

## Mucocele on ventral surface of tongue: A Unique case report

**Abstract :** Mucocele is a one of the most common oral lesions resulting from mucous accumulation in the minor salivary glands. The extravasation mucocele is most commonly located in the lower lip whereas retention mucoceles can be found at any other site. Treatment frequently involves surgical removal in addition to Micro marsupialization, cryosurgery, steroid injections and lasers. In this case report diode lasers are considered as treatment of choice as the mucocele was resting very near to the lingual artery. The use of a diode laser appears to present a good alternative treatment to remove mucocele in paediatric patients.

**Key words:** Mucocele, Diode LASER, Lingual artery, Mucous extravasation cyst, Ventral Surface

### Introduction:

The mucous retention phenomenon, which is generally conceded to be of traumatic origin, is a lesion involving salivary glands and their ducts[1]. The common lesion involving the minor salivary glands are the mucoceles. It is a rare occurrence in the major salivary glands[2]. Minor salivary gland mucoceles mostly involve the lower lip (60% to 70%); and sometimes the floor in 6% to 15% of cases[3]. It affects both genders, with peak incidence among children and young adults. It is prevalent in second decade of life with no sex predilection.

### Case Report:

A 11-year-old female patient reported to the Department of the Paediatric and Preventive dentistry with the chief complaint of fall from bicycle and injury in the upper front tooth region a week ago with difficulty in speech and mastication. On intra oral examination a round, solitary, fluctuant unilateral swelling of pink colour with bluish tint in centre was seen, measuring approximately 3 × 1 cm in dimension. The lesion was in near vicinity to the lingual vein. It was soft fluctuant, had a transparent hue, was seen with no history of bleeding or

any discharge. There was no visible pulsation. On palpation, it was fluctuant and non-tender. Medical and Dental history was non-contributory. The swelling was initially small which increased gradually to attain the present size. Based on the history taken and clinical examination, a provisional diagnosis of “mucocele” was made.

Treatment plan was thoroughly explained, informed consent was taken from the patient's guardian. The Treatment was performed with a soft tissue diode laser under local anaesthesia (2% lignocaine with 1:80000 epinephrine). {figure 1}

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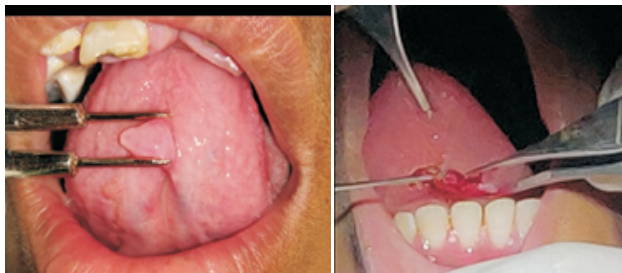
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**Received :** Sept. 2020, **Published :** 30 April 2021

Access this article online	
<b>Website:</b> www.ujds.in	<b>Quick Response Code</b> 
<b>DOI:</b> https://doi.org/10.21276/ujds.2021.7.1.25	

**How to cite this article:** Surabhi Mohase, Binti Rani Chand, Rajesh Kumar, Khushboo Badjatya & Abhilasha Manker (2021). A Mucocele on Ventral Surface of Tongue: A Unique Case Report. UNIVERSITY JOURNAL OF DENTAL SCIENCES, 7(1) 124 - 126

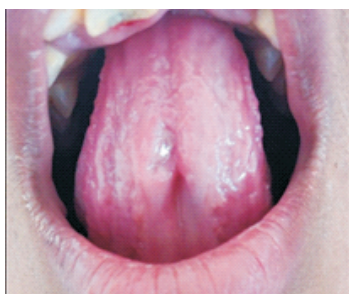


a. Mucocele located on the ventral surface of tongue  
 b. Excision of the lesion using laser

