



Excision of Mucocele of Lower Lip Using Soft Tissue Laser: A Case Report

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Abstract

The term “Mucocele” originates from Latin words mucus which means fluid and coele which means cavity. It is defined as the accumulation of mucus in the oral cavity’s subepithelial tissue secreted from salivary glands and their ducts [1]. It is a frequently occurring salivary gland lesion which is seen in the oral cavity. They occur as mucus extravasation and mucus retention type. They may be obstructive in nature and occur due to trauma to a minor salivary gland duct which results in pooling in the epithelial tissue [2]. Clinically, a mucocele appears as a typical blue colored dome shaped swelling which is soft in consistency and contains salivary fluid. It lies superficial or deeply attached to the tissues.

Management of mucocele includes surgical removal, marsupialization, micro marsupialization, cryosurgery, laser vaporization, and laser excision. Recently, high - intensity lasers have been proven to be more beneficial than conventional surgery as it causes prompt hemostasis, minimal blood loss and reduced healing time of the site.

Keywords: Soft Tissue; Mucocele; Lower Lip

Case Report

A 17 - year - old female patient reported to the department of Oral Medicine and Radiology, D. Y Patil Deemed to be University School of Dentistry with a chief complaint painless swelling over the lower lip since last one month. Patient gave history of accidental lip biting during mastication, a month after which the swelling appeared. The swelling was asymptomatic and had gradually increased to the present size. The medical and family history provided of the patient were non contributory to the present case.

Intraoral examination showed a 0.5 × 0.5 cm sized solitary and roughly round swelling present over the right lower labial mucosa and buccal mucosa in the corner of the mouth region. The color of the lesion was the same as the adjacent mucosa. The swelling

was non tender and fluctuation test was positive. Occasionally the swelling interfered with mastication and caused discomfort.

Based on the history given by the patient and clinical appearance of the lesion, a provisional diagnosis of Mucocele was made. An informed consent was taken from the patient as she was informed about the treatment procedure. Routine blood investigations were performed and they were within the normal range. The lesion was excised using a soft tissue diode laser (BIOLASE Epic™) in pulse mode with contact with the lesion edges under local anesthesia and with the use of protective armamentarium. No suturing was done. Post operative medications, Amoxicillin (500mg) and Paracetamol/Acetaminophen and Serrati peptidase were prescribed for a period of 5 days from the day of surgery. The

instructions were given to the patient that included maintenance of the surgical site, soft diet and maintenance of oral hygiene. A follow up after 3 days, 1 week and at the end 1 month was done. The patient reported no pain or discomfort following the surgery. The lesion healed completely with no recurrence.

Discussion

Mucoceleles are seen in 0.4% to 0.8% of the general population with minimal difference between males and females [3]. They are painless, asymptomatic swellings that are fluctuant because of mucinous content. Mucocele is the most common salivary gland disorder and is second most common benign soft tissue tumor in the oral cavity [4]. According to Cohen, et al. 82% of the lesions are prevalent on the lower lip followed by 8% in the buccal mucosa and 3% in the retromolar area [5]. The differential diagnosis should include pathologies associated with the adipose tissue, blood vessels, nerves, connective tissue and salivary glands, namely, mucocele, fibroma, lipoma, mucus retention cyst, sialolith, phlebolith, salivary gland neoplasm, haemangioma and varices, specially when present in the lower lip region [6]. Mucoceleles have a bluish tinge to their surface and they blanch under digital pressure, this helps to distinguish them from other pigmented lesions such as haemangiomas, nevi, hematomas and melanomas [7].

The extravasation and retention type are formed as a result of mechanical trauma to the minor salivary glands causing rupture of their ductal system which causes the mucin to spill into the adjacent soft tissues [8]. Clinically there is no difference between extravasation and retention type of mucoceleles. When present in the floor of the mouth it is called as ranula as it appears as the underbelly of a frog [9].

Depending upon their size and location, mucoceleles may cause external swelling and may also interfere with mastication, swallowing, and speech and cause discomfort to the patient. Histopathological examination reveals formation of well - circumscribed, cyst - like space surrounded by granulation tissue and the presence of mycetophagids in the collapsed wall of granulation tissue.

Treatment of mucocele should include complete resection of the lesion in order to prevent its recurrence. The feeder and neighboring glands should be excised along with the pathological tissue to prevent any chances of relapse. Treatment of mucocele

includes complete surgical and laser excision, marsupialization, micro marsupialization, sclerotherapy with corticosteroids and cryosurgery [10].

Recently, soft tissue lasers have been advocated for the treatment of mucoceleles. They provide satisfactory results with low recurrence rates and are well tolerated by the patients. The main advantages of soft tissue lasers are minimal intraoperative bleeding, reduced surgical time and accelerated healing time. The wound heals with minimal scarring. This procedure does not require suturing due to protein denaturation caused during the contact of laser with the soft tissues [10].



Figure 1 and 2: Shows presence of a solitary and roughly round swelling present over the right lower labial mucosa and buccal mucosa in the corner of the mouth region suggestive of a mucocele.



Figure 3: Shows the post excision site.



Figure 4: Shows complete healing post 1 month.



Figure 5: Shows the soft tissue diode laser used in the treatment.

Conclusion

Mucocele is one of the most common benign lesion of the oral cavity. It is self limiting in nature. Most commonly it is associated with trauma and removal of the cause is an important aspect in the management of it to avoid relapse. Most of tenly it can be diagnosed clinically however sometimes biopsy is required to rule out any neoplasm and other lesion. The present case report advocates the use of using soft tissue diode laser for the treatment of mucocele as it requires minimal anesthesia, causes minimal blood loss and accelerates the healing of the surgical site. Further studies with more follow up would be useful in order to warrant the advantages of using laser for the treatment of mucocelles and prove its utility in the field of dentistry.

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