Case Report

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Oral Mucocele: Various treatment modalities

Agrawal S[1], Koirala B[2], Dali M[3], Shrestha S[4]

[1]Sapna Agrawal, Junior Resident; [2]Bandana Koirala, Professor and Head; [3]Mamta Dali, Associate Professor; [4]Sneha Shrestha, Assistant Professor, Department of Pedodontics and Preventive Dentistry, College of Dental Surgery, BPKIHS, Dharan

Abstract

Mucoceles are common lesions of the oral cavity that result from an alteration in the minor salivary glands due to mucus accumulation and are broadly classified into extravasation and retention types. Rapid appearance, specific location, history of trauma, bluish color, and consistency help in the diagnosis. There are various treatment modalities which include conventional surgical removal, laser ablation, cryosurgery, sclerotherapy, micro-marsupialization, and intralesional injection of sclerosing agent or corticosteroid. Intralesional corticosteroid therapy and micro-marsupialization, though widely accepted treatment choices, the complete regression may not always be assured holding the importance of case selection and regular follow-ups for timely recognition of recurrences. This report highlights on the management of mucocele of lower lip in a 12-year-old female treated with different modalities: intralesional injection of corticosteroid, micro- marsupialization and surgical approach.

Key words: Marsupialization; Mucocele; Recurrence

INTRODUCTION

The word mococele is derived from Latin words "muco" meaning mucous and "coele" meaning cavity. These are the benign fluid filled lesions that may be present in the oral cavity, appendix, gall bladder, paranasal sinuses or lacrimal sac[1]. Ranula is a form of mococele located in the floor of the mouth. The incidence of oral mucocele is 2.5 lesions per 1000 patients[2]. They may occur at any age including at birth with predominance in the second and third decades. Mostly, they tend to occur on lower lip, followed by the floor of the mouth and buccal mucosa[3].

The most common disorders involving the minor salivary glands present as single cystic nodule, either translucent or with bluish hue, located deep within the connective tissue or in the superficial mucosa respectively. It may range from a few millimeters to few centimeters with episodic increase and decrease in size leading to rupture and mucin production if left untreated[4].

Address for correspondence

Dr. Sapna Agrawal
Junior Resident, 3rd Year, Department of Pedodontics and Preventive Dentistry, College of Dental Surgery, BPKIHS, Dharan, Nepal
Email Address: drsapnaagrawal123@gmail.com

The microscopic features help to classify oral mucoceles as "mucus retention": due to ductal obstruction with subsequent retention of saliva within the ducts, and "extravasation": due to trauma to the salivary duct and pooling of mucus into the connective tissue. However, no distinction is possible clinically. The microscopic analysis shows polymorph nuclear leucocytes, lymphocytes, and plasma cells with fluid filled lumen and eosinophilic clots, along with a majority of lesions surrounded by granulation tissue. The extravasation type is more common with a prevalence of 92%[5]. In pediatric population, the treatment sequence follows starting from a more conservative and non-invasive approach as it helps in behavior management with lesser chairside time.

This case report highlights on the management of mucocele of lower lip in a 12-year-old female treated with different modalities: intralesional injection of corticosteroid, micro- marsupialization and conventional surgical approach.

CASE REPORT

A12-year-old female presented to the Department of Pedodontics and Preventive Dentistry, BPKIHS, with the chief complaint of swelling in left side of lower lip since one year. The medical history was non-contributory and dental history revealed previous treatment done

for the same. General examination did not reveal any abnormality. On intraoral examination, swelling was present on left lower labial mucosa, approximately 1cm in diameter with round to oval shape, erythematous, well-defined border with two puncture wounds, non-tender, non-reducible and non-pulsatile (Figure 1).

Further elaboration of the history revealed two episodes of intralesional steroid injection (Dexamethasone: 1ml) at the base of the lesion followed by one episode each of micro-marsupialization alone and combined micro-marsupialization with intralesional steroid each at one-week interval, done in the Department of Oral Medicine and Radiology. Based upon the signs and symptoms, a clinical diagnosis of oral mucocele of lower lip was made. As the lesion did not show any signs of regression, the conventional surgical excision was planned under the local anesthesia. The routine blood investigations were done and the values were within normal range.

Consent from the parents and the patient was obtained. Under aseptic measures, the lesion was excised under local anesthesia by placing a vertical incision to split the overlying mucosa and then resecting the mucocele from its base in total. Wound approximation was done with 4-0 black braided silk suture (Figure 2).

The excised tissue was sent for histo-pathological examination which revealed fibrocellular connective tissue, numerous fibroblasts and thick collagen fibres, numerous endothelial cell lined blood vessels with lymphocytes and plasma cells. Focal areas revealed acini of minor salivary glands confirming the diagnosis of mucocele (Figure 3). Regular follow up was advised and the sutures were removed after a week interval. Recall visits showed complete healing with no signs of recurrence upto 12 months (Figures 4, 5).

