



## ORAL MUCOCELES: CLINICALLY RELEVANT FINDINGS IN A RETROSPECTIVE ANALYSIS

### Dental Science

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### ABSTRACT

**Objective:** To evaluate the features of oral mucoceles encountered by a single operator in multiple centres during a 7 year period.

**Method and Materials:** Clinical data (age, sex, aetiology, location, and size) of 100 cases of mucoceles in individuals ranging from 6 to 24 years of age in a 07 year period were analysed.

**Results:** The majority of the paediatric patients were in the Age group of 7 to 12 years. Males showed a predominance over females. Most commonly lower lip was involved (91%) followed by the upper lip (6%) and floor of the mouth (3%). Aetiology was lip biting in 56% children, trauma in 6% and in 38% children there was spontaneous development. The chief complaint in 12% cases was difficulty in speaking, in 28% cases difficulty in eating, in 48% cases was trauma due to lip biting and in 12% cases was a combination of all the above mentioned. In 20% patients the size was below 0.5cm, in 68% between 0.5 to 1 cm and in 12% patients above 1cm. Lesion manifested as a bluish swelling which was non-tender and fluctuant in 65%, nodular with normal mucosal colour in 32%, and as an ulceration in 3%. Histologically 97% belonged to extravasation type while 3% belonged to the retention type. All cases included in our study underwent surgical excision. 7% cases showed recurrence which were also managed surgically

**Conclusion:** Oral mucocele are one of the most common disorders of the minor salivary gland. The oral mucoceles most commonly appear as a bluish, non-tender, sub-mucosal swelling with normal overlying mucosa and are most commonly found on the lower lips. The size of a mucocele may vary from a few millimetre's to a few centimetres. Surgical excision with dissection of surrounding and contributing minor salivary glands has proved to be successful with least recurrence

### KEYWORDS:

oral mucoceles, mucus extravasation cyst, mucus retention cyst

### INTRODUCTION:

Mucocele (muco meaning mucous and cele meaning cavity) are cavities filled with mucous. An oral mucocele is one of the most common disorders of the minor salivary glands. The oral mucoceles most commonly appear as a bluish, non-tender, soft sub-mucosal swelling with a normal overlying mucosa and of all the sites on the face, are most commonly found on the lower lips. The size of a mucocele may vary from a few millimetre's to a few centimetres. They are classified histologically as mucus extravasation or mucus retention, depending on the presence of epithelial lining. The most common successful treatment reported in literature is surgical excision<sup>1,2</sup>.

### Method and materials:

Retrospective analysis of a 100 oral mucoceles during a seven year period from September 2010 to May 2017 was done. The age, sex, aetiology, site, size, clinical features, management and recurrence of the oral mucoceles were recorded.

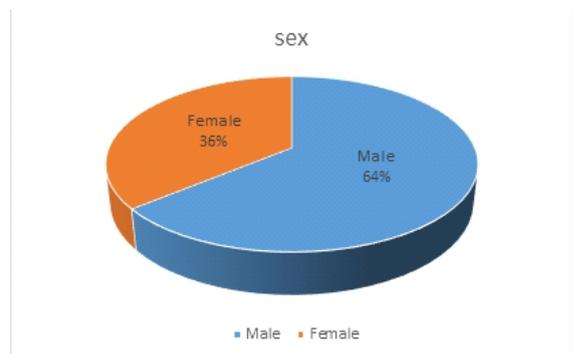
### Result:

A total of 100 paediatric cases of mucoceles were included in the study. The majority of the paediatric patients were in the Age group of 7 to 12 years (Table 1). Males showed a predominance (Pie chart 1) amounting for 64% as compared to 34% in females. Most commonly lower lip was involved (91%) followed by the upper lip (6%) and floor of the mouth (3%). Aetiology was lip biting in 56 children (56%), trauma in 6 children (6%) and in 38(38%) children there was spontaneous development (Table 3). The chief complaint in 12 (12%) cases was difficulty in speaking, in 28 (28%) cases difficulty in eating, in 48 (48%) cases was trauma due to lip biting and in 12 (12%) cases was a combination of all the above mentioned (Table 4). In 20 (20%) patients the size was below 0.5cm, in 68 (68%) between 0.5 to 1 cm and in 12 (12%) patients above 1cm (Table 5). Lesion manifested as a bluish swelling which was non-tender and fluctuant in 65 cases (65%), nodular with normal mucosal colour in 32 cases (32%), and as an ulceration in 03 cases (3%) (Table 6). Histologically 97 (97%) belonged to extravasation type while 03(3%) belonged to the retention type. All cases included in our study underwent surgical excision. Only 07 (7%) cases showed recurrence which were also managed surgically.

