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Nasolabial cyst: a report of eight cases and a review of the literature

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Abstract
Nasolabial cyst is a cystic ectodermal developmental swelling which occurs as a cyst on the lateral half of the floor of the nasal vestibule at the base of the alae of the nose. Although, it is a rare disease, this is a report of eight cases in a population of 500,000 in one year. Seven of the patients were female aged between 25–50 years. Seven cysts were left-sided and one was bilateral.

The purpose of this paper is to present an additional example of patients with nasolabial cyst. It may be a more common disease than previously thought.

Key words: Nasal cavity; Ectodermal defect, congenital

Introduction

Nasolabial cysts were first described in 1882. They have been given many names such as nasoalveolar cysts, nasal vestibular cysts, nasal wing cysts and mucoid cysts of the nose (Cohen and Hertzann, 1985). They involve about 0.7 per cent of all jaw cysts (Van Bruggen *et al.*, 1985). They occur more in females, especially among black persons (Santara *et al.*, 1970; Karmody and Gallagher, 1972), and arise mainly in the fifth decade of life (Roed-Petersen, 1969; Shear, 1983).

The pathogenesis of nasolabial cyst is controversial but they are thought to be retension cysts. This theory was presented by Brown Kelly in 1898 and prevailed up to 1913. According to Karmody and Gallagher, it is of fissural origin, derived from developmental rests along the site of fusion of the maxillary and medial nasal and lateral nasal processes (Klestadt, 1953; Karmody and Gallagher, 1972). It is also thought to arise from the lower anterior part of the nasolacrimal duct either from epithelial cell rests or from the proliferation of entrapped epithelium during embryogenesis (Seward, 1962; Allard, 1982).

Clinically, the patients complain for cosmetic reasons about a swelling adjacent to the nose. Typically, it presents as a fullness in the canine fossa, nasal ala or vestibule of the nose. It grows in three directions: towards the nasolabial fold, towards the vestibule of the mouth and towards the vestibule of the nose. The swelling reaches the nasal cavity beneath the anterior third of the inferior turbinate and lies in a groove of the bone, and causes obliteration of the nasolabial fold and elevation of the alae of the nose. It is a fluctuant swelling, lined by respiratory epithelium. It contains ciliated cells, goblet cells and the content may be serous, mucous or a combination of both. Cholesterol has not been found in it (Klestadt, 1953).

Its treatment is surgical excision through a sublabial incision. There is no tendency for recurrence. Walsh-Waring in 1967 noted only one reported case of malignancy in a nasoalveolar cyst and he also described the occurrence of an intracystic papilloma. Arnold in 1929 suggested that these lesions may have a neoplastic tendency.

Results

Seven females and one male had left-sided nasal vestibule swellings, and only one female had a bilateral swelling (Figure 1). Sublabial surgical excision of all cases has been performed (Figures 2, 3). They were cystic swellings superficial to the lateral half of the bony floor of the nose and they were completely extra-osseous. They were firmly attached to the floor of the nose in the region of the mucocutaneous junction. They contained a cloudy

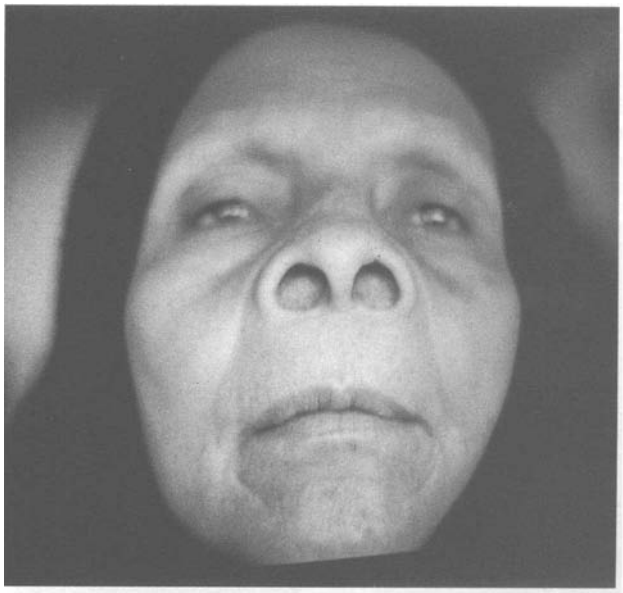

FIG. 1
Bilateral nasolabial cyst.

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TABLE I
NASOLABIAL CYST CASES

Name	Age	Side	Sex
S.M.	40 y	left	F
A.M.	27 y	left	F
S.E.	26 y	left	F
L.S.	50 y	left	F
N.M.	40 y	left	M
A.E.	50 y	left	F
F.M.	45 y	left	F
S.A.	50 y	bilateral	F

viscous fluid, white in colour. A small pack was applied for 24 hrs on the nasal vestibule in each case. Table I shows the cases. There has been no recurrence over the one year observation period.

