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Rare case of a massive buccal mucocele

Case Report

Rafał Koszowski[1], Jadwiga Waśkowska[1], Tadeusz Morawiec[1*], Sylwia Wojcik[1], Katarzyna Stęplewska[2]

[1] *Chair and Department of Oral Surgery, Silesian Medical University, 41-902 Bytom, Poland*

[2] *Chair and Department of Patomorphology, Zabrze Silesian Medical University 41-800 Zabrze, Poland*

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Abstract: Mucoceles are common pathological lesions of the oral cavity, usually measuring up to 10 mm. The authors describe a case of deeply located buccal mucocele measuring 35 mm in diameter. The lesion was caused by facial injury in a 54-year old man. The lesion persisted for approximately 2.5 years and was difficult to diagnose because of its unusual size and atypical clinical symptoms. Preoperative ultrasonography excluded a tumor, and this was confirmed by histopathological examination. However, oncological alertness was considered necessary on account of ulcerated mucosa next to the lesion. The mucocele was removed through surgical excision, using a scalpel and tissue scissors. No recurrence was observed in 2.5 postoperative years. It is stressed that histopathological examinations help to differentiate mucoceles from other disease processes.

Keywords: *Facial injury • Mucocele • Surgical treatment • Ultrasonography*

1. Introduction

Mucoceles are often found to affect minor salivary glands. The lesions are usually well confined, soft, painless, and located under mucosa in the form of translucent, fluctuating bulge of grey-blue color. They are filled with a yellow, sometimes jelly-like, substance [1].

They are most often detected in the lower or upper lip, buccal wall or oral cavity floor [2-5], and sometimes in lingual salivary glands; the latter is known as Blandin-Nuhn mucocele [4]. Such mucoceles are usually small (from 5 to 10 mm) and slow-progressive [1]. The origin is usually connected with effusion of mucin and its accumulation in adjacent tissues as a consequence of injury or, sometimes, obstruction in efferent ducts of minor salivary glands or accessory glands as a result of an inflammatory process [2].

The lesions may be surrounded with granulation tissue. Mucoceles must be differentiated from inflammatory processes, duct plugging by salivary stones, lymphangiomas or polymorphic adenomas [4]. Final diagnosis is based on histopathological findings. Treatment is exclusively surgical and consists of radical enucleation [4]. Other methods include vaporization of tissues and laser technique or cryosurgery.

1.1. Aim of the paper

The aim of this paper is to describe a case of an unusually large buccal mucocele. The unusual size caused rare clinical symptoms and was difficult to diagnose.

2. Case Report

J.B. was a 54 year old male who was referred to the Outpatient Clinic of Oral Surgery Department, Silesian Medical University in Bytom, because of a facial soft tissue tumor. The patient reported that 2.5 years ago, he had sustained a facial injury from a fist blow and developed edema and a hematoma in the cheek and lower lip on the right side. The edema disappeared after a few days the tumor within the lower lip did not resolve.

The patient did not receive any treatment at that time, but over the next 2 years he observed that the tumor began to grow more and more rapidly. The patient's

* *E-mail: chirstom@ sum.edu.pl*

Figure 1. Right face swelling caused by a tumor-like lesion in the right buccal area.

Figure 3. Bluish-colored tumor of elastic consistency, clearly outlined against the surroundings, filled with liquid green-yellow matter.

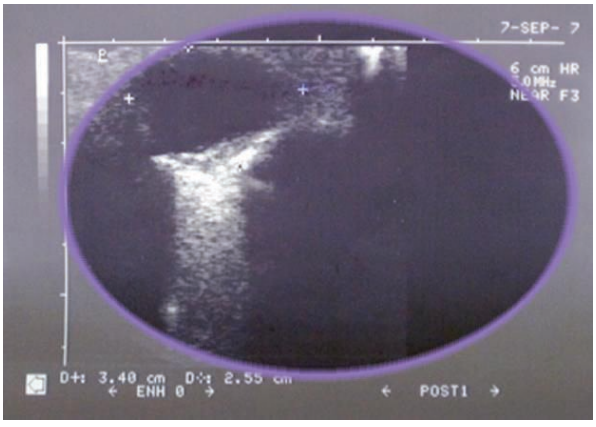
general history did not show any systemic diseases.

Clinical examination revealed that the face was asymmetric as a result of a tumor in the lower lip and cheek on the right side. The overlying skin was shiftable, had normal color and showed no scars or fistulas (Figure 1).

The tumor measured 35 mm in diameter, had elastic-hard consistency, was painless and well confined, and did not invade the floor. Intraoral examination showed red mucosa around the tumor. The oral vestibule was evidently reduced.

Pantomographic roentgenogram only revealed an abnormally wide periodontal ligament space in tooth no. 44, whereas mandibular bone structure was normal. Preoperative diagnostics included another ultrasonographic examination. This time a heterogenic, echoless, oval mass measuring 34x25x30 mm could be seen in facial tissues on the right side.

Figure 2. Ultrasonography of lower lip and cheek on the right side. Hypoechogenic solid lesion, 25 mm in diameter, can be seen within subcutaneous tissue.



The radiologist detected this lesion within subcutaneous tissue. He noted that the lesion was sharply contoured and fluid-filled with a layer of deposit at the bottom. Based on the above data in addition to the patient's history of facial injury, he suggested that a hemorrhagic cyst should be considered (Figure 2).

