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Mucocele in Pediatric: A Case Report

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Abstract

Introduction: Mucocele is a lesion on the oral mucosa as a benign mass caused by retention or extravasation of mucus in the tissue around the lamina propria. Mucocele mainly occurs on the lower lip mucosa. **Purpose:** This case report aimed to describe the history, clinical examination, and simple surgical removal of mucocele, thus it can strengthen the knowledge of the general dental practitioner. **Case presentation:** A 6-year-old female child visited the Dental and Oral Hospital of South Sumatera Province with complaints of swelling on the right inner lower lip about 2 weeks ago. The swelling disappeared because it ruptured due to being bitten 2 months ago, then reappeared in the last 2 weeks. Her mother also said that her child had unconsciously bit her lower lip almost every day for the last few months. The results of an objective examination of the lesion showed a fluctuating vesicle lesion on the labial mucosa of the right lower lip, approximately 5 mm in diameter, did not bleed easily, was soft and painless upon palpation, had a translucent bluish-pink color. Based on the results of subjective, objective, and supporting examinations, the diagnosis in this case was a mucocele with a differential diagnosis of fibroma and hemangioma. The treatment plan included surgical excision and post-surgery instructions as well as instructions to stop the bad habits to prevent the recurrences. **Conclusion**: Mucocele is one of the most common soft tissue lesions in children and it can be treated with simple surgical excision.

Keywords: Excision surgery; Mucocele; Pediatric; Trauma

Introduction

Mucocele is defined as mucus-filled cavities, which usually affect the minor salivary glands caused by retention or extravasation of mucus in the tissues around the lamina propia.[1] Mucocele comes from the words muco which means mucus and coele which means cavity.[2] The most important factors that cause mucoceles are trauma and obstruction of the salivary gland ducts.[1] Mucoceles can be classified morphologically into two types, namely extravasation mucoceles and retention mucoceles. Extravasation mucoceles are caused by damage to the minor salivary gland ducts because the ducts rupture due to mechanical trauma so that mucus fluid is extravasated and accumulates in the connective tissue thereby triggering a secondary inflammatory reaction.[3] The extravasation mucocele is not covered by an epithelial layer. Retention mucocele is caused by mucus fluid retained by the epithelial lining due to ducts of minor salivary glands that experience sialolith obstruction or narrowing of the duct. The

most common type is extravasation mucocele. It has been reported that the prevalence of extravasation mucoceles was 95%, while the prevalence of retention mucoceles was 5%.[4]

Mucocele can occur in both men and women in all age ranges, but the highest incidence occurs in the second decade of life. Adolescents and children most often experience mucoceles.[5] Mucocele often occurs in various locations on the mucosal surface of the oral cavity where there are minor salivary glands underneath.[6] Mucocele of the lower lip is most commonly occur. Several cases of mucocele can also be found on the upper lip mucosa, hard palate, retromolar region, buccal mucosa, lingual frenulum, dorsal tongue, and floor of the mouth. Mucocele can be just below the mucosa (superficial mucocele), above the submucosa (classic mucocele) or in the corium (deep mucocele).[7]

Case report

A 6-year-old female child came to the Dental and Oral Hospital of South Sumatera Province together with her mother with complaints of lower swelling on the right side lower lip mucosa about 2 weeks ago. The swelling had disappeared 2 months ago due to being bitten, then reappeared in the last 2 weeks. Her mother also said that her daughter had unconsciously bit her lower lip almost every day for the last few months. The swelling was not painful, but it interfered with comfort when eating so she wanted to be treated. After that, an objective examination was carried out on the lesion which showed a vesicular lesion on the labial mucosa of the lower lip on the right, round, single, clearly demarcated, approximately 5 mm in diameter, soft in consistency, fluctuating, not stemmed, was not bleed easily, painless when swallowing (Figure 1). The colour was translucent bluish pink.

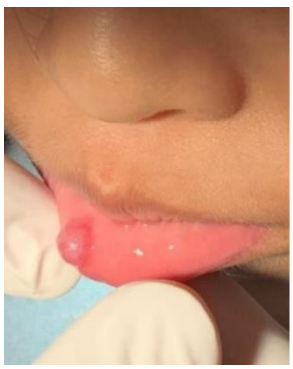

Figure 1. Lesions on the labial mucosa of the right lower lip

Based on the results of subjective and objective examinations, the provisional diagnosis in this case was mucocele. The excisional surgical treatment plan was carried out and was sent to the Anatomical Pathology laboratory for further examination. Before taking excision surgical parents were given an explanation of surgical procedures dan asked to sign informed consent. The patient was laid down in a dental unit. The lesion area was disinfected with 10% povidone iodine. Local anesthetic infiltration was injected with 2% lidocaine around the lesion. The lower lip was pulled out, then slightly pressed to see the lesion, and then a semi-circular incision around the lesion was taken to obtain the lesion. The lesion was removed down to the muscle layer (Figure 2). The operator also avoided extensive loss of mucosal tissue. The surgical area was irrigated and the edges of the wound was sutured. The sample of the tissue was sent to the anatomical pathology laboratory.

Figure 2. Local anesthetic infiltration (right) and after excision biopsy (left)

The results of the histopathological examination showed that there was the presence of a cystic cavity with an amorphous material similar to mucus, surrounded by fibrous connective tissue, infiltrated by chronic inflammatory cells, and covered with stratified squamous epithelium. So the established diagnosis was mucocele. The etiology factor was a trauma caused by a bad habit of biting the lower lip almost every day.

