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MUCOCELE IN A 35-YEAR-OLD PATIENT - A CASE REPORT

Adam Chiżyński PhD, Rafał Stelmach Dr, Piotr Osica PhD,
Anna Janas-Naze PhD Assoc. Prof.

Adam Chiżyński ORCID ID: 0000-0001-8639-4378, e-mail: adam.chizynski@umed.lodz.pl
Rafał Stelmach ORCID ID: 0000-0001-7792-5405
Piotr Osica ORCID ID:0000-0002-6436-5442
Anna Janas- Naze ORCID ID:0000-0001-6885-4457

Department of the Oral Surgery, Central Clinical Hospital, Medical University of Lodz
Head of the Department: Anna Janas- Naze, PhD, Assoc. Prof.

Corresponding author: Piotr Osica
Department of Oral Surgery, Medical University of Lodz
92-213 Łódź, ul. Pomorska 251, tel. 42 675 75 29

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Abstract.
The article describes a case of an oral mucocele of the tongue treated with a carbon dioxide laser.

Keywords:
Mucocele, carbon dioxide laser, surgical treatment

Mucocele, also known as mucous retention cyst lesion of the oral mucosa that results from an alteration of minor salivary glands due to a mucous accumulation. The most common

location of the lesion is the lower lip, other less significant are upper lip, oral cavity floor, and buccal mucosa, whereas most uncommon is the ventral side of the tongue. Oral mucocele is the 17th in line of the most often lesions in the oral cavity. Habitual biting of the lip mucosa is considered the most common reason of occurrence. Other reasons are irritating factors, which can be for example a sharp part of orthodontic appliance or denture. Limited swelling in case of a mucocele is caused by mucin accumulation. There are two types of mucocele - extravasation and retention. Extravasation mucocele results from a broken salivary glands duct and the consequent spillage into the soft tissues around this gland. Retention mucocele appears due to a decrease or complete blockage of glandular secretion due to damaging the of the salivary gland ducts. The mucocele located in the floor of the mouth is usually called a ranula, due to the fact of resembling a frog. [1, 2, 3, 4].

Clinical picture of the mucocele is quite characteristic, it is soft, of oval shape and bluish colour, which is caused by translucence of the blood vessels. Such lesions are usually asymptomatic. In cases where they achieve significant size, they might cause discomfort, compromise the speech and eating abilities [5, 6].

The treatment of such lesions is usually surgical, although some smaller cases are known to resolve spontaneously. Surgical treatment is usually performed with a carbon dioxide laser, electric knife, micro-marsupialization or enucleation [7, 8].

Case report.

A 35 y.o. patient has been referred to the Department of Oral Surgery, Medical University of Lodz, due to the palpable lesion of the ventral side of the tongue which appeared 4 weeks before. (Fig.1). The lesion was asymptomatic, only the discomfort while talking or eating was the cause of admission. The extra-oral examination showed no pathologies, whereas the intra-oral examination resulted in finding a protuberance of 10 mm in diameter in the location previously stated by the patient. (Fig.2). There was no inflammation; the mucosa was smooth, pink and shiny.

The interview and clinical examination allowed making an initial diagnosis of mucocele and creating a treatment plan (fig. 3). After presenting the patient with diagnosis and explaining the treatment plan of surgical excision of the lesion with carbon dioxide laser, and obtaining the necessary consents, the surgery was scheduled (fig. 4).

In local anaesthesia the lesion was cut using a focused laser beam (fig. 5), the lesion was enucleated (fig. 6). Thanks to the use of the carbon dioxide laser, the wound has been closed without the sutures. There was no bleeding observed neither during the surgery nor after completion. The excised material has been sent for histopathological verification, which confirmed the initial diagnosis.

Ten days after the operation patient was admitted to the clinic to evaluate the process of wound healing, which was uneventful. Follow-up visits after a month, 6 months and a year showed no recurrence.

The use of carbon dioxide laser in this case assured the high precision of the cut and sterility of the wound thanks to the high temperature. It is worth highlighting that that the use of a laser makes the surgery bloodless and such complications as inflammation, pain or edema can be easily avoided.

Discussion

Around 75% of mucoceles are less than 1 cm in diameter, but there are few described cases of lesions even above few cm. According to the studies there are no differences between genders, but they are more frequent in second decade of life [1, 9, 10].

There is no clinical difference between extravasation and retention mucoceles. Lesion duration is not constant, from a few days to few years. They are usually found by a specialist by chance, during a routine check up, as usually there are no symptoms. Only a small group of patients reports a feeling of discomfort, but no pain [7].

A histopathologic study is crucial to confirm the diagnosis and to ensure that damaged tissue is completely enucleated. Mucoceles need to be differentiated with fibromas, which are also a benign lesion of mesenchymal origin, however its most often location is the buccal mucosa [9]. The other very similar lesion is pyogenic granuloma, which cause is also the irritating factor. The role of dentist in such cases, especially in correct planning of the prosthetic and orthodontic treatment, to avoid the traumatisation of adjacent soft tissues, is cannot be stressed enough. Carbon dioxide laser has a high water absorption rate and is well absorbed by all soft tissues with high water content and what is also very important, its effects on adjacent tissues are minimal. The use of this laser with the optimum power of 3 W, allowed achieving highly promising results. No recurrence was observed. Such properties make CO2 laser the perfect surgical tool for treating oral soft tissues. The operation time is short usually around 5 minutes, making it a convenient and highly acceptable treatment for children and patients who cannot withstand long treatment.

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Fig.1. Lesion of the ventral side of the tongue

Fig.2. Lesion of the ventral side of the tongue

Fig.3 Clinical examination

Fig.4 Surgical excision of the lesion with carbon dioxide laser

Fig. 5. In local anaesthesia the lesion was cut using a focused laser beam.

Fig. 6. The lesion was enucleated