

## Mucoceles of the Oral Cavity: A Retrospective Study of 30 Cases

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### **Abstract:**

#### **Objectives:**

The objective was to present 30 mucoceles and to describe their clinical characteristics, etiology and the site of occurrences.

#### **Methods:**

A retrospective study of 30 patients who reported to the out patient Department of Dental Surgery, Government Tiruvannamalai Medical College & Hospital, Tiruvannamalai diagnosed as mucoceles were recorded. The study variables included age, gender, location, color, etiology and dimension of the lesion was analyzed.

#### **Results:**

During the period from August 2013 – February 2018 period, a total of 30 cases were diagnosed as mucocele based on the clinical features. Among them, there was slight male gender predilection was noted, with age preferences seen in second decade, and most frequent site is found to be the lower labial mucosa. In four patients, the mucoceles were of bluish red in color and remaining cases appeared with normal mucosal appearance and no definite cause for occurrence was seen and with most of the cases of size less than 1.5cm was noted.

#### **Conclusions:**

Mucoceles represent one of the common benign lesion, commonly found in the lower lip due to chronic trauma or lip biting habits. Although various treatment modalities can be performed surgical excision is found to be common and knowledge of the dental surgeons about this is highly essential for well-being of the patient.

**Key words:** Mucocele, retention type, extravasation type, trauma.

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### **I. Introduction**

Mucocele is one of the common benign lesion of the oral cavity affecting the minor salivary glands. It is characterized by a cavity filled with mucus. They are usually single or multiple, painless, soft, smooth, spherical, translucent, fluctuant nodule and is usually asymptomatic.

Oral mucoceles are classified as extravasation or retention type. *The extravasation type* is a pseudocyst without defined walls and are caused due to mechanical trauma to the excretory duct of the gland leading to transection or rupture, with consequent extravasation of mucin into the connective tissue stroma and are seen frequently on lower labial mucosa, buccal mucosa and retromolar area; they are not lined by epithelial lining. *The retention type* is less common than extravasation, usually affects older individuals and is seen frequently on upper lip, hard palate, floor of mouth and maxillary sinus. In mucous retention phenomena, mucus may be retained in the duct and/or acini as a result of duct obstruction by sialolith or strictures. It has an epithelial lining.

Ranulas are variant of oral mucocele which are located in the floor of mouth. It usually arises in the body of the sublingual gland and occasionally in the ducts of Rivini or in the Wharton's duct.

The purpose of this retrospective study was to analyze the data to evaluate the predilection of age, sex, site, different clinical features of mucocele in oral cavity.

## II. Materials & Methods

A retrospective study on prevalence of mucoceles occurring in oral cavity based on clinical data of 30 patients who visited the dental department, Government Tiruvannamalai Medical College & Hospitals, Tiruvannamalai, Tamil nadu, India were recorded. The study variables included age, gender, location, color, etiology and dimension of the lesion.

## III. Results

During the period from August 2013 – February 2018 period, a total of 30 cases were diagnosed as mucocele based on the clinical features. The demographic data pertinent to the 30 cases are consolidated in table 1.

