Management of oral mucocele in a 6-months old child

Manejo da mucocele oral em uma criança com 6 meses de vida

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Abstract

Mucoceles are benign lesions characterized by an extravasation or retention of mucous in submucosal tissue from minor salivary glands. This pathology is more commonly observed in the second decade of life and is associated with traumatic injuries, such as, biting habits. In this paper a rare case of a mucocele in the lower lip of a 6-month-old child is reported. An excisional biopsy was performed under local anesthesia and the lesion was submitted to histopathologic analysis. The importance of this case is to highlight the successful management of the surgical intervention in a 6-months old child. A follow-up control was performed and after 12 months no recurrence was observed.

Key-words: mouth mucosa; surgery, oral; histopathology

Resumo

A mucocele oral é uma lesão benigna caracterizada por um extravasamento ou retenção de muco no tecido submucoso proveniente das glândulas salivares menores. Esta patologia é comumente observada na segunda década de vida e está associada a injúrias traumáticas, como por exemplo, hábitos bucais como as mordeduras. Neste artigo um caso raro de mucocele no lábio inferior de uma criança com 6 meses de vida é relatado. Uma biópsia excional foi realizada sob anestesia local e a lesão foi submetida à análise histopatológica. Este caso destacou-se devido ao sucesso do manejo de uma criança com 6 meses de vida submetida a uma intervenção cirúrgica. O acompanhamento foi realizado e após 12 meses não houve recidiva.

Palavras-chaves: mucosa bucal; cirurgia bucal; histopatologia

Introduction

Mucoceles are benign soft tissue masses coming from the retention or extravasations of mucus in the surrounding tissues of the lamina propria.1 The mucous retention mucoceles, also called salivary duct cyst, arise from dilatation of a severed duct.2,3 Extravasation mucoceles may occur at any location where minor salivary glands are present and happen when mucous secretion escapes from the salivary gland ducts to the...
surrounding submucosal tissue. Histopathologic types of mucocele include the common extravasation and retention variants. Extravasation mucoceles consist of granulation tissue surrounded by condensed connective tissue with various amounts of inflammation. In the retention type trapped mucus is lined by columnar or cuboidal ductal epithelium.\textsuperscript{1,4}

The most common etiological factors are local trauma and laceration to the region.\textsuperscript{1-3} It should be taken into account that the central inferior incisors in children have a traumatic incisive sharp border.\textsuperscript{5} Mucous extravasation phenomenon is the most frequent salivary gland pathology diagnosed in children and occurs predominantly in the lower lip (77.9%), tongue (9.9%), and floor of mouth (5.7%).\textsuperscript{3} Mucoceles are best treated by excision followed by careful dissection of the affected minor salivary gland.\textsuperscript{6}

Mucoceles occur in both sexes and affect patients of all ages, with the highest incidence in the second decade.\textsuperscript{4} In a group of 104 children with mucoceles diagnostic, only 22 patients were under 10 years old.\textsuperscript{7} Data from a review of oral biopsies in children between 9 and 14 years in Brazil revealed that mucocele was the most common pathology excluding tumours.\textsuperscript{8} Cases of mucoceles in babies are not common. The aim of this report is to describe the case management of a lower lip mucocele in a 6-month-old child.

**Case Report**

A 6-month-old black male was referred to the Department of Pathology and Oral Diagnostic, School of Dentistry, Federal University of Rio de Janeiro, Brazil with the chief complaint of a lump in the lower lip and that he had had difficulty in sucking for more than 3 months. The mother reported intermittent episodes of increased and decreased volumes of lesion with no apparent reason. Oral habits or a local trauma were not reported. The baby was in good general health and no other symptoms were reported.

The clinical examination showed that the baby had no teeth and revealed a soft tissue nodule on the lower lip mucosa. The lesion was similar in colour to the oral mucosa and measured approximately 5 cm at its widest diameter (Figure 1).

![Figure 1](image_url) - Mucocele in the lip of the baby at 6 months.

