

Large dermoid cyst of the floor of the mouth - case study

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Summary

We present the case of a 32-year-old male, without pathological antecedents, who reported to the Clinic of Oral and Maxillofacial Surgery in Timisoara, with tongue movement, speaking and deglutition difficulties, as a result of a sublingual tumor with a slow and long evolution, hyperdimensioned during the last three months. The clinical examination of the oral cavity reveals a median sublingual prominence, which exposes the phrenum and dislocates the tongue. The interstice formation exteriorizes through the skin and massively deforms the submental area. Due to its large size, the tumor swells out exo and endorally, crossing through the mylohyoid muscle fibers. It is hard to establish, through anamnesis, whether the initial location was above or below the mylohyoid muscle. The CT images show a homogeneous, clearly marked cystic tumor formation, which does not affect the surrounding tissues. The histopathological examination confirms the clinical diagnosis for dermoid cyst. The cyst is to be treated by surgery and consists of enucleating the cystic formation through the mouth, followed by the restoration of the normal oral functions.

Keywords: dermoid cyst, mouth floor, large cyst.

Case report

The sublingual dermoid cysts are most commonly encountered with young adults, may have considerable dimensions and they frequently have a small number of symptoms. We present this case study in order to prove the slow, expansive and relatively not painful growth of the formation at the level of the mouth floor, during a period of approximately two years. The 32 years old male patient with a giant suprahyoid tumor generating breathing, speaking and mastication difficulties was hospitalized in January 2005, within the Clinic of Oral and Maxillofacial Surgery in Timisoara. The endooral tumor, first noticed by the patient two years ago, as a nodule, has grown dramatically during the last three month, deforming the mouth floor and the submental area. When eating and swallowing difficulties appear, the movements of the tongue

are limited and a local pressure is present, therefore the patient decides to see the doctor.

The clinical examination reveals a deformation of approximately 12 centimeters in diameter, symmetrically located on the median line, covered by teguments which are not modified in aspect and color, not painful, spontaneously or by pressure (*Figure 1*).

Figure 1. Exooral aspect



During the endooral examination (*Figure 2*), the pronounced protrusion of the mouth floor is revealed, by pushing the tongue backwards and upwards, towards the pharynx. The transparency reveals a gray-yellowish content. The consistency is soft and leaves bucket when pressed. When palpating it with both hands, it is found that the tumor is clearly marked, it does not adhere to the mental arch and it is mobilized together with all the structures of the mouth floor. This case is interesting due to the considerable size, the endo-exo-oral location and the resulting difficulties in removing it by surgery.

Figure 2. Endo-oral aspect



Figure 3. The image resulted from the computed tomography

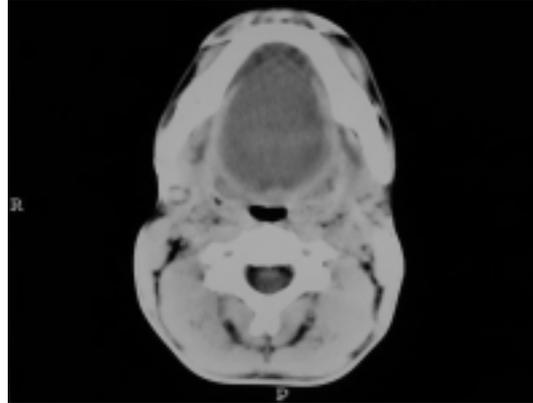
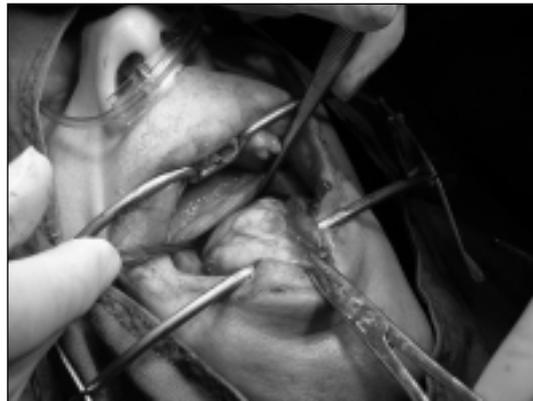


Figure 4. Intrasurgical aspects



The computed tomography (*Figure 3*) shows an ovoid, homogeneous cystic formation located on the median line, clearly marked, with no effect on the surrounding tissues.

When planning the surgical treatment, it has been decided to tackle the tumor endorally (*Figure 4*), thus respecting the patient's request. The surgery has been performed under general anesthesia by nasotracheal intubation.

After locating the orifices of the salivary glands' canals located under the mandible, which may not be intersected, an incision in the mouth floor is performed, protecting, at the same time, the Wharton canals and the lingual nerves.

The cystic membrane is covered only by the mucous membrane, from which it can be easily detached. By being very large, the cyst is inserted between the geniohyoid muscles, after dissociating the fibers of the mylohyoid muscles. A splitting surface is identified, and the cystic membrane is detached and isolated lengthwise. In order to facilitate the dissection, it is necessary to partially evacuate the content, which has the shape of a semi-solid, yellow paste containing also hair fibers (*Figure 5*). Due to the fact that the space remaining after enucleating the cyst is considerable, an aspirating drainage is performed.