**Table 1. Age of 100 paediatric oral mucocele cases**

| Age (years) | Number | Percentage (%) |
|-------------|--------|----------------|
| 6           | 4      | 4              |
| 7           | 13     | 13             |
| 8           | 15     | 15             |
| 9           | 15     | 15             |
| 10          | 13     | 13             |
| 11          | 10     | 10             |
| 12          | 11     | 11             |
| 13          | 5      | 5              |
| 14          | 6      | 6              |
| 15          | 5      | 5              |
| 16          | 3      | 3              |
| Total       | 100    | 100            |

**Pie chart 1. Male and Female Ratio**



**Table 2: Site of oral mucocele**

| Site             | Number of cases |
|------------------|-----------------|
| Cheek            | Nil             |
| Lower lip        | 91              |
| Upper lip        | 6               |
| Floor of mouth   | 3               |
| Palate           | Nil             |
| Retromolar fossa | Nil             |
| Tongue           | Nil             |

**Table 3. Aetiology**

| Aetiology of mucocele |     |
|-----------------------|-----|
| Lip biting            | 56% |
| Trauma                | 6%  |
| Spontaneous           | 38% |

**Table 4. Chief complaints**

|                                   |     |
|-----------------------------------|-----|
| Difficulty in speaking            | 12% |
| Difficulty in eating              | 28% |
| Repeated trauma due to lip biting | 48% |
| All of the above                  | 12% |

**Table 5. Size of oral mucocele**

| Size of mucocele |     |
|------------------|-----|
| < 0.5 cm         | 20% |
| 0.5 -1cm         | 68% |
| > 1cm            | 12% |

**Table 6. Clinical Features of oral Mucoceles**

|  |     |
|--|-----|
| Bluish translucent non-tender and fluctuant swelling | 65% |
| Nodular swellings with normal mucosal colour         | 32% |
| Ulceration   | 3%  |

**Discussion:**

Mucocele (muco meaning mucous and cele meaning cavity) are cavities filled with mucous. Oral Mucoceles are usually asymptomatic. The complaints of children with mucocele varies from interference of speech to difficulty in chewing to repeated trauma to lip. The etiology in children is usually lip biting, trauma or spontaneous development<sup>1,2</sup>. Males showed a predominance in our study however literature suggests that it is usually seen equally in both the sexes. The most common site in our study was the lower lip which is similar to other studies by Oliveira et al, Chaudhry et al and Cohen et al<sup>1,3</sup>. They are primarily of two types, extravasation and retention type. Extravasation type is due to the leaking of fluid from a damaged salivary gland ducts and acini into the surrounding tissues. This type of mucocele is seen in minor salivary glands. Retention type mucocele is due to the blockage of salivary gland duct and is seen in major salivary gland ducts. It is a soft and fluctuant asymptomatic swelling with rapid onset which may resolve spontaneously. The deep blue colour results from tissue cyanosis and vascular congestion associated with the stretched overlying tissue and the translucent accumulated fluid. It is fluctuant and movable because of its mucinous contents. Sizes may vary from a few millimetres to a few centimetres. The case history and an objective examination of the lesion are crucial for diagnosing oral mucoceles correctly. In particular cases, the diagnosis may require traditional ultrasonography, or advanced diagnostic methods like computed tomography and magnetic resonance imaging. Fine-needle aspiration is a useful diagnostic technique for evaluating patients with salivary gland nodules and enlargement. Differentiating between mucoceles and vascular lesions preoperatively is very important, because large angiomas mistaken for mucoceles can result in major bleeding, if removal attempted surgically. Fine-needle aspiration biopsy (FNAB) can be done when differential diagnosis of angiomas is suspected. The differential diagnosis which can be considered are benign or malignant salivary gland neoplasms, Oral Hemangioma, Oral Lymphangioma, irritation fibroma, gingival cysts and Soft tissue abscess. In retention type oral mucoceles cystic cavity with well-defined epithelial wall, covered with cuboidal cells are present with minimal inflammatory reaction. The extravasation type was pseudocyst without epithelial wall and shows inflammatory cells and granulation tissues with high amylase and protein content<sup>4,5</sup>. Conventional surgical removal is a most common method used to treat this lesion. Other treatment options include CO2 laser ablation, cryosurgery, intralesional corticosteroid injection, marsupialization and electro cautery<sup>5,6</sup>. While removing the mucocele surgically it is important to remove the surrounding glandular acini, down to the muscle layer avoiding the adjacent gland and duct damage while placing the suture. This will reduce the chances of recurrence.

**Conclusion:**

Oral mucocele are one of the most common disorders of the minor salivary gland. The oral mucoceles most commonly appear as a bluish, non-tender, sub-mucosal swelling with normal overlying mucosa and are most commonly found on the lower lips. The size of a mucocele may vary from a few millimetre's to a few centimetres. Surgical

excision with dissection of surrounding and contributing minor salivary glands has proved to be successful with least recurrence, however newer and more advanced management techniques are presently under study.

**Pictures:****REFERENCES:**

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