An excisional biopsy was performed under local anesthesia. The baby was held by his mother in dental chair using physical restraint (protective stabilization). A local infiltrative anesthesia (2% lidocaine with epinephrine 1:100,000; one cartridge) was
infiltrated around the lesion. Before to infiltration, a topical anesthetic benzocaine gel for 2 minutes was applied. The lip was then everted with digital pressure to increase the lesion’s prominence. A circular incision was made around the lesion to obtain a proper biopsy sample. A silk suture was used to close up the wound. An analgesic was prescribed on the first post-operative day to prevent any possible pain that could result in stress for the baby. After 2 hours, the patient recovered normal breast-feeding. Histopathologic analysis revealed an extravasation mucocele (Figure 2).

The baby was re-examined after 15 days, 6 and 12 months. No recurrence was observed after 12 months (Figure 3).

**Discussion**

The most frequent causes of mucoceles are traumatic injuries, however, in our case, the etiology is unclear and trauma arising out of feeding habits could be an explanation of initiating and development of the lesion. The baby had no teeth and the mother did not report any oral habit or local trauma. No reports are available in literature showing the probable etiology in similar cases, on the other hand, it was possible that nontraumatic predisposing factors may also contribute to its development.9 According to Jimbu et al.,2 mucoceles may occur in any location where minor salivary glands are present. The occurrence of mucocele in babies might interfere in their feeding, and in our case, breast-feeding was impaired. Moreover, repeated trauma arising out of feeding habits can initiate inflammatory or hemorrhagic phenomena, leading to a more generalized disorder.9 For this reason, we decided upon the excision of the lesion after the complaint was reported and a rigorous clinical assessment.
A previous study\textsuperscript{7} analysed the records of Brazilian pediatric patients presenting mucocele. Of these, 34.6\% were 15 years old or younger, the youngest being 2 years old. Lesions were located on the lower labial mucosa (30 patients), tongue (three), floor of the mouth (one), buccal mucosa (one), and in one patient the location was unknown. Histopathology revealed an extravasation pattern in 35 patients and a retention pattern in one. These findings were consistent with our case. A recent review\textsuperscript{10} of 1,824 cases reported that no significant gender predilection was observed and the more common etiology was the history of trauma and the history of periodic rupture.

According to Pedron et al\textsuperscript{11}, the mucocele treatment may be performed by conventional surgery, cryotherapy, and, more recently, laser surgery and loser vaporization. The authors revealed that diode laser surgery was rapid, bloodless, and well accepted by patients. Postoperative problems, discomfort, and scarring were minimal. However, the high cost of such treatment should be considered and in our case, the conventional surgery was feasible at the time.

Previous cases\textsuperscript{9, 12} reported that newborn babies were submitted to a surgical excision under general anaesthesia. Some importance in preparing these patients for surgery is necessary because younger patients may require additional measures in terms of treatment.\textsuperscript{7} In our case, the mucocele was excised under local anaesthesia and successful management was carried out. The allergic reactions to the local anaesthetics in dentistry are very rare and most of the adverse reactions are psychogenic or/and vasovagal.\textsuperscript{13} On the other hand, strong reasons are required to submit a baby to a general anaesthesia because adverse events can occur. A recent study\textsuperscript{14} related that some healthy children treated for dental caries under general anaesthesia may experience temporary disruption of bodily functions over the following 24 hours.

The healthy status of the baby, his quiet behaviour, the mother’s anxiety and the dentist’s experience were taken into account and influenced our treatment plan. We suggested that the baby was held by the mother in dental chair. She agreed and demonstrated cooperation. The experience of the dentist made the surgical procedure possible under local anaesthesia. It was safe, uneventful and only took a short time.

There is no evidence of any serious health complication related to mucoceles in

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{surgical_area.png}
\caption{Appearance of the surgical area 12 months after the intervention – no recurrence.}
\end{figure}
Nevertheless, the immunological system of babies is in development and their oral function, such as breast-feeding, needs to be preserved. The importance of this case report is to highlight the successful outcome of the early surgical intervention under local anesthesia in a baby with mucocele on the lower lip mucosa. A follow-up control was performed because the etiology factor was unclear and to check against any possible recurrence.

References


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