

CLINICAL PRESENTATION AND MANAGEMENT OF NASO-LABIAL CYSTS CASE SERIES

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ABSTRACT

Nasolabial cysts are rare non-odontogenic cysts of soft tissues of the nasolabial fold. They are usually slowly progressing and may cause facial asymmetry depending upon the size of the cystic lesion. The present case series is on 11 patients reporting to oral and maxillofacial surgery unit of Khyber College of Dentistry Peshawar, Khyber Pakhtunkhwa province of Pakistan. The age range of the patients was from 29 to 55 years with the mean age of 39.36 SD±7.87. This cyst is predominantly common in the female gender (91%). Left sided involvement was noted in 57.14%. The most common mode of presentation is facial asymmetry followed by discharging sinus. All the patients were treated by enucleation, using an intra-oral sub-labial approach. Sometimes removal of the lining becomes difficult because of the potential risk of an oro-nasal fistula, owing to the proximity of the cyst to the nasal mucosa. Transnasal marsupialization is another option in the treatment of the nasolabial cyst in which there is a lower associated risk of formation of an oro-nasal fistula.

Key Words: *Nasolabial cysts, management.*

INTRODUCTION

The first description of the nasolabial cyst was given by Zukerkandl in 1882.¹ Many names were given to this entity in earlier literature e.g., Klestadt's cyst, nasoalveolar cyst, nasal vestibule cyst, nasal wing cyst, and mucoid cyst of the nose. Rao however redefined nasolabial cysts as lesions located entirely within soft tissue, different from nasoalveolar cysts, which cause maxillary bone erosion.² Nasolabial cyst (NLC) is considered to be developmental, rather than inflammatory, in origin and arises from non-odontogenic epithelium, occurring in the region of maxillary lip and alar base lateral to midline.³ Two theories have been proposed regarding its pathogenesis. According to the first theory, the cyst is derived from epithelial cells retained in the mesenchyme after fusion of the

medial and lateral nasal processes and the maxillary prominence at approximately 30 days in utero.^{4,5} The second hypothesis suggests the persistence of epithelial remnants from the nasolacrimal duct extending between the lateral nasal process and the maxillary prominence.⁶ These two theories are not necessarily mutually exclusive; however, it has not been possible to demonstrate epithelial remnants within the embryonic mesenchyme.⁷ Thus, the latter theory appears more likely. The stimulus that leads to the development of NLC from these epithelial rests still remains unknown.⁸

The purpose of this paper was to present a case series of nasolabial cysts of 11 patients along with literature review and management.

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METHODOLOGY

The present study was carried out on eleven biopsy proven cases of nasolabial cysts at oral and maxillofacial surgery unit of Khyber College of Dentistry, Peshawar between January 2004 to January 2012. The purpose of the study was to determine the clinical features (age, sex and site distribution) and management of patients. For this purpose a proforma was designed to evaluate these variables. A detailed history was taken which was followed by general physical and local maxillofacial examination. The various radiographs taken were peri-apical, paranasal sinus (PNS) view and orthopantomograms (OPGs). The criteria of diagnosis in the present study was based on clinical and radiological findings with histopathological confirmation.

All the patients underwent surgical enucleation of the cyst through an intra-oral incision using blade number 15. The cystic linings were sent for biopsy to a single histopathologist and were confirmed as nasolabial cyst. None of the patient reported with recurrence at follow up. All the patients were followed at an interval of 3 months during the first year after surgical enucleation, and then at 6 months interval in the rest of the years.

RESULTS

The study was carried out on a total of eleven patients. The age range of the patients was from 29 to 55 years with the mean age of 39.36 SD $\pm$ 7.87. Ten of

the eleven patients (91%) were females while only one patient was male and it is better to call this cystic lesion a cyst of the female gender. Three out of eleven patients had positive associated medical history. Hypertension, diabetes mellitus and hepatitis C viral infection were the associated medical condition in patients reported with nasolabial cysts. Majority of the patients 57.14% reported with left side involvement. Swelling, Alar flare, Nasal/ oral Discharge of fluid, and Pain had been the signs/symptoms of patients associated with NLC.

