



LIPOMAS OF THE ORAL CAVITY. A LITERATURE REVIEW

KEYWORDS

lipoma, oral cavity, rare tumors, surgical excision

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ABSTRACT *Lipomas are the most common mesenchymal tumors of the soft tissues but with a weak representation in the oral cavity. Occured in the 4th and 5th decades of life, without predilection for gender, lipomas still have uncertain pathogenesis but are often associated with general changes in lipid metabolism. Histopathology sustains positive diagnosis of intraoral lipoma and sets histologic variant. Single or multiple lesions, superficial or deep located, lipomas of the oral cavity raises, however, many problems of differential diagnosis, especially when they have atypical localizations and imprecise limits. Treatment accepted for oral lipomas, regardless of histologic variant is simple surgical excision, without postoperative recurrences in most cases. We present a brief review of data published in the international literature about these rare tumors of the oral cavity.*

Lipomas are the most common benign tumors of soft parts [1]. They may be located in any region of the body where fat tissue is normally present [2, 3]. A study conducted in the 80's on Scandinavian population [4, 5] stated that 43% of diagnosed benign mesenchymal tumors were lipomas. About 13% of the human body lipomas have cervical and facial topography [6], some authors pointed out that this percentage also included the lipomas of the parotid, oral cavity, pharynx and larynx [7]. Other researchers believe that lipomas are even more common, because such tumors are underdiagnosed when they are small and aren't accompanied by functional symptoms [8]. Fregnani reported that 15-20% of all lipomas are summarized in the head and neck regions, of which 1-4% are interested in the oral cavity [9]. Similar proportions were also reported by: Buric [10], de Visscher [11], Gnepp [12], Hart [13], Piatelli [14]. According to some authors are more common in men [10, 15] or without predilection for gender [9, 16].

Infiltrative lipomas, similar to non-infiltrative ones, are more commonly seen in adults over 40 years old. They are located mainly on the trunk and limbs than the head and neck [17]. These lipomas less circumscribed, deep-located, interesting the muscles, nerves or synovium are also called intramuscular lipomas [18]. They are extremely rare in the oral cavity, located in tongue or in cheek's thickness [8, 14, 19, 20].

Intraosseous lipomas can develop at almost any age group, the intramandibular lipomas prevailing in 5th and 6th decades of life [10]. The jaw lipomas were reported in limited numbers [10, 21, 22]. Buric states for intramandibular lipomas a slight predominance in males (gender ratio: 6/4 in men's favor) [10].

In the oral cavity, lipoma appears as a yellow swelling of elastic consistency, with frequent location under the lining of the oral floor or cheek, within tongue and lips, in peribone grooves and retromolar area. Tumors are often solitary, encapsulated, round-oval, of varying sizes, slow-growing. The mucous membrane covering intraoral lipomas is nor-

mal [7, 9, 11, 12, 15, 23, 24, 25, 26, 27]. On the tongue, lipomas are well circumscribed, submucosal, mostly located in two thirds of the mobile portion, on its lateral edges, but bilateral and symmetrical locations have been described in Launois-Bensaude's disease, where lipomas are not encapsulated [24, 25, 28]. Discomfort is the main local cause for medical addressability.

Lipomas outside the oral cavity can show high rates of recurrence after surgical excision, but the intraoral ones, even if are not well defined, rarely were followed by relapse if they have been completely excised [9, 27, 29]. However, Garavaglia states infiltrative lipoma recurrence rates for the head-neck area of 27.3% - 62.5% [30]. The proliferation rate of intramuscular lipomas found to be similar to ordinary lipomas [9]. Epivatianos [29] and Fregnani [9] found that in oral cavity, intramuscular lipomas have a slight preference for tongue, thanks to the close relationship between fat and muscle layer.

There is a limited number of osteolipomas reported in the oral cavity [31, 32] which were found in middle or advanced age patients, evolving for years. Osteolipomas are large and may originate in soft tissues depth or subcutaneous plane. They are well encapsulated and the area of section shows the presence of both adipose tissue and bone. Some researchers believe these types of benign lipomas as mesenchymomas since both adipose tissue and also cartilaginous and osseous components originate in mesenchyma tissue [3].

Intramandibular lipoma has symptoms depending on location and size tumor [10]. If nerves are not involved and there is no infection, it remains asymptomatic for many years and only a painless swelling can highlight [33, 34]. By enlargement and compression on the nerve trunks, a sensory disturbance (paraesthesia or hyperaesthesia) can occur. Swelling, pain or paresthesia remain the most important symptoms of intramandibular lipoma [10, 35]. With increasing lipoma, tooth roots resorption adds too [33].

In terms of oral cavity involvement in multiple symmetric lipomatosis, known as „Madelung’s disease” or „Launois-Bensaude syndrome”, it states there are cases of macroglossia (because of fatty infiltration at this level), Ghislain reporting the first case of tongue symmetric lipomatosis (with non-encapsulated fat masses) in a patient with Launois-Bensaude syndrome, which also presented lipomatous masses in the neck, shoulders and occipital region [28].

For the diagnosis of intraoral lipoma, additional tests are useless in the vast majority of cases [36]. However, there are performed: 1) biological exploration (which may indicate associated metabolic alterations), 2) imaging exploration - MRI or CT - very useful for deep locating, infiltrative lipomas or to exclude associated malignant tumor pathology and 3) microscopic exploration - that distinguishes the varieties of lipomas (fibrolipomas, myxolipomas, condrolipomas, osteolipomas, myolipomas, angioliipomas, spindle cell lipomas, pleomorphic lipomas, intramuscular infiltrating lipomas, diffuse lipomatosis).

