Dental, Oral and Maxillofacial Surgery

Mucocele of Minor Salivary Gland: Differential Diagnostic Aspects And Presentation of a Clinical Case

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Мукоцеле на малка слюнчена жлеза: диференциално диагностични аспекти и описание на клиничен случай

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Abstract

Mucocele is a mucus-filled cyst that originates from a minor salivary gland. Clinically, it is a bluish dome-shaped swelling with a soft consistency. Although, the diagnosis is usually not difficult, there are pathologies with similar clinical features as mucocele.

A clinical case of a 19-year-old patient with mucocele of the lower lip mucosa is presented. He was referred for diagnostic clarification and for surgical treatment. The bluish color of the lesion is a reason a hemangioma to be suggested in the differential diagnostic aspect. A complete removal of the lesion was performed - the cyst was extirpated together with the small salivary gland.

Since mucocele is etiologically associated with bite trauma, patients should be instructed to spare the area after surgery.

Key words: *mucocele, retention cyst, minor salivary gland*

Резюме

Мукоцелето е изпълнена с мукус киста, която произхожда от малка слюнчена жлеза. Клинично представлява куполообразна подутина със синкав оттенък и мека консистенция. Макар че диагнозата обикновено не представлява трудност, има заболявания с клинични характеристики сходни с мукоцелето.

Представен е клиничен случай на 19-годишен пациент с мукоцеле на долна устна в близост до комисурата вдясно. Същият е насочен за диагностично уточняване и за оперативно лечение. Синкавият цвят на лезията е причина за обсъждане на хемангиом в диференциално диагностичен аспект. Извърши се пълно отстраняване на лезията – екстирпира се кистата заедно с малката слюнчена жлеза.

Тъй като етиологично мукоцелето се свързва с травма от прехапване, пациентите трябва да бъдат инструктирани да щадят зоната след извършване на хирургичната интервенция.

Ключови думи: *мукоцеле, ретенционна киста, малка слюнчена жлеза*

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Introduction

Mucocele is a cystic formation that is filled with mucus and is found on the oral mucosa (lips, tongue, floor of the oral cavity), paranasal sinuses, lacrimal sac, etc. [1]. It is one of the most common diseases of the minor salivary glands and is due to impaired secretion of the produced saliva as a result of trauma [2]. Clinically, a well-circumsribed, dome-shaped swelling is observed (3).

Depending on the mechanism by which it is formed, two types of mucocele have been described: retention and extravasation. Retention mucocele develops due to greatly reduced or completely absent glandular secretion as a result of obliteration of the excretory duct (4). Extravasation mucocele is formed when the integrity of the gland‘s excretory duct is disrupted, as a result of which saliva is secreted directly into the surrounding soft tissues (5). The formation of an extravasation mucocele includes three phases: 1. Accumulation of the saliva produced by a small gland into the surrounding connective tissue; 2. The phase of resorption with the formation of a foreign-body type granuloma; 3. Phase of pseudocapsule formation around the accumulated saliva (2, 5). The pseudocapsule is composed only of connective tissue without an epithelial wall. The two forms do not differ in their clinical characteristics (3). Mucocele occurs more often in childhood, and the extravasation form is usually observed (5, 6).

A clinical case of a mucocele of the lower lip in a young male patient is presented. The differential diagnosis of the condition and treatment approach will be discussed.

Clinical case

Nineteen-years-old male patient was presented with complaints of a swelling on the inner side of the lower lip on the right. He was referred by a general dentist with suggested differential diagnosis mucocele or hemangioma. The lesion has occured 5-6 months ago, it is also painless, but causes significant discomfort to the patient. Common trauma at meal time was also reported. The lesion is relatively slow-growing. There is no medical history for allergies, systemic diseases or regular intake of medications. The patient reported no other complaints.

