

Understanding Mucocele of Tongue in Children: A Case Report

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Abstract

Introduction: Mucocele is cystic lesion that occur in oral cavity. Commonly it happens due to trauma or obstruction of minor salivary gland ducts. Certain mucoceles may heal spontaneously, while others might surgical intervention due to frequent recurrence. Mucoceles on the tongue are rare and typically occur on the underside, where the glands of Blandin and Nuhn are located. Appropriate diagnose and treatment must be chosen correctly.

Case History: A 12-years old-girl presented of enlarged gum and recurrent swelling firstly noticed a month ago. Excision was done under local anesthesia using electrocautery. A clinical diagnose of mucocele was confirmed by histopathological examination.

Discussion: Mucoceles on the tongue are uncommon and primarily occur on the ventral surface where the glands of Blandin and Nuhn are situated. Complete excision was done once the diagnosis was confirmed using electrocautery which have indicated that this method is faster, simpler, and causes minimal postoperative discomfort compared to conventional excision. To minimize recurrence, strategies such as removing surrounding glandular acini, excising or dissecting the lesion down to the muscle layer, and avoiding damage to adjacent glands and ducts are recommended.

Conclusion: Mucoceles on the tongue are uncommon and primarily occur on the ventral. Since mucocele are asymptomatic, complete surgical excision of mucocele of tongue must followed by eliminate risk factors to prevent recurrency.

Keywords: Children; Human and health; Mucocele; Oral lesion

1. Introduction

Oral mucocele is common benign oral lesion. In Japan and Brazil, number of mucocele cases mostly found in lower lip for 77.9% and 83.3%. Other sites found in buccal mucosa, anterior lateral tongue, and floor mouth. Wu et al reported 11.6-21.8% cases of mucocele were reported in children. [1]. Mucocele caused by mechanical trauma to the duct of these gland. It is characterized by painless swelling with a relatively rapid onset and fluctuating size. It is characterized by painless swelling with a relatively rapid onset and fluctuating size [2]. Most of them is harmless and asymptomatic but if it grows larger, it can interfere with speech, chewing, and swallowing [3].

There are two categories of mucoceles: extravasation mucoceles and retention mucoceles. These types are distinguished from each other based on their distinct causes and microscopic features [4]. In children, mucous retention phenomena are uncommon because their ductal structures are not typically capable of retaining excessive secretions [5]. The aim of this study was to describe a clinical case involving the complete surgical removal of a mucocele of tongue on children.

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2. Case History

A 12-years old-girl came to the Pediatric Dentistry General Hospital Haji Surabaya presented of enlarged gum and recurrent swelling firstly noticed a month ago. The mass getting larger day by day and it bothered the patient. Extra oral examination did not show mass and lymphadenopathy. On palpation, there was nontender. Intra oral examination found a round-oval nodular, firm, painless, fluid-filled, pale reddish mass with 5x7 mm on the ventral surface on tongue (Figure 1). The #31 and #41 fractured enamel. Rest of medical and dental history was not reported. The swelling was diagnosed as mucocele by clinical diagnose and confirmed by histopathological examination.



Figure 1 Intraoral examination of mucocele on the tongue preoperative



Figure 2 Local anaesthesia on the tongue



Figure 3 Excision using electrocautery



Figure 4 Intraoral examination of mucocele on the tongue postoperative

Considering to the size, position, excision was done under local anesthesia using lidocaine 2% combined with adrenaline 1:80.000 (Figure 2), numbness was inspected. Excision using electrocautery resecting the mucocele from the base of lesion followed by exploring the salivary gland ductus (Figure 3). The wound was not sutured due to the minimal lesion

and hemorrhage could be controlled (Figure 4). Postoperative instruction was given and an analgesic was prescribed. The specimen was sent to histopathological department General Hospital Haji Surabaya to confirm the diagnosis.

3. Discussion

Mucoceles on the tongue are uncommon and primarily occur on the ventral surface where the glands of Blandin and Nuhn are situated. These mucoceles can be found directly beneath the mucosa (superficial mucocele), in the upper submucosa (classic mucocele), or in the lower corium (deep mucocele) [6]. The human tongue is composed of three groups of minor salivary glands: the glands of Weber, situated along the border of the lateral tongue; the glands of von Ebner, which surround the circumvallated papillae; and the glands of Blandin and Nuhn [7].

Some mucoceles may rupture and heal spontaneously, but often, surgical excision is necessary, which can pose challenges, especially in pediatric patients and individuals with behavioral issues. Generally, larger mucoceles are also treated with excision. However, if excision is considered too extensive, or if the lesion is closely located to nerves or large blood vessels, marsupialization can be performed instead [8]. To minimize recurrence, strategies such as removing surrounding glandular acini, excising or dissecting the lesion down to the muscle layer, and avoiding damage to adjacent glands and ducts are recommended. If the fibrous wall of the mucocele is thick, the excised tissue should undergo histopathological examination to rule out any salivary gland neoplasms [9].

The treatment of mucocele is determined by clinical risk factors. In this case report, we choose to perform mucocele excision using electrocautery. Electrocautery is a highly precise instrument that offers several advantages over a scalpel. When properly set, the electrode enables efficient cutting on both sides and at the tip. Although electrocautery enhances hemostasis, its mechanisms differ from those of lasers. Despite causing thermal damage, it achieves hemostasis by sealing blood vessels before cutting [10]. With advancements in pediatric dentistry, it is critical to carefully plan the treatment of mucoceles. Surgical Excision of mucoceles is effective but often unavoidable to postoperative discomfort. Particularly when treating young children, it is essential to devise a treatment plan that minimizes discomfort [11].

Mucocele in children can be caused by lip-biting habit in children that develop due to the challenging environment they navigate, which involves expectations to comprehend responsibilities, manage immature behaviors, and adjust to new regulations. These pressures can result in emotions of frustration and sadness, prompting the habit of lip-biting. In addition to behavioral factors, trauma injuries can also contribute to the development of mucoceles. To prevent mucoceles on the tongue, parents should closely monitor their children to avoid traumatic injuries. Older children can further protect themselves by wearing mouthguards during sports to prevent injuries [7,12].

4. Conclusion

Mucoceles on the tongue are uncommon and primarily occur on the ventral. Since mucoceles are asymptomatic, complete surgical excision of mucocele of tongue must be followed by eliminating risk factors to prevent recurrence.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this document.

Statement of informed consent

Informed consent was obtained from patient included in the study.

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