Case Number	Age (In years)	Sex	Location	Etiology	Duration	Colour of overlying mucosa	Size of lesion in cms
1.	29	M	LL -R	Unknown	2months	Normal	1x1
2.	24	F	LL- L	Lip biting	15 days	Normal	0.5x0.5
3.	14	F	LL -L	Lip biting	3 months	Normal	0.5x0.5
4.	12	M	LL -R	Unknown	15 days	Normal	0.5x1
5.	15	F	LL -R	Traumatic lip biting	20 days	Normal	1x1
6.	26	M	LL- L	Unknown	1 month	Normal	0.5x0.8
7.	12	M	LL- L	Unknown	2 months	Normal	0.5x0.5
8.	11	M	LL-R	Lip biting	2 months	Normal	1x1
9.	7	F	LL-L	Unknown	15 days	Normal	0.8x0.8
10.	13	M	BM-R	Cheek biting	3 months	Normal	0.5x0.5
11.	13	F	LL-L	unknown	2 weeks	Normal	1x1.5cm
12.	8	M	LL-L	Unknown	1 month	Bluish	0.5x0.5
13.	34	F	BM-L	Cheek biting	5 months	Normal	1x1.5cm
14.	12	F	LL-R	unknown	2 weeks	Normal	0.4x0.4
15.	18	F	LL-R	Unknown	15days	Normal	0.5x0.5
16.	11	M	LL-R	Lip Biting	3 months	Normal	1x1
17.	22	F	LL-R	Unknown	10days	Normal	0.5x0.5
18.	11	M	LL-R	Unknown	2months	Normal	1.5x1
19.	49	M	BM-L	Cheek biting	4months	Normal	0.5x1
20.	45	M	LL-L	Unknown	1year	Normal	2x2
21.	23	M	LL-R	Unknown	1month	Bluish	0.5x0.5
22.	6	M	LL-L	Traumatic lip	2months	Normal	1x1
23.	15	F	LL-R	Unknown	3months	Normal	0.5x0.8
24.	17	M	LL-R	Unknown	1month	Normal	1x1
25.	7	M	LL-L	Unknown	15days	Normal	0.5x0.8
26.	17	M	LL-R	Unknown	7days	Normal	0.8x0.8
27.	7	F	LL-R	Unknown	10days	Normal	1x1
28.	29	F	BM-R	Unknown	2months	Normal	1x1
29.	11	F	VST	Unknown	2months	Bluish	2x3
30.	13	F	VST	Unknown	3months	Bluish	1.5x1.5

M-Male,F-Female; LL-Lower Lip,R-Right,L-Left; BM- Buccal Mucosa; VST-Ventral Surface of Tongue;

In the present study, the age range was from 6 years to 49 years with mean age of 17.7 years, and duration of the lesion varied from 7 days to one year. There were 16 males (53.33%) and 14 females (46.66%).

The majority of cases (16 cases) were found to be in their second decade (53.33%). There was no major gender differentiation in first three decades. However in fourth decade only males (2 cases) were reported (3.33%).

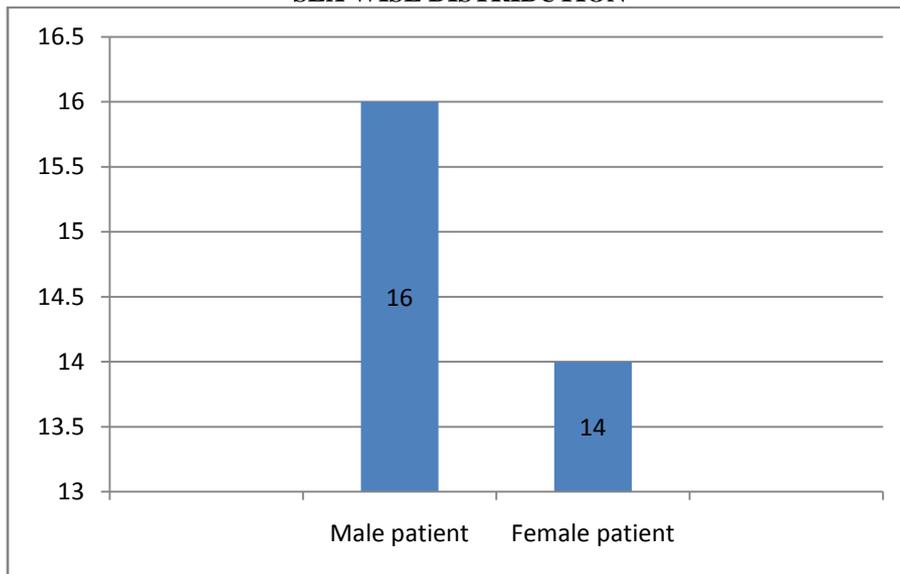
The lower labial mucosa was found to be the commonest affected site seen in 24 cases (80%), of which 13 cases was seen in right side of the labial mucosa (43.33%) compared to 11 cases on left side (36.66%). The second most common site is found to be in the buccal mucosa with 4 cases (13.33%) and 2 cases were seen in ventral surface of tongue (6.66%).

