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Current Concepts and Technology in Improving Dental and Oral Health Care

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3rd DENTISPHERE (DENTISTRY UPDATE & SCIENTIFIC ATMOSPHERE) CURRENT CONCEPTS AND TECHNOLOGY IN IMPROVING DENTAL AND ORAL HEALTH CARE

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Welcome to Surabaya! 
Is a great honor for us to welcome you all at the International Seminar “Dentisphere 2016”. This international seminar is the third time we have held at the Shangri La Hotel Surabaya. This Seminar which held on 26-27 August 2016 is one of my pride as the Dean of Dentistry Faculty of Hang Tuah University. This is also proving one of Hang Tuah University’s contribution both nationally and internationally in the field of dentistry.

The theme of International Seminar 3rd Dentisphere is "Current Concepts and Technology in Improving Dental and Oral Health Care", which aim is to provide a new generation of dentists who are experts and professionals with the knowledge that continues to grow for the Indonesian nation and the world. We hope that through this event we can raise the professionalism in the field of dentistry for all participants.

I would like to say a very big thanks to our speakers from home and abroad: Japan, Korea, Thailand, and Singapore. Thanks for all contributions and participation and your willingness to come and share your knowledge and experience in dentistry. It is an honor for us that the events will also have an important role in the quality control mechanisms to ensure stability and increased periodically in the field of dentistry.

Also for all the participants, thank you very much for joining the International Seminar 3rd Dentisphere, I hope you can all enjoy the entire summary of the seminar. Hopefully this seminar that we held useful for the advancement of knowledge of dentistry you all peers.
I apologize if there are less pleasing for the organization of this seminar.

Enjoy the 3rd international seminar Dentisphere!
Hello Dentists!
Welcome to the International Seminar 3rd Dentisphere. It's an honor for us, Dentistry Faculty of Hang Tuah University to host the International Seminar 3rd Dentisphere. We are welcoming all of our sponsors, speakers and participants from both inside and outside Indonesia who contribute to this International event. Welcome to Surabaya!

The theme of this time seminar is "Current Concepts and Technology in Improving Dental and Oral Health Care", as the committee we offers a place to learn and exchange dental knowledge with national and international facilitators. International Seminar 3rd Dentisphere will also provide a unique opportunity for participants to develop the knowledge, skills and professionalism with the interaction with other participants. Do not miss the opportunity to interact directly and do hands on with the speakers and experts which are amazingly competent in the field of dentistry from different countries (Indonesia, Japan, Korea, Singapore, and Thailand).

After all, we apologize if if there are less pleasing for the organization of this seminar. Enjoy the beauty of the city of Surabaya while you also explore the dental sciences!

God bless us always.
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Oral Mucocele in Pediatric Patient: a Case Report

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ABSTRACT

Background: The mucocele or mucous retention phenomenon is a salivary gland lesion of traumatic origin, formed when the main duct of a minor salivary gland is traumatized with subsequent extravasation of the mucus into the fibrous connective tissue so that a cyst-like cavity is produced. The wall of this cavity is formed by compressed bundle of collagen fibrils and it is filled with mucin. Mucoceles are known to occur most commonly on the lower lip, followed by the fiber of mouth and buccal mucosa being the next most frequent sites. Purpose: This case reporting management of mucocele on lower labial mucosa due to traumatized pediatric patient. Case: 9 years old male child visited the dental clinics with the chief complain of painless swelling in the lower lip. History of present illness includes swelling in the central lower lip since 2 months, and no history of fever or malaise was present. Patient had lip biting habit. Management: The patient treated with complete excision of the lesion. Conclusion: Mucocele is a common disorder in children and the small lesion can be treated with complete excision.

Keywords: mucocele, salivary gland, extravasation, excision

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BACKGROUND

Mucocele (from the Latin terms mucus, or mucus, and coele, or cavity) is a clinical term that describes swelling caused by the accumulation of saliva at the site of a traumatized or obstructed minor salivary gland duct.\textsuperscript{1,2} Mucocele occur when injury to the minor salivary glands occurs usually secondary to trauma, biting one's lip, chronic inflammation with periductal scarring, excretory duct fibrosis, prior surgery, trauma from oral intubation, or rarely, minor salivary gland sialolithiasis.\textsuperscript{3}

The incidence of mucocele in the general population is 0.4-0.8%\textsuperscript{1}. Most mucocele occur in young individuals, with 70% of individuals being younger than 20 years. The peak prevalence occurs in persons aged 10-20 years.\textsuperscript{3} Nico et al reported 104 patients with mucoceles, 52 were less than 20 years old (50\%) and 36 patient (34.6\%) were less than 15. Of these, 22 were under 10 years old.\textsuperscript{4} Mucocele more frequent in the minor salivary glands, however such lesions can also be found with less frequency in the major salivary glands.\textsuperscript{1} This lesion mainly occurs at the mucosa of the lower lip, due to frequent biting (40-80\% of all cases) followed by the cheek mucosa and floor of the mouth.\textsuperscript{1,5,6} The tongue, palate and upper lip are infrequent locations.\textsuperscript{1} In pediatric patient, Nico et al found 30 mucocele (83.3\%) on the lower labial mucosa.\textsuperscript{4}

Clinically, the lesion is painless and presents as a smooth round or oval swelling that fluctuates. Its color is normal or slightly bluish, and its size ranges from a few millimeters up to 2 cm.\textsuperscript{5} Mucocele can cause discomfort by interfering with speech, chewing or swallowing. In most cases these lesions rupture spontaneously or traumatically a few hours after being formed, with the release of a characteristic viscous, mucoid fluid. In the case of repeated trauma, the lesion may become nodular and firmer in response to palpation—rupture in this situation being more difficult. According to Harrison, the lesions develop over a period of one week to five years, though the most common duration is three weeks to three months.\textsuperscript{1}

The treatment of choice for mucocele is surgical excision.\textsuperscript{2} Removal of the mucocele must include excision of the underlying damaged minor salivary glands to avoid recurrence.\textsuperscript{7} Some patients may experience spontaneous resolution or rupture of their mucocele or ranula. Many different treatment options exist such as sclerotherapy, marsupialization, and excision with or without combined excision of the involved salivary tissue.\textsuperscript{8}

In this case a patient suffers swelling on his lower labial mucosa. This case report discusses management of a 9-year-old boy with mucocele on his lower labial mucosa due to trauma.