Figure 1: Preoperative

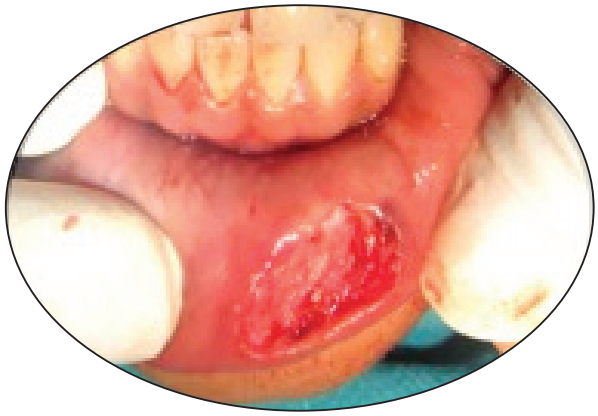

Figure 2: Intraoperative

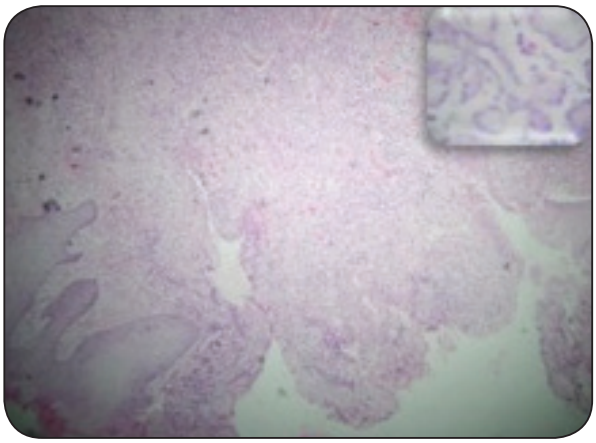

Figure 3: Photomicrograph (H & E Staining at *10 X magnification)

Figure 4: One Week Postoperative

Figure 5: Twelve Months Postoperative

DISCUSSION

Mucoceles are common lesions of oral mucosa that can affect both children and adolescents with the prevalence of 2.5 lesions/1000 population[6]. This corresponds to the present case report in a 12-year-old female. Usually it is not considered a clinical problem, but may sometimes become alarming to the parents when seen in children[4]. It can occur in both males and females with the peak age of incidence ranging from first to third decades. The lesions are rarely seen in infants and neonates. They can appear at any site of oral mucosa where salivary glands are present[6].

The diagnosis of oral mucocele is mainly based upon its clinical features with the appearance being most pathognomic. Its location, history of trauma, rapid appearance, variations in size, bluish-color, and consistency are some of the important factors that should be considered before making a confirmatory diagnosis. On palpation, the lesion is often fluctuating in contrast to lipomas and tumors of minor salivary glands showing no fluctuation[7].

Different treatment approaches have been proposed in literature such as surgical excision of the lesion with or without associated salivary gland, marsupialization, electrosurgery, cryosurgery, laser excision, high-potency topical corticosteroids, gamma-linolenic acid, OK-432, nickel gluconate-mercurius heel-potentized swine organ preparations, and micro-marsupialization. Size of the lesion is the most important factor to determine the approach for the treatment, however, surgical approach is the most common option[6]. Injection of a high-potency corticosteroid has also been used in the treatment of painful and recurrent oral mucocele as corticosteroids promote shrinkage of the dilated salivary ducts or act like a sclerosing agent[8]. They also act as potent anti-inflammatory agent inhibiting the expression of multiple inflammatory genes and increasing the transcription of genes coding for anti-inflammatory proteins[2,9]. Micro-marsupialization is a simple, less traumatic, and well tolerated technique with the most important advantage of virtually no bleeding and zero side effect. Also, if any recurrence occurs, surgical excision can be easily carried out[10].

In the present case, intralesional corticosteroid and micro-marsupialization were performed singly as well as in combination and both led to the recurrence. The recurrence rate reported for micro-marsupialization is 20% and that for surgical excision is 10%[6]. Although several disadvantages of surgical excision have been reported, such as being expensive, trauma, pain, lip disfigurement, damage to the adjacent vital structures, and ducts leading to the development of satellite lesions[1], it remains the mainstay in the treatment of oral mucoceles, including recurrence.

CONCLUSION

Intralesional corticosteroid therapy and micro-marsupialization though widely accepted treatment modalities for oral mucoceles especially in children due to their non-invasiveness; the complete regression may not always be assured holding the importance of conventional surgical enucleation. In addition, regular follow-ups is always advisable for timely recognition of recurrences. In this case, conventional surgical excision led to the complete regression of the lesion without further recurrence until one year.

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