After surgical excision of the mucocele lesion and suturing, the patient was instructed to come one week later for control. The patient was given antibiotics of 250 mg amoxicillin and 200 mg ibuprofen as an analgesic agent. The first control showed that there were no complaints from the postoperative patient, the wound area had not closed completely, and there was still a slight erythema in the mucosa. One week later after removing the stitches, it was seen that the wound had closed completely and there was no more erythema which indicated

that the wound had completely healed. During the 2 weeks after the surgery, her parents said that their child's bad habit of biting his lips was getting rarer because he had been controlled by both parents (Figure 3).

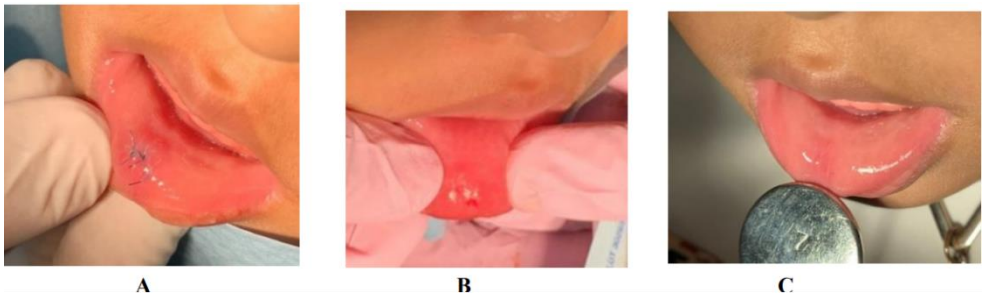

Figure 3: A. One week after excision biopsy; B. Surgical suture was removed; C. Two weeks after surgery

Discussion

Based on the results of subjective, objective, and anatomical pathology examination of excisional biopsy specimens, the diagnosis in this case was a mucocele. Oral mucocele is painless, asymptomatic swellings that develop relatively rapid onset and fluctuant. It may rapidly enlarge and then appear to involute due to the rupture of the contents into the oral cavity or resorption of secreted mucus.[8] The lesion in this study was found on the right side of the lower lip mucosa. Previous studies also reported that the lower lip is the most common occurrence of mucocele. Other sites are also found in the buccal mucosa, soft palate, and retromolar trigone region because many minor salivary glands are present at that site.[9] The etiology of this lesion was a trauma caused by a bad habit of biting her lower lip. Subramanyam reported that mucocele was mostly caused by trauma. Trauma induces the obstruction of the minor salivary gland duct and leads to the accumulation of salivary fluid.[10] The differential diagnosis from this case was fibroma. The clinical presentations of fibroma are round to ovoid, painless or asymptomatic, smooth-surfaced, with no fluctuation, firm, sessile, or pedunculated mass, pale-pink color, and rubbery in consistency.[11] The cause of fibroma is mastication trauma, bad habit of biting lips, and local irritation, such as inappropriate protesa.[12] Fibroma is commonly observed in the occlusal line of buccal mucosa, labial mucosa, and gingiva.[11] It can be seen in adults, but it may occur in young without sex predilection.[12] Excisional biopsy as management of this case was very helpful in the evaluation of mucocele. An excisional biopsy

is defined as the process of completely removing a solitary oral mucosa lesion.[13,14] Tammama reported that an excisional biopsy provided the best healing and appropriate diagnosis for oral mucocele.[15] Karthikeyan said that excisional biopsy gave good results of the clinicopathologic examination to determine the final diagnosis of mucocele, also the best treatment for mucocele.[16] The choice of drugs were amoxicillin and ibuprofen. Amoxicillin is a broad-spectrum drug that is commonly used in primary care settings.[17] The prescription of amoxicillin, in this case, was to prevent secondary infection, because in oral there are so many normal flora that can be opportunist in poor condition. Amoxicillin is also effective for Gram-positive and Gram-negative bacteria in oral cavities, such as *Streptococcus, Phorpyromonas*, and *Enterococcus.*[18] Apriadhanty reported that amoxicillin was mostly used as a prescription antibiotic drug post-biopsy of oral soft tissue in Palembang.[14] Ibuprofen is a non-steroidal anti-inflammatory drug for the treatment of pain. It has low solubility, high permeability, and a low incidence of side effects.[19] Vilaplana declared that ibuprofen resulted in decreasing pain for tissue destruction caused by simple surgery.[20] In this case, the role of parents in maintaining children's health and supporting the success of treatment was very important. Bad habits that persist continuously will hinder the success of treatment and can cause recurrent infections even though a surgical excision has been performed on the lesion. Therefore, Dental Health Education instructions must be given to children as patients and their parents to maintain mutual oral hygiene by brushing their teeth twice a day, in the morning after breakfast and at night before bed, and discontinuing the bad habit of biting their lips, as well as post-surgical instructions, not to suck or lick or play with the surgical wound area with tongue or hands, did not eat or drink anything hot, and had a soft diet so that treatment could be successful. The clinician also instructed the patient to return in one week to remove the stitches and control the post-surgical wound area. The prognosis of this case was good. The cooperative attitude of the patient and her parents helped the healing process and the success of the treatment so that the post-surgical wound could heal properly and it was expected that the bad habit of biting her lips would completely stop so that re-infection did not occur.

Conclusion

Based on subjective, objective, and anatomical pathologic examination, the case was diagnosed as a mucocele. The etiology of this case was trauma, and the treatment was excision biopsy. The patient was given Dental Health Education to support a good prognosis.

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