DISCUSSION

Nasolabial cyst is a rare soft tissue cyst that occurs as a swelling in the nasolabial fold in the base of the alae of the nose. Its frequency is around 0.7% of cysts of the jaws and 2.5% of the non-odontogenic cysts.⁹ There is an agreement among the pathologists that its prevalence is actually higher than that presented in the literature; however, incidence remains low due to misdiagnosis.^{10, 11} The NLC affects patients with wide age distribution, but it is more frequent in the fourth and fifth decade. In the present study ten out of eleven patients were female, and thus one can call this cyst as cyst of female gender. This finding is consistent with other studies, that shows a definite gender bias for NLC.^{12, 13, 14}

They are usually unilateral, but bilateral cases have been also reported, though very rare. It has been estimated that approximately 11% of the cases are

TABLE 1. CLINICAL PRESENTATION OF NASOLABIAL CYSTS

S. No.	Age/sex	Site	Signs/symptom	Medical History
Case 1	35/F	Right	Swelling, Alar flare, Nasal Discharge	HCV +ve
Case 2	42/F	Left	Swelling, Alar flare, Oral Discharge	None
Case 3	38/F	Left	Swelling, Alar flare, Pain	None
Case 4	32/F	Left	Swelling, Alar flare, Oral Discharge, Pain	None
Case 5	40/F	Right	Swelling, Alar flare,	None
Case 6	55/M	Right	Swelling, Alar flare, Oral Discharge	Diabetic
Case 7	52/F	Left	Swelling, Alar flare, Pain	Hypertensive
Case 8	37/F	Left	Swelling, Alar flare, Nasal Discharge	None
Case 9	29/F	Left	Swelling, Alar flare, Nasal Discharge	None
Case 10	35/F	Left	Swelling, Alar flare,	None
Case 11	38/F	Right	Swelling, Alar flare, Nasal Discharge, Pain	None

bilateral.^{15, 16} This lesion occurs more commonly in Afro-Americans. Although it is developmental in origin, it usually does not manifest until adulthood. According to majority of studies nasolabial cysts occur usually on the left side.¹⁷ This study shows the left sided involvement i.e., 57.14% is more as compared to right side. Bhaskar in 1969 reported seven cases of NCs in 231 fissural cysts (3%), out of 3750 maxillary cysts (0.19%). They were mainly on the left side. The incidence of NLCs occurring in the Indian population is not known.¹⁸

NLCs may present clinically as a fluctuant swelling filling the maxillary labial fold and the floor of the nasal vestibule. Obliteration of the nasolabial fold and elevation of the alae of the nose is also seen. Some patients may complain of difficulty in nasal breathing.¹⁹ Being a soft tissue cyst, no signs are seen in routine radiographs. Thus for diagnosis and surgical planning special methods like aspiration of the cystic fluid, its replacement with radiographic contrast medium and then acquisition of radiographs, preferably two different views at right angles, tangential, postero-anterior or occlusal radiographs, must be carried out.²⁰

Injection of sclerotic substances, marsupialization and surgical removal may be considered for treatment. Surgical excision/enucleation is the treatment of choice as it's a soft tissue cyst and unlike some of the large intraosseous cysts, this will not respond to marsupialization. Perforation of the nasal mucosa may be expected because of proximity to the nasal floor. When very small perforations are caused, they can be left untreated; however, larger ones must be sutured.²¹ Cysts may cause bulging on the lateral wall of the nasal fossa floor, which becomes evident on occlusal maxillary radiographs. Osteolytic lesions, when present, may eventually involve the maxillary sinus²², however none of the osteolytic cystic lesion were encountered in the present case series.

The histopathology of NLC was first described by Brown-Kelly in 1898. The cyst consists of respiratory epithelium (pseudostratified ciliated cylindrical or stratified ciliated cylindrical epithelium with goblet cells), although squamous metaplasia may occur in infected cysts. Fluid contained within cysts is produced by goblet cells.²³

The differential diagnosis of nasolabial cyst includes odontogenic lesions such as follicular, periodon-

tal and residual cysts, and neoplasms;²⁴ only one case of carcinoma progressing from a nasolabial cyst has been described.²⁵ Infected nasolabial cysts may be mistaken for furuncle of the nasal vestibule floor; except for this entity, the features of infected nasolabial cysts are very specific, and there is little doubt in the diagnosis.

The diagnosis of nasolabial cysts is essentially clinical. Bi-digital palpation reveals a fluctuating swelling between the floor of the nasal vestibule and the gingivolabial sulcus, which helps to confirm the diagnosis. Routine radiographs do not detect this soft tissue lesion except when it causes significant maxillary bone erosion. More sophisticated image diagnosis, such as computed tomography (CT) and magnetic resonance imaging (MRI) may reveal the cystic nature of these lesions in greater detail and reliability, their relation with the nasal alae and the maxillary bone, as well as bone involvement, which facilitate the diagnosis.²⁶

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