



Mucocele in 1-Year-Old Child: Surgical Excision Under General Anesthesia and 4-Years Follow-Up

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Abstract

Mucocele is a benign lesion that affects smaller salivary glands of the oral cavity, frequently observed in dental clinic, and may affect children patients. The main etiological factor is mechanical trauma. Several treatment modalities can be employed, with variable degree of success and management. However, surgical removal is the most recommended technique. When there is no collaboration of the patients, the treatment with general anesthesia can be performed in a surgical suite. The purpose of this article is to present the case of a labial mucocele, affecting a 1 year old child, with no condition to attend her due to lack of collaboration, whose lesion was removed through surgical excision under general anesthesia in the surgical suite.

Keywords: Mucocele; Minor Salivary Glands; General Anesthesia; Pediatric Dentistry; Oral Diagnosis; Oral Medicine

Introduction

The term mucocele is used to denote the phenomena of extravasation or salivary retention that affect the smaller salivary glands of the oral cavity. They can appear in any region of the oral mucosa but occur preferentially on the inner side of the lower lip, vestibular mucosa and ventral surface of the tongue. It reaches a variable dimension, from a few millimeters to centimeters. There is no predilection by gender, race or age. The diagnosis can be based on clinical characteristics, history and evolution, and on the anatomic-pathological examination [1-6].

It is basically caused by mechanical trauma, originating the rupture of the duct, causing the extravasation in the adjacent tissue. The mucocele is not considered a true cyst, given the absence of

epithelial lining [1,7]. Mechanical trauma can also cause the collapse of the duct walls of the smaller salivary gland, originating the retention cyst of mucus, being considered a true cyst because it is a cavity coated by epithelium [1,7,8].

Mucoceles are lesions frequently seen in the pediatric clinic. The incidence in the infant population ranged from 9% to 89.1% [9,10]. The purpose of this article is to present the case of a lower lip mucocele, affecting a 1 year old child patient, with no condition to attend her due to lack of collaboration, whose lesion was removed by surgical excision under general anesthesia in the surgical suite.

Case Report

Female patient, 1 year-old, attended the dental clinic of Hospital de Aeronáutica de São Paulo for evaluation of lower lip lesion.

A history of trauma was reported 2 months ago in the lower lip region of the left side. The patient was not very collaborative, without the possibility of outpatient care. No systemic alterations were mentioned and it was suggested to the parents the possibility of performing the surgical procedure under general anesthesia. The parents authorized the procedure. In the pre-surgical consultation, the following items were verified: patient ASA I, 10.5 Kg. Clinically, the lesion presented as a bubble containing liquid inside, superficial, slightly erythematous and purple, with 6mm in diameter (Figure 1).



Figure 1: Lower lip mucocele in 1 year-old child.

Under general anesthesia (sevoflurane and propofol) (Figure 2) and infiltrative local anesthesia, the lesion was surgically removed (Figure 3), followed by suture using Vicryl 4.0 absorbable thread (Figure 4).

The fragments of the lesion (Figure 5) were fixed in 10% formaldehyde and sent to the Laboratory of Surgical Pathology of the Hospital de Aeronáutica de São Paulo. The cuts revealed presence of extravasation mucus in the lamina propria, which was surrounded by inflammatory cells and an immature granulation tissue. A minor salivary gland with normal characteristics was observed. The final diagnosis was mucocele (Figure 6).



Figure 2: Patient under general anesthesia.



Figure 3: Surgical removal of the lesion (immediate post-surgical view).



Figure 4: Sutured site with vicryl.



Figure 5: Fragments of the lesion removed.



Figure 7: Follow-up (4-years) after surgical removal.

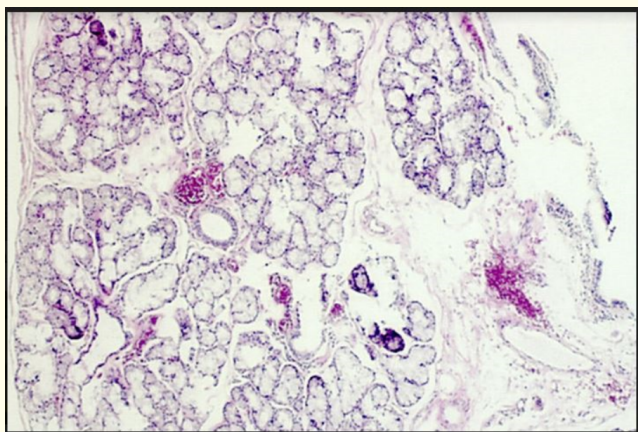


Figure 6: Microscopic characteristics of mucocele (hematoxylin and eosin, 25X).