A thorough extraoral and intraoral clinical examination was performed. Extraorally, no signs of facial asymmetry or deformities were established. Regional lymphadenopathy, as well as lesions of the traumatic, premalignant and malignant spectrum, were not detected. The opening of the mouth is normal, in full volume, without deviation and laterognathia. A permanent dentition was established, no caries lesions and a satisfactory level of oral hygiene. Intraorally on the lower lip on the right near the commissure, the presence of a 1.6/1.3 cm swelling was found. It has a bluish color, well-defined borders, and is soft and painless on palpation. The overlying mucosa is non-ulcerated, with a discrete whitish hyperkeratotic area, possibly resulting from mechanical trauma. Based on the history and clinical findings, a preliminary diagnosis of mucocele was made. In a differential diagnostic aspect, a hemangioma was discussed because of the bluish color of the lesion, although there was insufficient data from the history and clinical findings for such a diagnosis.

The lesion was surgically removed after administration of local anesthesia (articaine 4%). A vertical mucosal incision was made over the formation and after dissection, it was extirpated (Fig. 1). The wound was sutured and instructions were given to the patient. The early postoperative period was uneventful without complications. The stitches were removed after a week.

Discussion

A mucocele is a cystic lesion that originates from a minor salivary gland. It is diagnosed in 0.4-0.9% of the population (7) and is the second most common benign soft tissue lesion in the oral cavity after the irritative fibroma (8). In more than 70% of cases mucocele is found on lower labial muco-

a **b** **c**

Fig. 1. *Mucocele of a minor salivary gland of the lip;* ***a*** *– visualization of the mucocele after incision of the overlying mucosa;* ***b*** *– after removal of the mucocele;* ***c*** *– the extirpated cyst of a minor salivary glanda*

sa, while the occurrence on the tongue is rare and accounted for only 2.25% in the previous literature (9). Recent studies report that it is more prevalent in males than in females (10, 11).

Clinically, it is described as a well-circumsribed dome-shaped swelling with a bluish color, a soft consistency and a transparent surface (12). It can rupture and disappear completely, then may occure again with the same location (5). The bluish color is due to vascular congestion and is associated with mechanical trauma. The color intensity varies with lesion size and the thickness of the overlying mucosa (5). Lesions are usually asymptomatic and painless on palpation (12). In the presented clinical case, the patient reported that he noticed a small lump on his lip several months ago. It is not painful, but it often bites it at meal time, which causes discomfort. The size has gradually increased in recent weeks, and this is the main reason for visiting a dental office. The lesion is located on the mucous membrane of the lower lip, which according to literature data is one of the most common locations of mucocele in the oral cavity (13). Difficulties in the differential diagnostis could arise because of the dark blue color found in the clinical examination. The patient was referred due to hesitation about the diagnosis between mucocele and hemangioma of the lip. The presence of a lip formation with the clinical appearance of a nodule or swelling in young patients is a common clinical problem that can be due to a variety of causes, including congenital anomalies, inflammatory and infectious diseases, neoplasms, or traumatic lesions (14). The differential diagnosis includes mucocele, irritative fibroma, hemangioma, lymphangioma, lipoma and malignant tumors (15). The evolution of the complaints related to the development of the lesion, its duration and the clinical findings led us to the diagnosis of mucocele. It was confirmed when evaluating the macroscopic characteristics after the complete removal and the subsequent histopathological examination. There are various approaches to the treatment of mucocele such as surgical extirpation, electrosurgery, acid treatment of the area, laser ablation, including a conservative approach with a recommendation for observation due to the possibility of rupture and spontaneous regression (16). We believe that the complete removal of the cyst, together with the small salivary gland, is the most appropriate method of treatment, since there is always a risk of recurrence. The suturing of the surgical wound must be done carefully so as to avoid trauma to the remaining minor salivary glands in the area. A complication that might be detected following removal of mucocele is loss of sensation at the site

of the surgery. However, no complications were identified during the early postoperative period, as well as on the follow up.

Conclusion

Mucocele is a relatively common benign lesion of minor salivary gland, especially in young patients. It is etiologically associated with mechanical trauma. Differential diagnosis is usually not a challenge. However, the clinical finding may lead to diagnostic errors. Most often, the treatment is complete removal of the lesion to eliminate the risk of recurrence.

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