The patient was operated to enucleate the tumor from the lower lip and cheek. The loose tooth no.44 was removed and mucosal ulceration was resected with 3 mm-margin of normal tissues, all under nerve block and infiltration anesthesia using 3% lidocaine hydrochloride solution (Xylonor). Through the intraoral approach, mucosa of the right cheek was then cut horizontally along the lesion equator to excise the tumor. The tumor measured 30 mm in diameter, was well separated from adjacent soft tissues of the lip and cheek, and was filled with thick, green-yellow fluid (Figure 3).

Both the tumor and the tissues were sent for histopathological examination (Figure 4). After the operation, the patient was given Amoxycillin (orally, 1.0 every 12 hours) and Cyclonamine. The postoperative period was uneventful.

Sutures were removed on the 7th postoperative day. Histopathological examination revealed a mucocele with no malignant cells within the ulceration area or in the surroundings (Figure 5). A follow up after 2.5 years showed no recurrence of the lesion.

3. Discussion

Mucoceles are retention cysts found in soft tissues of the oral cavity. They are most often caused by an injury. If located in the lower lip, a mucocele may be the result of incidental or habitual lip biting [2,5-8]. In our case the mucocele was caused by a facial injury that had probably

Figure 4. Mucocele upon removal from the right cheek and evacuation of its fluid contents. Morphological result: mucocele.

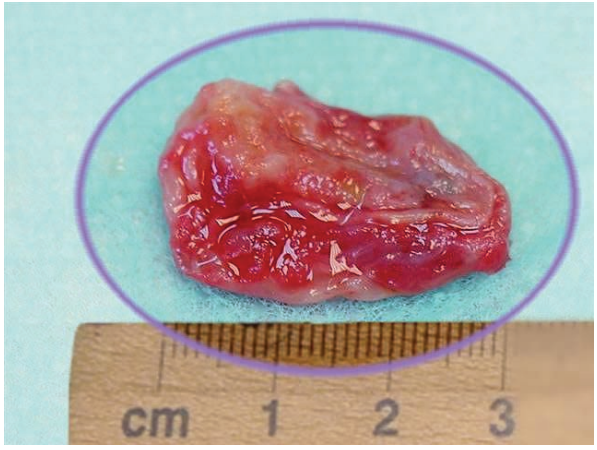
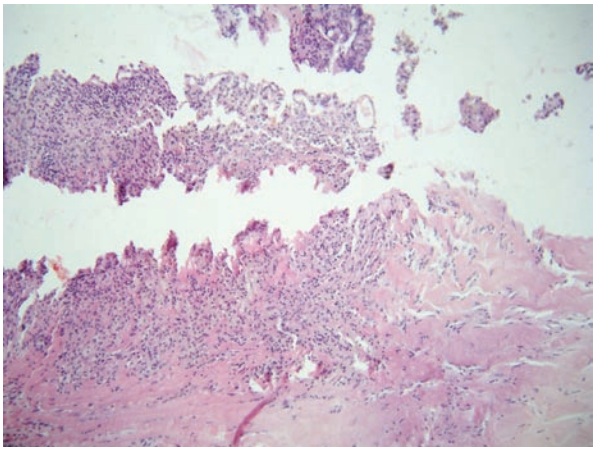


Figure 5. The wall of the mucocele consisted of granulation tissue (with foamy histiocytes and neutrophils) and condensed collagen. An epithelial lining is lacking. (H&E, 100X).



led to effusion and gradual accumulation of mucin in the tissues between the lower lip and right cheek. A long history (over 2.5 years), together with inability to bite and incidentally evacuate the cyst, resulted in its unusual size. Mucoceles are most often reported as being 5-15 mm in diameter [2-4,8].

Mucoceles larger than this, i.e. measuring over 20-30 mm, are observed very rarely and usually in connection with the submandibular glands [2,9]. Guimaraes et al. described a very large mucocele, measuring 20x20 mm, located in an extremely rare site namely the ventral surface of the tongue [5].

Mucoceles can develop immediately under mucosa or somewhat deeper. If mucoceles are located superficially, it is relatively easy to make the initial diagnosis based on characteristic clinical features including a bluish elastic-soft nodule. However, if they are located in deeper sites, some additional examinations may be required. In our case the pre-operative diagnostic procedure included ultrasonographic examination, which confirmed a cyst-like lesion and helped to exclude the presence of a tumor.

Mucoceles should be treated surgically. The best method is radical removal plus histopathological examination of the removed tissues. Non-radical removal may lead to development of a cystadenoma (as it does in 3-10% of patients) [10].

Furthermore, some tumors resembling mucoceles by clinical examination may be found malignant when examined histopathologically [11,12]. Mucoceles should be differentiated from benign or malignant tumors affecting minor salivary glands, polymorphic adenomas, inflammatory processes, obstructed efferent ducts (by salivary stones), hemangiomas and lymphangiomas. Some authors recommend vaporization of tissues using a CO_2 laser. They emphasize that this method allows for perfect hemostasis and sterilization of the operated tissues due to the effect of the laser light. They also note that laser technique helps to reduce traumatism of the operation and to prevent unaesthetic postoperative scars.

Since the history, clinical picture and intra-operative observations were all fairly atypical in our case, we decided that not only the radically enucleated cyst but also adjacent tissues and mucosa should receive histopathological examination. This enabled exclusion of neoplastic metaplasia.

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