The patient has been accompanied for 4 years with no signs of recurrence (Figure 7).

Discussion

Clinically, the lesion is presented by an asymptomatic increase in volume, characterized as a unilocular bubble, containing saliva inside, floating, with a smooth surface, caused by the distension of the mucosa. It has a bluish coloration, when superficial, or a coloration similar to normal mucosa, when deeper. It can reach variable size, and when larger, causes discomfort and interfere with

the physiological activities of the oral cavity. The evolution varies from weeks to months. The incidence is higher in the lower lip and may also affect the vestibular mucosa, palate and ventral surface of the tongue. When superficial, rupture and recurrence of the lesion is common [1-7,10-15].

There is no predilection for gender, although the female was slightly more affected, being more prevalent in Caucasians. It reaches a wide age range, but it varies according to the nature of the lesion (saliva leakage phenomenon) [1-7,9,11,13-16].

The diagnosis can be based on clinical characteristics, history of trauma, evolution or pathological examination [2,3,5-8,13,15].

The differential diagnosis includes irritational fibroma; hemangioma, lipoma, angioma, lymphangioma, depending on the clinical characteristics, particularly the staining of the lesion [4,6,8,12].

In the histopathological examination, the mucocele presents an area of mucin extravasated in the conjunctive and submucous tissue, surrounded by reactive granulation tissue, and the ruptured salivary duct can be visualized. The inflammatory process consists of numerous neutrophils and histiocytes. The adjacent salivary glands can be visualized with non-specific secondary inflammatory alterations or with signs of obstruction. Interstitial inflammation; sialadenitis; dilatation of intra-lobular ducts and disintegration of acinar mucous cells can also be observed [1,4-8,10-14].

Trauma is the main etiological factor, causing the rupture of the excretory duct of the involved salivary gland, originating the extravasation of saliva in the adjacent connective tissue [1-3,6].

Several techniques were recommended for the treatment, although surgical excision being the most preconized technique [1-7,10-14]. It is performed by incision of the mucosa and blunt dissection, with total removal of the lesion and minor salivary gland involved, as reported in this report. The removal of the lesion by electrocautery was reported [4-7,10,11,13]. Micromarsupialization was mentioned, bringing benefits mainly in pediatric dentistry, performing transfixation with sutures, which suffer epithelialization around the suture thread, remaining as an open channel [2-6,11,14,15]. Marsupialization and the insertion of alginate followed by enucleation have been reported, presenting, however, a considerable failure rate [2-6,11,14]. Cryosurgery [2-8,11,13] and treatment with systemic administration of gamma linolenic acid, a precursor of prostaglandin, presented satisfactory results and a small recurrence rate [2]. Some authors have cited intral-lesional corticoid injection [4-6,11]. The use of CO₂ or diode laser for removal or vaporization (ablation) was mentioned by several authors [2-8,10,11,13,16,17]. The ablation by the laser is simple and fast; with reduction of the amount of anesthesia; hemostatic control; increase of the visualization of the surgical field; without the need of suturing. There is minimal damage to adjacent tissues; less edema; and minimal post-surgical painful symptomatology, without the need for analgesics [3,6]. Laser surgery makes it possible to reduce apprehension and fear in pediatric patients [11].

In the case presented, the surgical removal of the lesion in the child was chosen under general anesthesia. In the same way, we used the absorbable suture to avoid further troubles in a possible second post-surgical consultation (for evaluation and removal of remaining sutures). The general health evaluation (ASA I) and the clinical characteristics of the lesion, as well as the acceptance by the parents, allowed this therapeutic option.

Regardless of the technique employed, follow-up should be performed, justified by the high recurrence rate of the lesion [2,3].

Conclusion

The mucocele is a lesion that affects smaller salivary glands of the oral cavity, frequently observed in dental clinic, and may affect

children patients. The main etiological factor is trauma and surgical removal is the most recommended technique. When there is no collaboration of patients, as in the case presented by a 1 year-old child, treatment can be performed with general anesthesia. Due to the high recurrence rate, the follow-up after the surgical removal should be performed for many years.

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