

## CASE REPORT

## A Novel Approach for Excision of Mucocele –Painless Procedure using Elastomeric Impression Material and Laser

Aum B Joshi<sup>1</sup>, Rajmohan Shetty<sup>2</sup>, Amitha M. Hegde<sup>3</sup>

### ABSTRACT

**Introduction:** Mucocele a common lesion of the oral mucosa, Originates from the rupture of a salivary duct and extravasation of the mucin into the surrounding soft tissues. They have a typical rounded, well circumscribed transparent and bluish-colored appearance and are characterized by the small accumulation of liquid or mucoid material, giving rise to a variable size. They are soft and fluctuant in response to palpation. Also painless and tend to relapse more. Mucoceles are usually asymptomatic, and may cause discomfort by interfering with speech, chewing or swallowing. There are three possible surgical approaches to manage mucoceles of the lips, cheeks, and palate – complete excision, marsupialization and dissecting

**Case Report:** A needle with an empty syringe was inserted into the lesion, the fluid was sucked into the syringe, immediately another syringe filled with elastomeric impression material was attached to the needle and the material was injected in to the lesion. Later excision was done with Laser.

**Conclusion:** The technique we used was pain less. The lesion was easy to excise with this method. Modifications can be done in the technique based on experiences.

**Keywords:** Mucocele, Impression material, laser Excision.

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### INTRODUCTION

Mucocele a common lesion of the oral mucosa, Originates from the rupture of a salivary duct and extravasation of the mucin into the surrounding soft tissues.<sup>1</sup> Usually mucoceles are nodular or small vesicobullous lesions, fast growing initially and their size vary afterwards. Usually the appearance is a bluish color with a translucent aspect and a flabby consistency.<sup>2</sup> They are commonly found in young people, frequently associated with such areas that are subject to trauma. The most common site is usually the lower lip. However, they can be found in any region such as the tongue, buccal mucosa, superior lip, and palate. They have a typical rounded, well circumscribed transparent and bluish-colored appearance and are characterized by the small accumulation of liquid or mucoid material, giving rise to a variable size. They are soft and fluctuant in response to palpation. Also painless and tend to relapse more.<sup>3</sup>

The incidence is 2.5 lesions per 1000 individuals. They are the most common minor salivary gland disorder, and they represent the second most common benign soft tissue tumors of the oral cavity.<sup>2,4,5</sup>

Mucoceles usually secrete predominantly mucous saliva and hence you will find these lesions in the minor salivary glands, throughout the oral submucosa, except in few areas like the attached gingival regions and in the anterior region of the back of the tongue.<sup>6</sup> Major salivary glands are hence least affected. Mucoceles which are seen in the floor of the mouth in turn are referred to as “ranulas” because of similar appearance to swollen mouth of a frog.<sup>2</sup> In such cases the sublingual glands are affected and they usually contain mucus. There have been reports of mucoceles of the submaxillary glands.<sup>7</sup> Etiologically, they are secondary to traumatic or obstructive disorders of the minor salivary glands.<sup>3</sup>

The lesions are classically divided into retention mucoceles and extravasation Mucoceles.<sup>2</sup> The former are less frequent and are seen particularly in adult patients.

Retention mucoceles are well defined cystic lesions with an epithelial wall lined with cuboid or squamous cells. In contrast, extravasation mucoceles account for over 80% of all other mucoceles, and are common in age under 30 years of age. They are in true sense pseudocysts lacking a well defined wall, and are composed of compressed elements of the surrounding connective tissue, and inflammatory components.<sup>2,8</sup> These two types of mucocele show typical locations: retention mucoceles are uniformly distributed throughout all the minor salivary glands, while extravasation mucoceles are in large number located in the lower lip (80%).<sup>6</sup>

Mucoceleles are usually asymptomatic, and may cause discomfort by interfering with speech, chewing or swallowing.<sup>2</sup> However, in most cases they rupture spontaneously or traumatically and reform in few hours after being formed.<sup>4</sup> This may seem to appear like healing of the lesion but it may decrease in size or disappears. However, the secretions may accumulate again, and the lesion relapses. On the other side, in the cases of repeated trauma, the lesion may become nodular and firmer, in this situation rupture will be more difficult.<sup>6,9</sup> Mucoceles do not obstruct the salivary flow, and the amount of fluid in the lesion is limited by the elasticity of the surrounding tissues. Because of which, although these lesions can become quite large, they are usually of small size. As regards treatment, surgical removal is required in most cases.<sup>4,9</sup>