In present study, lesion with normal mucosal appearance was seen in 26 cases (86.66%) rather than the bluish color which was seen in only 4 cases (13.33%).

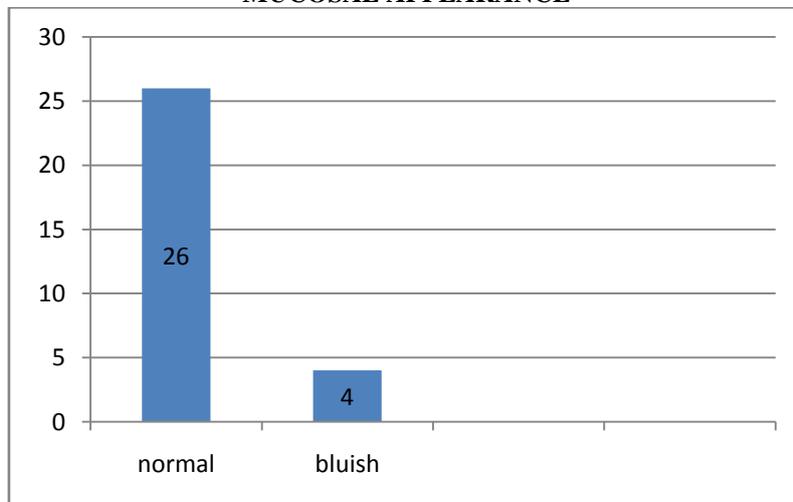
In 21 cases (70%) there was no known cause for the lesion, while history of traumatic biting was seen in 4 cases (13.33%) and habitual lip and cheek biting was seen in 5 cases (16.66%).

The size of most of the lesions was 1.5cm or less than 1.5cm as seen in 28 cases (93.33%), but in only 2 (6.66%) cases, the cysts are larger than 1.5cm.

