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Dentistry

MUCOCELE OF UPPER LIP-CASE REPORT OF AN UNUSUAL PRESENTATION

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ABSTRACT Mucocele ranks as the 17th most often reported condition in terms of salivary gland lesions very rarely seen on upper lip. The literature outlines a number of treatment techniques for treating mucocele lesion, including carbon dioxide (CO_2) and laser ablation, intralesional corticosteroid injection, cryosurgery, surgical excision using a scalpel, electrosurgical unit & marsupialization. In this case report we have performed the excision of mucocele using electrosurgical unit according to the convenience of patients and psychology, electrosurgical units is an excellent choice of treatment technique since they minimize the patient's anxiety while causing little hemorrhage.

KEYWORDS :

INTRODUCTION

The word "mucocele" corresponds with the Latin words "coele," referring to cavity, & "mucus," that refers mucus [1]. Oral cavities, appendices, gall bladders, paranasal sinuses, and lacrimal sacs are all potential locations for the development of mucocele, a fluid cyst. In terms of salivary gland lesions, mucocele ranks as the 17th most often reported condition [2]. Individuals of every age are afflicted by mucocele, it has a prevalence of around 2.5 lesions every 1000 people. However, the majority of afflicted individuals are kids and young adults. Mucocele does not show any tendency to favor either gender [3]. According to retrospective descriptive cross-sectional study conducted by (Miranda et al., in 2022) in 1901 cases found that mucocele most commonly affects the lower lip i.e. upto (67.4%) followed by floor of the mouth(10%), followed by ventral surface of tongue(9.7%), buccal mucosa (4.8%),followed by palate upto (2.4%) and mucocele rarely affects upper lip upto (0.7%)[4].

Mucus retention, which results via blockage of a minor or auxiliary gland's duct, & mucus extravasation, which is typically thought to be of traumatic origin, are the etiological causes of formation of these mucocele [5].Histologically, mucoceles can be divided into two types: retention & extravasation type. The extravasation histotype, which makes up 92% of all cases, develops after a duct gland injury to the lower buccal & lower labial mucosa. Saliva leaks into the surrounding connective tissue as a result of the trauma rupturing the duct. The development of a granulation tissue capsule with the existence of mucus-filled macrophages which are foamy, in the cystic fluid are indicators of persistent inflammation. It is mostly seen in the lower lip (80%) and is present among individuals under 30 years [6].

The occlusion or subocclusion of the minor salivary gland's excretory duct, a mucin plug, a sialolith created by extremely viscous salivary secretion, or an irregularity in the duct's thickness alternatively shape that prevents the glandular secretion from being expelled are the causes of oral retention mucocele. The dilatation of the canal upstream of the blockage is determined by the consequent rise in intraluminal pressure. As a result, once the duct itself dilates abnormally, a cystic formation is formed, with the wall composed of the "transitional" ductal epithelium. In contrast, the retention mucocele develops as a cavity surrounded by fibrous tissue & covered by epithelium. Its cuboid cells might be flattened or cylindrical, pseudo, mono, even multilayered. There is little inflammatory infiltration [7].

The literature outlines a number of treatment techniques for treating mucocele lesion, including CO_2 and laser ablation, intralesional corticosteroid injection, cryosurgery, surgical excision using a scalpel, electrosurgical unit & marsupialization [5].

CASE REPORT

A 22 year old male patient was reported to the department of Periodontology with chief complaint of swelling and discomfort in upper lip right region. The history of present illness revealed he started noticing swelling since 2 month which was slowly increasing in size till the reaching the current condition (pea size) and causing discomfort to patient on inner aspect of upper lip extending from 12 & 13 and measuring up to 8mm in diameter. Patient did not remembered any history of trauma. Swelling was painless and patient didn't have any relevant medical and dental history.

On intraoral examination & bidigital palpation of the lesion was firm, nodular & fluctuant in nature and the colour was similar to the lip mucosa as the lesion was deeply rooted (figure 1) & presence of stains and calculus.

Based on the clinical examination provisional diagnosis was made as mucocele. Supragingival scaling were performed on the same day for the stains and calculus.

Excisional biopsy for mucocele was explained to the patient & surgery was planned after getting routine blood investigation done and all values were normal. An informed and written consent is obtained.

Patient preparation was done by scrubing with betadine solution extraorally to disinfect the surgical site. Patient was made rinse with 10ml of 0.12% chlorohexidine gluconate solution for 30 seconds.

Adequate local anaesthesia is achieved using 2% lignocaine hydrochloride with 1:100000 epinephrine. After achieving anaesthesia a vertical incision is made using electrosurgical unit with setting on cut & coagulate mode with speed at 4 using straight tip to split the overlying mucosa and the lesion was guided to the incision (Figure 2).

Followed by resecting the mucocele and exposed minor salivary glands from its base so as to avoid recurrence (Figure 3).

