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Case Report

Mucocele on the lower lip treated by scalpel excision method-A Case Report

Parveen Reddy KM[1], Prahalad Hunasigi[2], Amar Varma C[3], Praveen kumar NH[4], Vinod Kumar[5]

[1, 4]Assistant Professor, [5]Associate Professor, Department of Pedodontics and Preventive dentistry, Navodaya Dental college , Raichur,India
[2]Professor and Head, Department of Oral Pathology, AME's Dental College,Raichur,India
[3]Professor and Head, Department of Dentistry, Raichur Raichur Institute of Medical Sciences, Raichur,India

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ABSTRACT

The Mucoceles or Mucus retention phenomenon is a salivary gland lesion of traumatic origin, formed when the main duct of a minor salivary gland is torn with subsequent extravasation of the mucus into the fibrous connective tissue so that a cyst like cavity is produced. The wall of this cavity is formed by compressed bundles of collagen fibrils and it is filled with mucin. Mucoceles occur most commonly on the lower lip, followed by the floor of mouth and buccal mucosa being the next most frequent sites. This paper present the Mucocele case reported at pediatric and preventive dentistry.

Introduction

Mucoceles of the minor salivary glands are rarely larger than 1.5 cm and are always superficially positioned. Conversely, the lesions arising from deeper areas such as the floor of the mouth are generally significantly larger. Thus, problems such as discomfort; interference with speech, mastication, and swallowing; and external swelling depend on size and location. [1]

Generally, small and superficial mucoceles do not require treatment because they often heal after spontaneous rupture. However, in most cases, the treatment of choice is excision. The lesions can be completely excised, including the associated salivary gland tissue as well as any marginal glands, before primary closure, reducing the incidence of recurrence. So, in most cases, the lesions are treated by excision, including the sublingual gland.[1] Mucoceles are caused by obstruction of a mucus gland duct. Currently, the lesions are classified histologically as mucus extravasation or mucus retention phenomenon, depending on the presence of epithelial lining. Extravasation mucoceles arise from the duct damage, causing mucus to pool in the adjacent connective tissue. The condensed connective tissue that surrounds the extravasation mucus may be mistaken for epithelium. On the other hand, retention mucoceles arise after partial or complete obstruction of the excretory duct, possibly by a sialolith or mucus plug, leading to retention of glandular secretions and dilation of the duct.[2,,3]Mucoceles are rarely seen on the upper lip, retromolar pad or palate. They may occur at any age, they are seen most frequently in the second and a third decade of life.[1]This lesion has no sex predilection and occurs more frequently in children, adolescents and young adults. Mucoceles appear as discrete, small, translucent, soft, painless swelling of the mucosa ranging from normal pink to deep blue in color. The tissue cyanosis and

* *Corresponding author.* ***Dr Vinod Kumar, Associate professor, Department of Pedodontics and Preventive dentistry, Navodaya Dental College, Raichur, 584102 Mobile: 9845971171 dr.vinod990@gmail.com***

vascular congestion associated with stretched overlying tissue and the translucency of the accumulated fluid beneath results in the deep blue colour. Mucoceles can be single or multiple often rupturing and leaving slightly painful erosions that usually heal within few days. [4-16] Mucoceles are the most common lesions of the minor salivary glands and typically appear as a fluctuant, bluish, non-tender, submucosal swelling with a normal overlying mucosa. Although minor salivary glands are found in most parts of the oral cavity except the gingiva, mucoceles occur most commonly in the lower lip, probably due to the higher incidence of mechanical trauma in this region.[17] Children and young adults are most commonly affected, although these lesions can occur at any age. Both sexes are equally affected. The usual clinical history is one of a painless swelling, often recurrent in nature, that may be present for months or even years before the patient seeks treatment.[18]

Case report:

A 11 years old male child visited the dental clinic with the chief complain of swelling in the lower lip (Fig 1). The history of present illness consisted of Swelling on the right lower lip since 1 week. It had been increasing since 1week. It was painless and no history of fever or malaise was present. It was Soft, fluctuant and palpable with no increase in temperature, and it was oval in shape. The lab investigations like HB, TLC and DLC were conducted and the values were found to be normal. The differential diagnosis were Oral ranula, Oral lymphangioma, Oral haemangioma, Cicatricial pemphigoid, Bullous lichen planus and Minor aphthous ulcers. The provisional diagnosis was formulated as a Mucocele on the basis of the history of the Lip biting habit and Clinical features of the lesion. Treatment procedure: It was treated under local anesthesia using scalpel by placing an incision circumferentially; and then the lesion was resected from the base, the surgical wound was left open without suture and topical anesthesia was prescribed to be applied on the surgical wound. (Fig 1,2). Regular recall for 1 day and 1 week was done to check for wound healing. The child presented with uneventful healing (fig 3).