Before and during laser therapy, the surface was cooled with physiological solution (saline) to protect the superficial tissues from damage. {Figure 2} Lesion was excised under local anaesthesia, using 300 µm tip diameters at 0.8-1.2 W in continuous mode and the charred tissue was removed gently in between the procedure to minimize the heat produced in the local area. Initially, 3 applications were made, each of 20 seconds, to obtain an analgesic effect the laser tip was kept at a distance of 1 cm in the surgical area. {figure 3}



c. After excision no bleeding was seen



d. 15 days postoperative view

Healing was uneventful with no adverse effects (bleeding, oedema, and paraesthesia). The surgical wound completely healed in 12 days. {figure 4} The biopsy sample was immediately fixed in 10% formalin and sent for histologic evaluation. The pathology reported the section shows well circumscribed cavity in the connective tissue stroma which is not lined by epithelium. The wall of the cavity is lined by compressed fibrous connective tissue and fibroblasts; The lumen of cyst like cavity shows mucin like material.

### Discussion:

A mucocele is a benign, mucus-containing cystic lesion of the minor salivary gland. This type of lesion is most commonly referred to as mucocele[1]. The mucus extravasation cyst is more common than mucus retention cyst. On systematic clinical and radiographical examination and considering different possible diagnosis like mucus retention cyst, lipoma, mucoepidermoid carcinoma (low grade), and sialolith, a final diagnosis of mucocele was made. It has low incidence in infants under one year of age(2.7%). Jin et al., reported that diode laser is considered a good cutting device for oral mucosa.[4] Differential diagnosis of dorsal tongue swellings includes lingual ectopic thyroid, thyroglossal duct cyst, dermoid/epidermoid cysts as well as granular cell tumour, lymphangiomas and hemangiomas.[4] The clinical appearance of a mucus cyst is a distinct, fluctuant, painless swelling of the mucosa. Most of the lesions (75%) are smaller than 1 centimetre although some can extend from few millimetres to several centimetres in diameter. Bluish to translucent hue takes place on the superficial lesions, whereas normal mucosal coloration can be seen on deep lesions and haemorrhage into the swelling may impart a bright red and vascular appearance. The history of the patient and clinical findings lead to the diagnosis of a superficial mucocele.

The Diode Laser was very help tool in this case. The tissue temperature is regulated using air and water to cool the surgical site in the diode Laser. The laser mkes mucocele removal more suitable than a surgical procedure especially for paediatrics and less cooperative patients. Since the mucocele was in the close vicinity to the lingual artery, there was high chance of getting the lingual artery affected resulting in paraesthesia, uncontrolled bleeding, making the child more irritant. George et al. reported that clinical application of the diode laser in oral and maxillofacial surgical procedures seems to be of beneficial effect for daily practice.[5] Abdul et.al found the Diode laser to be a good alternative to conventional modalities for the management of mucus extravasation cysts.[6] M. Paglia et. al reported that the diode laser is not only a valuable tool for mucocele eradication but it also reduces relapses, credited to the characteristics of the laser light.[7]

The use of a diode laser appears to present a good alternative treatment to remove mucocele in paediatric patients. Lasers offer a simple and safe in-office substitute for surgeries in children while reducing the chances of infection, swelling,

discomfort, and scarring. Treatment using lasers has caught attention in paediatric dentistry too, as it requires less cooperation from the children. The Surgical excision of mucocele can be considered advantageous by using diode laser with respect to ease of operation, bloodless operating field, reduced bacteraemia, haemostasis, instant sterilization, little wound contraction, and acceptance by the child.[8] For small lesions no sutures are required at the end of the surgical procedure.[9]

### Conclusion:

This case report is unique as the mucocele was very near to the lingual vein which is why surgical excision through diode laser was planned. The diode lasers have been effective in treatment of mucocele in the case reports as it requires minimum use of anaesthesia, less bleeding, no scarring, no postoperative discomfort, more patient acceptance, and most importantly it is precise and provides a sterilized field.10

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