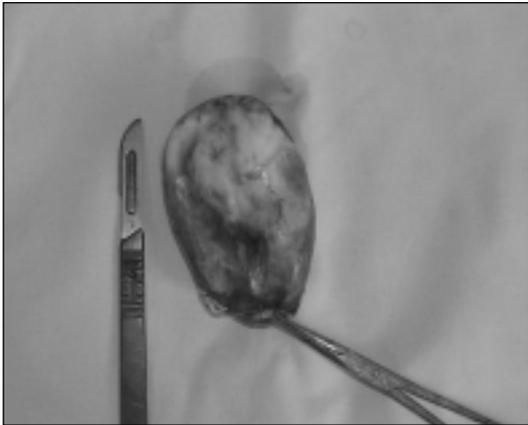


Figure 5. The appearance of the cyst after excision

The post-surgical evolution has had no incidents, following the protection with antibiotics and efficient aspirating drainage. Six weeks after the surgery the patient is cured and completely recovered from morphological and functional point of view.

Comments

The dermoid and epidermoid cysts are development injuries which may appear anywhere within the body. Between 1.6 and 6.9 percents of such cysts appear at the level of the head and of the neck, such cysts representing less than 0.01% of all cystic formations [1,2,3,4].

The dermoid cysts of the mouth floor are uncommon (rare) injuries, most likely caused by the retention of the germinal epithelium during the growth of the mandible and hyoid branchial arches [5]. Such formations are encountered, most frequently, with patients between 15 and 35 years of age, but may be encountered with other age categories, as well. The male patients are more frequently affected, with a male-female ratio of 3:1 [6]. The dermoid cysts are more frequent than the epidermoid cysts, with a 2:1 ratio. Such cysts are most frequently located on the median line of the mouth floor [7]. Usually, they are present at

birth but they become manifest (visible) later, when they get secondarily infected. This is not the case of the present patient who suffered from a hyper dimensioning lacking signs of inflammation over a period of two years. The pre-surgical imaging examinations provide anatomical and diagnosis information, which are important to the therapy of the patient.

The term „dermoid cyst” has been sometimes incorrectly used to describe related cystic formations, which were, in fact, epidermoid or teratoid cysts [8]. From histological point of view, all the real dermoid cysts are delimited by an epidermic layer, containing skin annexes such as sebaceous glands and sudoriferous glands, hair and/or hair follicles. If the annexes are absent, the entity is called epidermoid cyst. If the cyst's wall contains structures derived from all three germinal embryonic layers, the entity is called teratoma or teratoid cyst [9].

The anatomical classification is useful for the intra- or extra oral surgical approach [10]. In our opinion, the decisive elements are the size of the tumor, its relation with the anatomical elements of the mouth floor and the presence or the lack of infection.

Clinically, the cysts are painless formations, which grow slowly and develop without symptoms until noticed by the patient or by the accompanying people. They have a pasty appearance; they are soft and well encapsulated, without associated lymphadenopathy. The sudden increase in size is supposed to be due to the beginning of puberty, when the secretion of sebaceous glands increases. In some cases, the severe growth of the cyst is due to infection. The infection may occur due to blocking of the salivary glands within the cyst or by the septic insemination of the cyst due to trauma. Pain, trismus, fever, swallowing disorders and cervical lymphadenopathy may occur.

The content of the cyst may be keratinous, caseous, sebaceous or suppurating,

with hair, nails, fat, cholesterol crystals and even cartilage. In this case, the presence of hair led to the diagnosis of dermoid cyst or teratoma.

Due to the relatively exceptional incidence, the differentiated diagnosis is not always easy. It includes development, infectious and tumoral processes. The sublingual tumefaction may be caused by the blocking of the salivary canals, the infection of the sublingual or submandibular glands and a lateral sublingual swelling may direct the diagnosis towards a salivary cyst. The neck's midline and lateral cysts, located under the mylohyoid muscle must be differentiated from the odontogenous cysts, lipoma, angioma, lymphangioma, thyroglossal cyst, neurofibroma and severe infections. Also, metastatic nodes, which mimic a cystic conduct, may be found [11].

Conclusions

The cystic tumors of the mouth floor are relatively uncommon (scarce). The decision concerning the best surgical approach may be difficult, at least regarding big formations [12]. In planning the surgical treatment it is very important to locate the cystic tumor in relation to the mylohyoid muscles. The exact location of the cysts in relation to the

mouth floor muscles used to be settled especially intrasurgically. The intraoral approach is recommended when the tumors are small and located above the geniohyoid muscles. The tumors located under such muscles, the very large ones, and the infected tumors, should be tackled cervically. However, as demonstrated by the present case report, even the large cysts may be excised intraorally. When the cyst is clearly marked, the intraoral approach must be definitely taken into consideration [13].

The surgical excision is the treatment of choice for the dermoid cyst and the recurrence ratio is low. The fibrous capsule surrounding the cyst makes it easy to be enucleated, even with the finger. The tear probes may be used for tubulating the salivary canals, in order to prevent them from being injured during the dissection.

In the present case report the surgical removal of the large dermoid cyst has been performed intraorally. By using such technique, the surgical access for a very large cystic tumor, which is important both for the mouth floor and for the submental area, has been achieved [14]. The intraoral surgical approach has been proven to be conservative, efficient and the most convenient method from aesthetical point of view [15,16].

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