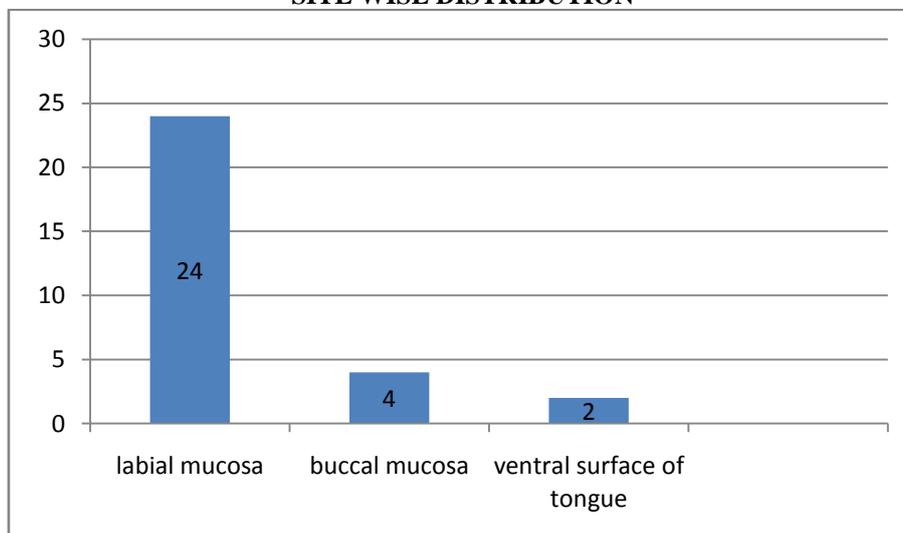
**SEX WISE DISTRIBUTION**

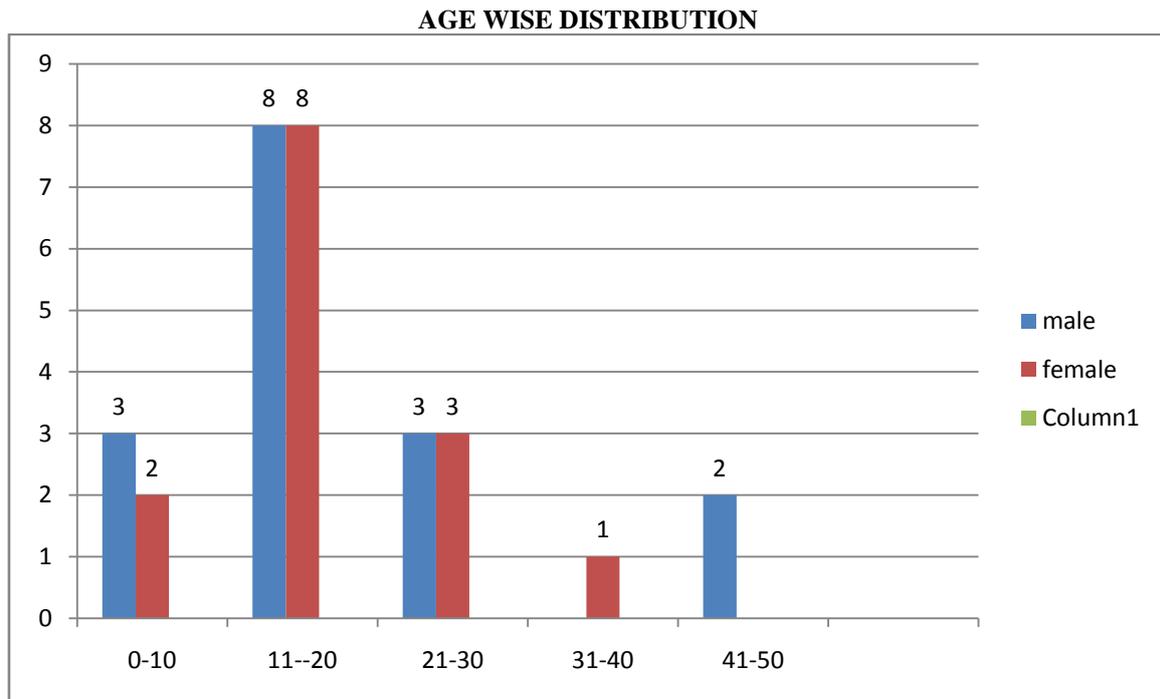


**MUCOSAL APPEARANCE**



**SITE WISE DISTRIBUTION**

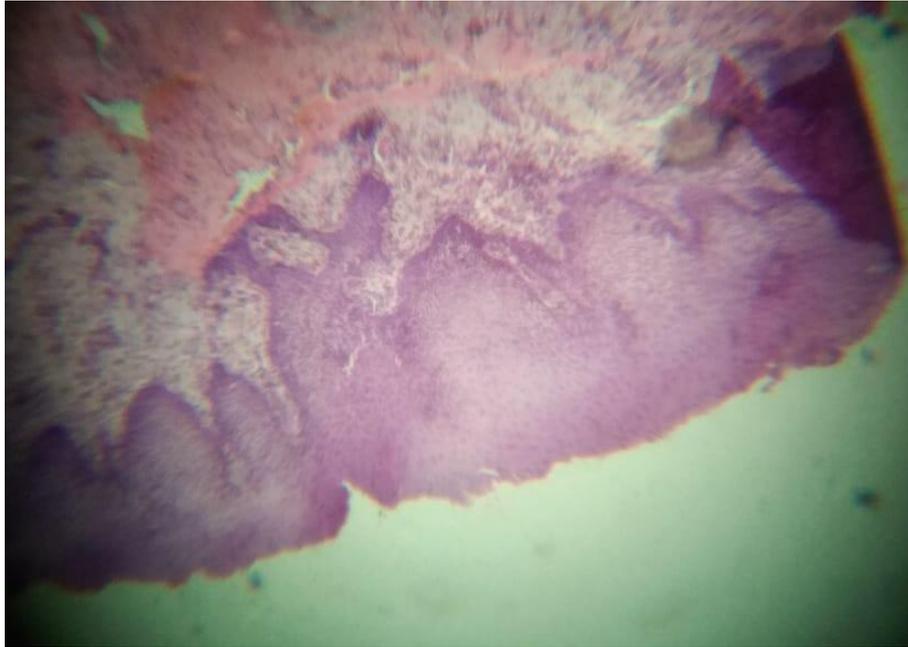




Age in years ->



**FIG 1. MUCOCELE**



**FIG 2. HISTOPATHOLOGY OF MUCOCELE SHOWING MUCOSAL EPITHELIUM BENEATH IT GRANULATION TISSUE WITH COLLECTED MUCIN AND INFLAMMATORY CELLS**