The main objective of this case report was to evaluate a novel technique of resection of Mucocele from the lower lip with the help of laser after injecting light body impression material in to the lesion

## CASE REPORT

A male child of age 9 years visited our department of Pedodontics and preventive dentistry with a chief complaint of small nodule on the lower lip. On clinical examination, the lesion was diagnosed to me a Mucocele (retention cyst). The nodule had a bluish hue and was filled with fluid. (Figure-1)

The treatment options were considered and finally a novel approach to easily excise the lesion was planned. This technique was pain less.

## TECHNIQUE

### Instruments and Materials

Topical LA Gel Pascal precaine Strawberry flavour, 22 gauge Needle and two syringes, Guaze, saline, Laser-Diode laser Picaso and Reprasil VPS impression mate-

rial from Dentsply.

Informed consent from the patient was obtained. Topical Gel was applied on the lower lip (Precaine anesthetic gel), 22 gauge needle was kept ready. A 22 gauge needle with an empty syringe was inserted into the lesion (Figure 2), the plunger was pulled and the fluid was sucked into the syringe, keeping the needle in the lesion carefully, the syringe was removed (Figure 3), immediately another syringe filled with elastomeric impression material was attached to the needle and the material was injected in to the lesion. (Figure 4)

The lesion swells up and become taut. The lesion was easy to hold due to the elastomeric impression material. (Figure 5) The laser equipment was connected (in our case – Picaso diode laser), Laser goggles were given to patient as well as to the assistant and the lesion was excised from the margins carefully. (Figure 6,7) The procedure was complete and the lesion was sent to the pathology lab for investigation. (Figure 8) The Lab reports had confirmed it to be Mucocele.

## DISCUSSION

The surgical approach to mucoceles and ranulae is the most common treatment and depends on various factors: the size of the lesion is the most important. There are three possible surgical approaches to manage mucoceles of the lips, cheeks, and palate.<sup>1</sup>

- 1) Complete excision
- 2) Marsupialization
- 3) Dissecting

Cryosurgery is another effective method. The procedure uses a gas expansion cryoprobe with a 10-mm-diameter round tip. Carbon dioxide (CO<sub>2</sub>) lasers have been successfully used to treat various soft tissue pathologies in oral and maxillofacial surgery.<sup>9,10</sup> Various techniques can be used to excise the Mucocele, the most common complaint regarding the treatment is the nodular mass. The mass is difficult to hold and if excess pressure is applied, chances of spillage are more.

In our technique, we have used a syringe to pull out the fluid and keeping the needle in the lesion, we have injected light body impression material in to it. You can see the difference in the lesion before the material was injected and after the material is injected.

It is visibly easy to cut the taut Mucocele. One of the painless techniques to remove any tissue is laser, so we have used diode laser to cut the taut Mucocele.

The procedure was carefully done and local anesthesia was not used, only the topical gel was applied on the surface

**A novel approach for excision of Mucocele – Painless procedure using elastomeric impression material and laser – A case report**



1 - Preoperative



2 - Needle with Empty Syringe inserted into the lesion



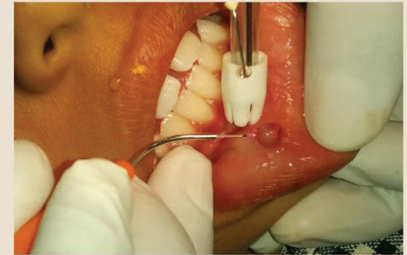
3 - The fluid is sucked and the syringe is removed, keeping the needle in place carefully



4 - The syringe with light body impression material is connected to needle and injected into the lesion



5 - Lesion filled with Impression material. Taunt and easy to demarcate the margins



6 - laser assisted removal of the lesion



7 - Postoperative



8 - Mucocele with the impression material

## CONCLUSION

There are many approaches to treat the lesion – Mucocele of lower lip. It also depends on the expertise of the operator. We have used this technique and it was easy to excise after the injection of the impression material.

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