)及鼻側切開術(lateral rhinotomy)，但術中及術後出血正常組織無謂的損傷及傷口腫痛感染等併發症亦伴隨發生，因此我們採行於顯微鏡下經鼻道進行鼻唇囊腫的切除。在十一名病患身上獲致良好的結果，並提供其作為手術切除之選擇參考。**病人與方法：**由1995年至1999年，我們共經歷了十一名病患於顯微鏡下經鼻道切除鼻唇囊腫。在施予局部麻醉後，於病灶與皮膚及黏膜交界處作弧狀切開，沿此切縫而貼著囊腫表面進行剝離向上可完整分開囊腫與覆蓋之黏膜，向下可分開囊腫與周圍軟組織，至上頜骨處則可用黏膜剝離匙將病灶剝離；直到整個囊腫完整取下後，再將黏膜覆蓋回去，手術部位則以凡士林紗布加以填塞止血。**結果：**接受手術之十一名患者皆成功地移除病灶。術後有九名病患抱怨手術側鼻塞，乃因術後痂皮形成所致。在一至二週的持續治療，症狀得以完全解除。術後四至六週以鼻竇內視鏡追蹤檢查，可見手術部位已為正常上皮覆蓋，六個月後以電腦斷層掃描檢查，並無復發跡象。**結論：**於顯微鏡下經鼻道行鼻唇囊腫切除，因顯微鏡的放大效果可得到更清楚的手術視野；相較於以往的手術方法，較少破壞周圍正常的組織，出血量可控制得宜，且囊腫的完整切除可避免復發之可能。而經由鼻道行手術切除亦較無傷口腫痛及疤痕殘留的問題，可謂較不具侵襲性而有效的手術方法。(**慈濟醫學** 2002; **14**:359-363)

關鍵語：鼻唇囊腫，摘除，顯微鏡，經鼻

收文日期：91年4月11日，修改日期：91年4月18日，接受日期：91年7月31日

抽印本索取及聯絡地址：台北市福州街12號　台北市立婦幼綜合醫院耳鼻喉科　黃弘孟醫師