#### **IV. Discussion**

A mucocele or mucous cyst is a common, mucus-containing cystic lesion of the minor salivary glands in the oral cavity. The exact formation of mucocele is still not clearly known, however, mechanical trauma to the duct rather than obstructive phenomenon is favored. Chaudhry et al showed that the escape of mucus into the surrounding tissue after severing the excretory salivary ducts lead to the formation of the mucocele<sup>1,2</sup>.

Oral mucoceles are believed to affect patients of all ages, with children and teenagers are being commonly affected by mucoceles. Menta *et al.*, Yamasoba *et al.*, and Oliveira *et al.*, reported that more than 65% of their patients with oral mucoceles were less than 20 years of age<sup>3,4,5</sup>. In a 24 year Brazilian study<sup>6</sup>, 75.85% of the cases were diagnosed during the first and second decades of life, 49.42% of them during the second decade of life. Our findings simulated these findings with 53.33% of cases in second decade of their life.

In our study, slight male predominance is seen (1.14:1) compared to females which is similar to studies Jani et al<sup>7</sup>.

Salivary mucoceles can appear at any site of the oral mucosa where salivary glands are present. However, many studies have reported lower lip is the region that is most commonly affected by mucoceles apart from upper lip, buccal mucosa, retromolar region, dorsal surface of tongue.<sup>4,8</sup> In our study also 80% of the cases have mucocele in the lower labial mucosa, 13.33% of cases were seen in the buccal mucosa. This results implies that lower labial mucosa as the trauma-prone site and supports the role of trauma as an etiologic factor either in the form of sharp tooth cusp or biting habit where the psychological stress appeared as an initiating factor for the biting trauma. 2 of our cases have mucocele in the ventral surface of the tongue which are mucocele of the glands of Blandin – Nuhn at the age group of 11-13 years. This is similar to the studies of Rashid A, Anwar<sup>13</sup> which shows that mucoceles of the glands of Blandin – Nuhn are rare in adults and found to be prevalent in young adults.

Clinical presentation of mucoceles depends upon their depth within the soft tissue and the degree of keratinization of the overlying mucosa<sup>9</sup>. In the present study, lesion with normal mucosal appearance was seen in 86.66% of cases with 13.33% cases having bluish color appearance which matched with the studies of Paulo et al<sup>10</sup>.

The etiology of oral mucocele is not clear. Trauma and obstruction of salivary gland ducts are considered as important etiological factor. In majority of our cases (70%), we could not elicit the cause of mucocele although habitual lip and cheek biting history was given by some patients (16.66%). Based on the site of occurrence, trauma was considered as the main cause which simulated the findings of Lopez et al and Selim et al<sup>11,12</sup>.

Oral mucoceles of minor salivary glands are rarely larger than 1.5 cm in diameter and are always superficial. Mucoceles found in deeper areas are usually larger<sup>13</sup>.

It was significantly noted in this study that most of the mucoceles had diameter less than 1.5cm (93.33%), which simulated with the findings of Sebastian *et al.* and Flaitz *et al.*<sup>14,15</sup>.

Treatment for oral mucocele shall be either complete excision, marsupialization, cryosurgery, electrocautery etc., None of our patients showed any untoward complications associated with the mucocele removal. Although recurrence have been shown in studies, none of our cases were reported with recurrence.

## V. Conclusion

From this study we may conclude that mucocele is common in the second decade with no major sex redilection. We also found that the commonest site of mucocele is in lower labial mucosa and most of them are in normal mucosal color. Chronic trauma or biting habit appeared as the major etiological factor. This study has some limitations, like histological examination was not done in all the cases which limits the correct diagnosis of the type of the mucocele.

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