Discussion

This paper reports more cases of nasolabial cysts and reviews the literature. This lesion occurs more frequently in Negroes but a Jamaican report in an area with a large Negro population described this lesion as locally uncommon (Bull *et al*, 1967). Bhaskar in 1969 reported seven cases of nasolabial cysts in 231 fissural cysts (three per cent), out of 3750 maxillary cysts (0.19 per cent), they were mainly on the left side. They were bilateral in only 10 per cent of cases in one report (Van Bruggen *et al.*, 1985) and 11.2 per cent of cases in another report (Roed-Petersen, 1969). They were more common in females aged 40 years.

As regards the pathogenesis of the nasolabial cyst, between the fourth and eighth week of intra-uterine life, the fronto-nasal process grows caudally and its groove is deepened, tripartate fusion of the lateral nasal and medial nasal process, with maxillary process of the second branchial arch forms the nasal base and ala. Medial fusion of each lateral palatine process of the maxilla with the base of the nasal septum forms the hard palate, while at the same time partitioning the nasal fossa. Aberrative changes at any of these fusion points may give rise to a fissural cyst (Robert, 1970). Thus, the fissural cysts are non-odontogenic ectodermal epithelial cysts. They are classified into four types: (1) Median cysts: alveolar and palatine cysts; (2) Globulo-maxillary cysts; (3) Naso-alveolar cysts; (4) Naso-palatine cysts: papilla palatina and incisive canal. The rarest type of them is the naso-alveolar cyst. Either mechanical or inflammatory trauma could be an important agent for its development.

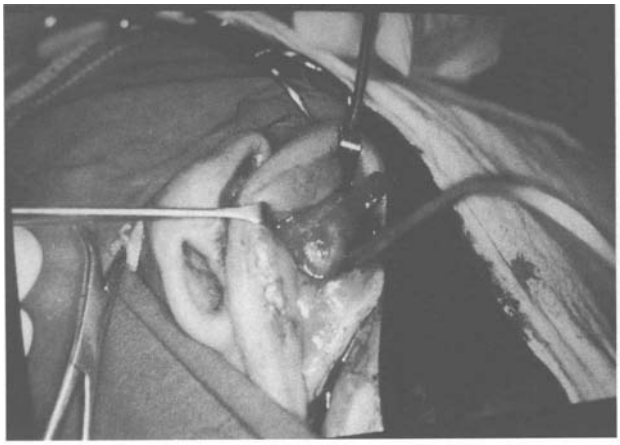

FIG. 2
Sublabial dissecting nasolabial cyst.

FIG. 3
Intact removed nasolabial cyst.

Patients with nasolabial cysts usually ask for treatment early as it may cause noticeable progressive facial deformity. However, some patients reported the lesion had been present for between three and five years, and they had not sought treatment, because of the slow-growing asymptomatic nature of this cystic lesion and because there was no pain or discomfort. The problem is usually twofold, nasal obstruction and cosmetic appearance.

The cyst is best palpated bimanually with one finger in the floor of the nose and one finger in the labial sulcus. The cyst appears underneath the ala nasi as a painless fluctuant swelling extending laterally into the cheeks, often obliterating the nasolabial sulcus, and extending anteriorly into the lip and mucobuccal vestibule.

The differential diagnosis should include odontogenic, developmental and neoplastic lesions. The odontogenic ectodermal cysts that should be excluded are: (1) Follicular cysts: (a) primordial (b) dentigerous: central and lateral. (2) Periodental cysts: apical and lateral. (3) Residual cysts.

The cyst should be excised sublabially for cosmetic purposes. The cystic membrane must be dissected carefully from the nasal mucosa. The cyst is most firmly attached to the floor of the nose in the region of the mucocutaneous junction. Care must be taken to prevent rupture of the cyst, at least until its place of attachment in the nasal floor. If the nasal mucosa is perforated, it should be repaired.

Histologically: the cyst is lined by pseudo-stratified ciliated columnar and sometimes stratified squamous epithelium. Goblet cells are present between the ciliated columnar and squamous epithelial cells. Mucin-producing pseudo-stratified columnar epithelium is the basic lining, and there are stratified squamous changes which are caused by subsequent metaplasia induced by sustained pressure. Because, most of these cysts derive from pluripotential epithelium, the lining of the cyst may have either squamous or pseudo-stratified columnar epithelium or both. After excision, it has little or no tendency to recur.

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