The surgical site was then irrigated with saline & simple interrupted sutures were given using 5-0 polyvicryl sutures (Figure 4).

The excised lesion was kept in 10% formalin solution and dispatched for histopathological investigation for confirmation (Figure 5).

Post-operative instruction were given to avoid hot and spicy food & nonsteroidal anti-inflammatory drug for 3-4 days to relieve post operative pain. Histopathological report suggests connective tissue stroma in which there are multiple salivary acini are present, along with severed duct and spilled mucin which is has a fibrous wall surrounding it.

The stroma is composed of dense chronic inflammatory cell infiltrate with lymphocytes and plasma cell mucinophages along with few dilated capillaries (Figure 6).

On correlating clinical examination & histopathological report the final diagnosis were made as mucocele. Suture removal & follow up taken (Figure 7).

Figure 1- Pre-operative upper lip view

Figure 2-Incision and cyst exposure

Figure 3- After excision

Figure 4-Suturing

Figure 5-Excised Mucocele

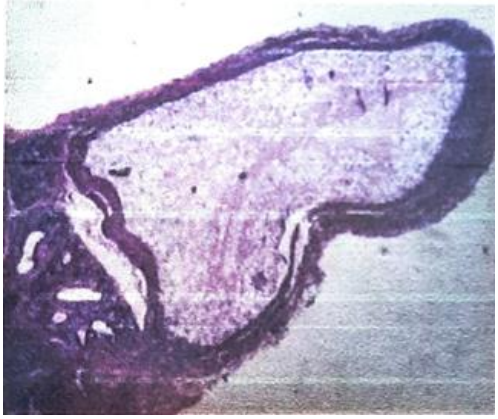

Figure 6-Histopathological Examination

Figure 7-follow up

DISCUSSION-

A mucocele is frequent benign exophytic growth that is identified by bluish-colored, transparent, well-circumscribed lesion of varying size. If the cyst is deeply developed, its color may occasionally resembles to surrounding oral mucosa. Mucocele is usually painless & prone to recurrence [8].

Management of mucocele by Non-surgical technique includes- Combining intralesional steroid dexamethasone 4 mg injection to the lesion's base with micro-marsupialization of the large mucocele or 8 mg dexamethasone injection led to gradual reduction in lesion's size & full recovery with no local discomfort & recurrence [9].

Depending on the extent of the mucocele, intralesional sclerosing drugs such as 100% ethanol were administered at doses ranging from 0.1-0.5 ml. This caused the lesion to completely recede in size and heal completely, with no clinical signs of recurrence [10].

Surgical management includes-

A scalpel is used to remove the lesion and afflicted gland as part of conventional surgical technique for treating mucocele. It regarded as a

definitive approach with very low recurrence rate. Recurrence risk can be decreased by surgically excising the glandular acini that surround the mucocele, eliminating the lesion all the way down to the muscle layer, and preventing injury to the nearby glands & ducts while suturing [11].

The lesion is exposed to liquid nitrogen as part of cryosurgical treatment. This method particularly employed while treating lesions in individuals in the pediatric age range. By applying extremely cold temperatures using cryogen agents, such as nitrous oxide gas and liquid nitrogen spray, cryotherapy kills tissues [12].

Draining the collected saliva & forming new epithelialized tracts along the suture's course constitute micro-marsupialization. The likelihood of micro-marsupialization being effective seems to increase when the mucocele receives therapy before 90 days [13].

The treatment of oral mucocele has benefited from recent advancements in LASER technology. CO_2 & DIODE LASER are used to treat mucocele, & outcomes are comparable to those of conventional care with improved post-operative comfort and appearance [14].

Since electrocautery is a very precise tool with certain advantages over a scalpel, we chose to employ it in this case study rather than traditional methods. When the electrosurgical unit is correctly programmed, cutting the electrode tip & on both sides is effortless. Despite electrocautery enhances hemostasis, the underlying processes are not the same as those for laser. By shutting the vessels before cutting, it enhances hemostasis regardless of the heat damage it produces. A metalic probe heated by a monopolar electrical current is introduced to the tissue to encourage cutting & coagulation. Electrocautery is more effective at damaging surface tissue layers since no heat can penetrate deeper tissues. Electrocautery is quicker, less costly, and offers greater hemostasis than laser cutting, although being more subjective [15].

According to the case report of Sutjipto et al.(2022) excisied mucocele using electrocautery concluded that electrocautery may reduce the patient's discomfort and anxiety, making it the preferred treatment for mucocele. It causes very little tissue injury and haemorrhage [16].

After excision it is important to educate the patient and to give post of instruction and follow must taken.

CONCLUSION

Mucocele is a frequent lesion, particularly in young people. The treatment of oral mucoceles depends on a correct diagnosis and the precise location of the afflicted gland. According to the convenience of patients and psychology, electrosurgical units is an excellent choice of treatment technique since they minimize the patient's anxiety while causing little hemorrhage.

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