CASE AND CASE MANAGEMENT

On 10\textsuperscript{th} January 2016, a 9-year-old boy came to private practice (Dental Kids Smile) at Surabaya with complained of swelling on his lower lip. The swelling first noticed by his mother about 2 months earlier. Anamnesis known that he had a lip biting habit. He did not feel any pain but the swelling interfered with speech and chewing.
Clinical examination revealed that general condition of the patient was good. There’s no known disorder in patient’s and family medical history. He had no para functional habits. Intra oral examination of lower labial mucosa showed round swelling, about 7 mm, smooth in surface, normal mucosa color, and painless (Figure 1).

Figure 1. Swelling of lower labial mucosa

Clinical diagnosis of this case was mucocele. The differential diagnosis of this case was lymphangioma and lipoma. Patient then scheduled for operation at the next day.

In the next day (11th January 2016), patient came for operation. The procedure began with local anesthesia around the mucocele (Figure 2, A). After that, an elliptical incision is made on the mucosa around the lesion to facilitate dissection of the lesion (Figure 2, B).

Then the superior wall of the lesion is grasped with a hemostat together with the overlying mucosa and is separated from the surrounding tissues using scalpel. After removal of the lesion (Figure 2, C), the mucosa of the wound margins are undermined and superficially sutured (only at the mucosa) (Figure 2, D). The lesion was sent to pathology laboratory for diagnosis confirmation. Patient was given amoxicillin 250 mg 3 times daily and paracetamol 250 mg twice daily for 3 days.

Figure 2A, 2B. The operation procedure: A. After local anesthesia, B. Elliptical incision around cyst with scalpel
One week later (18th January 2010) the patient was scheduled for control. The post operative results was good. The wound already healed and there is no complained (Figure 3). The result of histopathological examination revealed mucous pools surrounded by granulation tissue.

![Figure 3](image)

**Figure 3.** The wound already healed.

**DISCUSSION**

Mucocle, also known as mucous cyst is a benign, common, mucus-containing cystic lesion of the minor salivary glands in the oral cavity. Some authors prefer the term mucocele since most of these lesions are not true cysts in the absence of an epithelial lining. Two main types of mucocele are recognized. These lesions classically have been divided into retention mucocele and extravasation mucocele. Extravasation mucocele which results from duct rupture due to trauma and spillage of mucin into the surrounding soft tissues account for over 80% of all mucocele, and are more common in individuals under 30 years of age. They are in fact pseudocysts lacking a well defined wall, and are composed of compressed elements of the surrounding connective tissue, and inflammatory components. Extravasation mucocele are fundamentally located in the lower lip (80%). Retention mucocele which usually results from ductal dilation due to ductal obstruction are seen particularly in elderly patients. It consist of a well defined cystic cavity.
presenting an epithelial wall lined with cuboid or squamous cells. Retention mucocele are uniformly distributed throughout all the territories that contain minor salivary glands.

Harrison reported that in younger patient most mucocele are of extravasation type. Jimbu et al hypothesized that mechanical trauma may be more pronounced in younger patients, favoring extravasation mucocele (thought to be posttraumatic).

In most cases, diagnosis can be established from clinical details, although all excised tissue should be submitted for histopathological examination to confirm diagnosis. After history examination that the lesion appeared in young patient due to mechanical trauma and clinical examination that the lesion located on lower labial mucosa, diagnosis of this case was extravasation mucocele.

Histopathological findings of extravasation mucocele revealed a separation of the epithelium from its underlying submucosa and the formation of a subepithelial mucous-filled vesicle. A mild-to-moderate chronic inflammatory cell infiltration is observed in the underlying connective tissue, along with excretory ducts that may demonstrate ductal dilatation. The result of histopathological examination which revealed mucous pools surrounded by granulation tissue confirmed the diagnosis of extravasation mucocele.

Differential diagnosis of this case was lymphangioma and lipoma due to resemblances of clinical appearance but lymphangioma and lipoma do not contain of mucus.

Surgical excision is the most commonly used method although if extirpation is not complete recurrence is frequent. Baarmash HD showed that there are 3 possible approaches to the management of mucocele of the lower lip which also apply. The small lesion can be completely excised, making sure to include the associated salivary gland tissue as well as any marginal glands before primary closure. Large mucocele are best treated with an unroofing procedure (marsupialization). The third procedure involves the dissection of the mucocele along with the servicing mucous glands. This technique is performed on moderate sized lesions. As in the excision technique, all marginal glands should be removed before primary closure.

This case was treated complete excision because the lesion was quite small. The excision included the associated salivary gland tissue to avoid recurrence. Oral antibiotic (amoxicillin) was given to prevent secondary infection. Meanwhile oral analgesic (paracetamol) was given to reduce pain after the operation procedure.

Mucocle in children are not rare. In this case mucocele was induced by trauma. Diagnosis of mucocele was defined based on history examination and clinical examination, and confirmed with histopathological examination. The treatment of this case was complete excision of the lesion.

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