

Non Surgical Management of Mucocele with Intralesional Steroid

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Abstract: *Background:* Mucocele is the most common condition of the oral cavity and is benign in nature. It results from the alteration of minor salivary glands secondary to accumulation of mucous secretion. *Materials and Methods:* This is an interventional study, conducted at Stanley government medical college, Chennai, from April 2018 to April 2019. 10. Patients with oral mucocele were included in the study. All the patients were injected intralesional steroid – 1 ml (4mg/ml) of betamethasone at weekly intervals. *Results:* Out of 10 patients included in the study, 7 patients belonged to the age group of 20- 29 years and 3 patients belonged to 3rd decade. The most common site of the mucocele observed was lower lip mucosa followed by upper lip and buccal mucosa. Out of 10 patients, 8 patients showed complete regression of the mucocele at the end of 6 weeks of intralesional steroid injection and 2 patients had only reduction in the size of the lesion. Near complete regression was seen in those patients at the end of 10 weeks treatment. *Conclusion:* Oral mucoceles are most commonly seen in lower lip mucosa, and in young age. Intralesional corticosteroid injections at weekly intervals are the less invasive intervention with least side effects.

Keywords: Salivary gland, lower lip, cyst, intralesional, betamethasone

1. Introduction

Mucocele is a benign condition most commonly seen in oral cavity. The most common etiological factor is mechanical trauma to the duct of salivary gland. There are two types of cysts which are retention and extravasation. Mucocele manifest as single or multiple nodules which is soft in consistency, bluish in colour occurring most commonly in the lower lip. Surgical management is the most common treatment. Whereas, intralesional injection of corticosteroid is the promising choice of treatment with least side effects.

2. Materials and Methods

This Study was conducted from April 2018- April 2019 at Stanley government hospital, Chennai. A total of 10 cases who had mucocele in the oral cavity were included in the study. Diagnosis was made clinically. 3 out of the 10 patients had history of more than 2 episodes of mucocele. Patients were explained about the procedure and informed consent was obtained. The procedure was done by the following method. Topical anaesthetic cream was applied over the site 1 hour before the procedure. Under strict aseptic precaution, using 18- Gauge needle and syringe the cyst was aspirated and the mucus was removed. This was followed by injection of 1ml of Inj. Betamethasone (4mg/ml) using insulin syringe. Injection was given very slowly into the base of the cyst. Patients underwent the same procedure every week for a period of 6 weeks. All the patients were examined for the reduction in the size of the lesion each week. 8 out of 10 patients had complete regression of the cyst by the end of 6 weeks. The remaining 2 patients had only reduction in the size of the lesion. Those 2 patients received 4 more weeks of intralesional injection of betamethasone after which near complete regression of the cyst was seen in them. All the patients were followed up for 6 months to find recurrence of mucocele.

3. Results

Out of 10 patients, 7 belonged to the age group of 20- 29 years and the remaining 3 patients were in the 3rd decade.

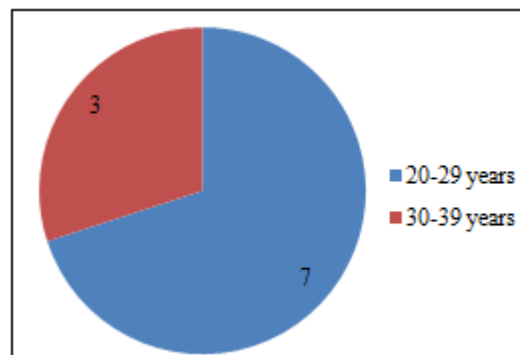


Figure 1: Age distribution

All the 10 patients were males. Out of 10 patients, mucocele was seen on the lower lip mucosa in 7 patients. Lower lip was the commonest site found followed by buccal mucosa and upper lip. 2 patients had mucocele on the buccal mucosa and 1 had on the mucosal surface of upper lip.