From the microscopic point of view, lipomas differ slightly from the surrounding adipose tissue. They are composed of mature fat cells, slightly larger than usual (about 200 microns in average diameter), with uniform stained nuclei. Lipomas deep-located in the mouth has a more irregular shape, depending on place of origin. All lipomas are well vascularized, but in normal circumstances the vascular network is compressed by relaxed adipocytes and is not clearly identified [18].

Fine needle aspiration procedure followed by cytological examination is often indicated when liposarcoma is suspected. A key-issue for liposarcoma is to identify the lipoblasts in examined specimen [37].

For occasional cases of intramandibular lipomas, orthopantomography may reveal a radiolucent image but differential diagnosis of rare bone tumors is difficult to determine only by clinical and radiological elements. Preoperative biopsy is mandatory to differentiate these lesions from chronic infection, cystic lesions, odontogenic benign tumor, chondromyxoid chondroma, fibrous dysplasia, primary malignancy (liposarcoma) or metastatic malignancies or osteoporotic bone marrow defect [10]. All these possibilities are histologically excluded.

The differential diagnosis of oral cavity lipomas are taken into question the following clinical entities [7, 15, 26]: epidermoid and dermoid cysts, lymphoepithelial cyst, ranuli and oral mucocele, pleomorphic adenoma, mucoepidermoid carcinoma, fibroma, fibroepithelial polyp, benign nerve sheath tumors, encapsulated abscess, Bichat’s fat-bubble herniation.

Even superficial lesions make differential diagnosis to be complex, if the characteristics are altered. In an article about tongue lipomas, Moore states that clinical diagnosis is difficult and can be established only after excluding of schwannomas, cysts, adenomas of minor salivary glands, lingual thyroid, liposarcomas [25]. Both infiltrative lipoma and angioliipoma are (clinically and radiologically) difficult to distinguish from malignant tumors and therefore the histological diagnosis is mandatory [38]. Referring to the tongue infiltrative lipoma, Keskin emphasizes its ability to infiltrate adjacent muscles and to local relapse, characteristics that may lead to a wrong diagnosis of liposarcoma [24]; lipoblast proliferation, myxoid differentiation, cellular pleomorphism, increased vascularity, increased mitotic in-

dex - are issues that are not found in infiltrative lipoma.

Lipoma of the oral cavity is treated only by surgery [15]. In most cases, surgical removal of superficial located lipomas is easy. Dissection is performed easily if there is a capsule. In the case of deep-located tumor, surgical demarcation can be difficult. For some oral lipomas located in the floor of the mouth, tumor removal can be performed by extraoral approach. Increased attention should be given to oral lipomas located in the mouth vestibule right next the mentonier foramen, because many of vestibule lipomas were found to be in strict connection with mentonier nerve.

Martorelli recommended laser-procedures for oral cavity lipomas removal, but there are not widely tested [39]. Although many histological variants are recognized, prognosis is the same – a positive one. However, intramuscular lipomas (which are rare in oro-maxillo-facial territory) may relapse due to infiltrative growth potential [40].

Osteoliipoma has the same treatment of choice – excision [32] and no relapses were reported [40]. Spindle cell lipoma of the oral cavity simply excised was not followed by relapses [7].

Infiltrative lipoma of the oral cavity has only surgical treatment, even if the recurrence rate is high: 35% - 62.5% [30, 41]. In these cases, the clinical course is best predicted by tumor’s complete surgical excision, certified by free-margins of the wound. Because of the infiltrative nature and potential increased relapse rate after inadequate surgery, complete surgical excision is required. However, there were no reports of malignant transformation for recurrent infiltrating lipomas.

For intraosseous lipomas of oro-maxillo-facial territory the treatment is conservative-surgical one, by enucleation [16]. There were no reported cases of recurrence or malignant transformation in the bones of the face [10], although there were intraosseous lipoma’s malignant transformation of other sites [42]. The decision to graft the bone space remained empty after lipoma removal (intramandibular, more frequently) depends on the patient’s age, size and location of the defect and if the patient is a candidate for removable prosthesis or dental implants [10].

Therefore, if histopathology is the gold standard in the diagnosis of intraoral lipoma, the treatment of choice is surgical one, by local excision. Relapses after simple excision of an intraoral lipoma are not common, but it is widely accepted that infiltrative lipomas tend to recur, because they are not encapsulated as simple lipomas. Even in cases of relapses, it has not been reported the incidence of malignant transformation [9, 43]. Although growth is usually limited in oral lipomas, they can reach large, interfering with speech and chewing, making their excision necessary [44]. However, Cao reported relapse in patients under 18 years old but also the development of a liposarcoma after several relapses. Therefore, excision must be complete from the first surgery. In patients under 18 years, long-term follow-up is needed [45].

CONCLUSIONS

Lipomas are common benign tumors of the human body, but uncommon in the mouth. If lipomas arrive at large dimensions may interfere with speech and chewing.

Intraoral lipomas may be solitary or multiple, well-defined

or infiltrative, the positive diagnosis being histologically established.

Surgical excision is the main treatment of the oral lipomas and is very difficult to perform for infiltrative lipomas, which leads to increased postoperative relapse rate.

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