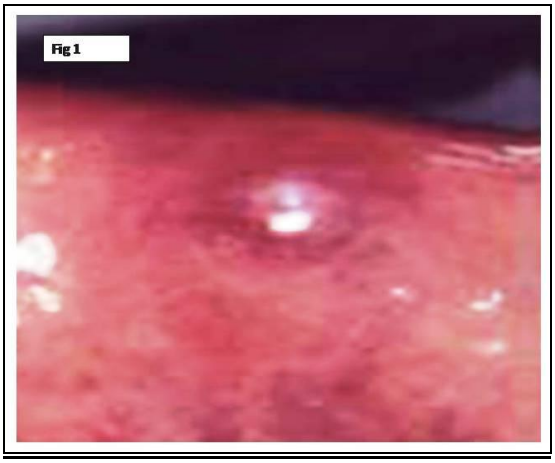

Fig 1- The Mucocele lesion on right side of lower lip

Discussion:

Mucoceles may be located either as a fluid filled vesicle or blister in the superficial mucosa or as a fluctuant nodule deep within the connective tissue. Spontaneous drainage of the inspisatted mucin especially in superficial lesions followed by subsequent recurrence may occur. The surface of long standing lesions may show fibrosis.[19]

The development of Mucoceles usually depends on the disruption of the flow of saliva from the secretory

Fig 2- Removal of the lesion by excision scalpel method

apparatus of the salivary glands. The lesions are most often associated with mucus extravasation into the adjacent soft tissues caused by a traumatic ductal insult, which may include a crush-type injury and severance of the excretory duct of the minor salivary gland. The disruption of the excretory duct results in extravasation of mucus from the gland into the surrounding soft tissue. It has been suggested that the rupture of an acinar structure caused by hypertension from the ductal obstruction is another possible mechanism for the development of such lesions.

Mucoceles are painless, asymptomatic swellings that have a relatively rapid onset and fluctuate in size. The patient may relate a history of recent or past trauma to the mouth or face, or the patient may have a habit of biting the lip. When lesions occur on the anterior ventral surface of the tongue, tongue thrusting may be the aggravating habit. In addition to trauma, patients with superficial mucoceles usually report small fluid filled vesicles on the soft palate, the retromolar pad, the posterior buccal mucosa, and, occasionally, the lower labial mucosa.

Generally, small and superficial mucoceles do not require treatment because they often heal after spontaneous rupture. However, in most cases, the treatment of choice is excision. The lesions can be completely excised, including the associated salivary gland tissue as well as any marginal glands, before primary closure, reducing the incidence of recurrence. Ranulas can be treated by marsupialization, but the risk of recurrence is high, especially when the mucocele is of the extravasation type. So, in most cases, the lesions are treated by excision, including the sublingual gland.[1]

These vesicles rupture spontaneously and leave an ulcerated mucosal surface that heals within a few days. The various differential diagnosis are Blandin and Nuhn mucocele, Ranula, Benign or malignant salivary gland neoplasms, Oral Hemangioma, Oral Lymphangioma, Venous varix or venous lake,Lipoma, Soft irritation fibroma, Oral lymphoepithelial cyst, Gingival cyst in adults, Soft tissue abscess, Cysticercosis (parasitic infection), Superficial mucoceles may be confused with Cicatricial pemphigoid, Bullous lichen planus and Minor aphthous ulcers. The history and clinical findings lead to the diagnosis of a Superficial Mucocele. Radiographic evaluation is considered if sialoliths are considered a contributing factor in the formation of oral and cervical ranulas. The demonstration of the mucus retention phenomenon and inflammatory cells can be done by the fine needle aspiration. High Amylase and protein content can be revealed by the chemical analysis. The localization and determination of the origin of the lesion can be done by Computed tomography scanning and magnetic resonance imaging. [4-16]

Surgical excision with removal of the involved accessory salivary gland has been suggested as the treatment of choice in many cases since it's an economical procedure. Marsupilization will only result in reoccurrence.[19]Large lesions are best treated with an unroofing procedure (marsupilization). Large lesions may be marsupialized to prevent significant loss of tissue or to decrease the risk for significantly traumatizing the labial branch of the mental nerve. If the fibrous wall is thick, moderate-sized lesions may be treated by dissection. If this surgical approach is used, the adjacent minor salivary glands must be removed. Care has to be taken to avoid the injury to any marginal glands and ducts; it may lead to reoccurrence of the lesion. The excised tissue should

always be submitted to the pathological investigations to confirm the diagnosis and rule out the salivary gland

Fig 3-1 week after surgery

tumors. Laser ablation, cryosurgery, and electrocautery are approaches that have also been used for the treatment of the conventional mucocele with variable success. [4-16]

In our case report the lesion was located on lower lip. Excision by a scalpel, laser ablation (CO2, Er,Cr:YSGG), electrosurgery, cryosurgery, medication (gamma-linolenic acid [GLA]), micromarsupialization, are the methods available for the treatment of lower lip mucoceles and if the lesion is not causing problem to the patient than wait and watch policy should be adopted.

The excision by scalpel is one of the most-often used method to treat mucocele. It does not require extensive equipment, has negligible cost, and can be performed by most trained dentists. It does require great precision, however, and de-tailed knowledge of the mucocele and the surrounding anatomy is must. It also requires great control of the instrument, with accurate tactile awareness. Local anesthesia is also required, and this may be more challenging in children, especially those with behavior management issues. The potential for postoperative bleeding is also greater than with certain other treatment modalities such as the laser, as is the possibility of a more ulcerative appearance and possibly a longer healing period.[20,21]

In our case report we used excision by scalpel and with this procedure we didn't experience long healing period and more bleeding, we adopted this procedure mainly because it's easy and economical compared to laser ablation, cryosurgery and electrocautery.

Conclusion:

The present case report presented a small sized mucocele lesion on lower lip which was successfully treated with excision by scalpel method and it has exhibited uneventful healing with no post-operative complications. Hence we suggest that this method is best for the management of mucoceles on lower lip.

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