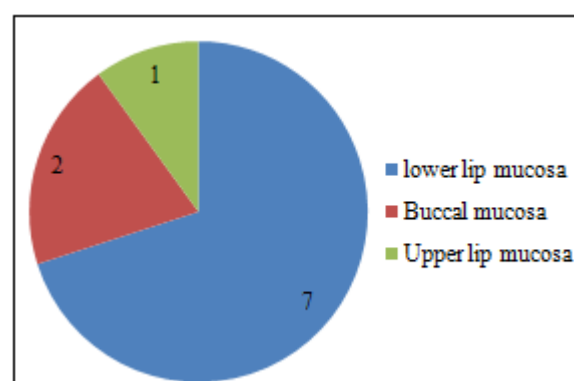


Figure 2: Site of the mucocele

Intralesional steroid injection was given at weekly intervals as explained above. All the patients were examined carefully every week for the reduction in size of the lesion. 8 patients showed complete regression of the cyst. Out of those 8 patients, 4 patients had reduction in the size of the cyst from 1st week of injection and they had complete regression at the end of 4 weeks. The remaining 4 patients showing reduction in the size from 3rd week of intralesional steroid

injection and they had complete regression of the cyst at the end of 6th week.

| Improvement | No. of Patients |
|--------------------------|-----------------|
| Complete regression | 8 |
| Near complete regression | 2 |

| Complete Regression AT | No. of Patients |
|------------------------|-----------------|
| 4 weeks | 4 |
| 6 weeks | 4 |

Two patients had only reduction in the size of the lesion but not complete regression. They received weekly treatment for 4 more weeks, after which the lesions had near complete regression. All the patients were followed up monthly for 6 months and found no recurrence. Patients did not have post procedure complications except pain and mild bruising.



Picture 1 and 2: Showing mucocoele before starting treatment and complete resolution of lesion at the end of 6 weeks of treatment

4. Discussion

The term mucocoele was derived from a latin word (muco - mucus and coele - cavity), which means they are cavities that are filled with mucus. Oral mucocoeles are soft tissue masses that are benign in nature^[1]. They represent the 17th most common lesion involving the oral cavity^[2]. Other than oral cavity mucocoeles are also seen in appendix, gallbladder, paranasal sinuses, and lacrimal sac^[3]. Mucocoeles are clinically defined as single or multiple soft nodules, translucent or bluish in colour, with smooth surface and are painless^[1]. There are two histological types of mucocoele – Retention and extravasation types. Out of these two, extravasation type is the commonest. Mucus extravasation type occurs as a result of trauma, such as lip biting. It occurs due to leaking of fluid from ducts or acini to surrounding tissue. This type is commonly found in the minor salivary glands. Mucus retention type results from the obstruction of the duct of a minor salivary gland^[4].

Within the oral cavity, mucocoele is most frequently seen in the mucosa of lower lip. It can also develop in the cheek, tongue, palate, and floor of the mouth, where it is called as ranula^[5].

Diagnosis is made based on clinical findings based on the location of the lesion, history of trauma, sudden appearance of the lesion with variations in size, color, and the consistency of the lesion on palpation^[6].

Investigations help in ruling out the differential diagnoses. The fine needle aspiration cytology helps in demonstrating the mucus retention type. The protein content and high amylase can be seen in chemical analysis. The localization of the origin of the lesion can be found by computed tomography and magnetic resonance imaging^[7].

Various treatment options are available for mucocoele. This includes surgery, laser ablation, cryosurgery, micromarsupialization, and intralesional injection of sclerosing agent or corticosteroid^[8].

Corticosteroids are potent anti-inflammatory agents. It inhibits the expression of multiple inflammatory genes which encodes cytokines, chemokines, adhesion molecules, inflammatory enzymes, receptors, and proteins. Corticosteroids can increase the transcription of genes encoding anti-inflammatory proteins such as lipocortin-1, interleukin-1, and interleukin-10 receptor antagonist^[8]. They also act like a sclerosing agent which causes shrinkage of the dilated salivary ducts^[9].

Surgical procedures are most commonly used. But these procedures carry their own disadvantages such as pain, trauma and disfigurement to lip damage to neighbouring structures and ducts etc^[10,11]. Intralesional corticosteroid treatment is the non surgical and safe procedure.

5. Conclusion

Intralesional corticosteroid injection is the safest treatment option for mucocoele. It is more convenient, cost effective, this modality has least side effects. To conclude,

intralesional corticosteroid can be considered as the first choice of treatment for mucocele

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