

The importance of early diagnosis of large lipomas in the maxillofacial region

Importancia del diagnóstico precoz de los lipomas de células grandes en la región maxilofacial

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ABSTRACT

Lipoma is a benign tumor composed of proliferation of mature fat cells interspersed by fibrous connective tissue, blood vessels and muscles, delimited by a thin capsule. Although it represents a mesenchymal neoplasm most common human body, are rare occurrences in the oral cavity. Presents clinical and histopathological variables that do not alter their prognosis. The pathogenesis is still uncertain, although some authors consider heredity and endocrine disorders as possible causes. Occurs with greater prevalence in obese people, although their metabolism is completely independent of the normal body lipid metabolism. The clinical diagnosis of oral lipoma is the view of a nodular mass, soft, asymptomatic, flat surface, without ulceration and limited growth. The continuing growth of the lesion may cause difficulty in chewing, speech, dental adaptation and change in facial aesthetics of the patient, requiring surgical excision of the lesion. The final diagnosis is by histopathological examination. Aims to present a literature review and clinical cases of a retrospective study of 61 cases of lipomas diagnosed in pathological service between 1978 and 2009, among the 10 573 reports during that same period. It emphasizes the special cases of large lipomas of the maxillofacial region, and the importance of early diagnosis of these lesions. A dental surgeon should be able to diagnose lipomas in an early stage in the maxillofacial area avoiding a massive growth of these lesions.

Key words: lipoma, oral surgery, diagnosis.

RESUMEN

El lipoma es un tumor benigno compuesto por la proliferación de células adiposas maduras entremezcladas con el tejido conectivo fibroso, los vasos sanguíneos y/o músculos, delimitado por una fina cápsula. Aunque representa un neoplasma del mesénquima muy común del cuerpo humano, tiene raras ocurrencias en la cavidad bucal. Presenta variables clínicas e histopatológicas que no alteran su pronóstico. La patogénesis sigue siendo incierta aunque algunos autores consideran que los trastornos hereditarios y endocrinos son causas posibles. Ocurre con una mayor prevalencia en las personas obesas, aunque su metabolismo es totalmente independiente del metabolismo normal de los lípidos corporales. El diagnóstico clínico del lipoma bucal está relacionado con una masa nodular, blanda, asintomática, de superficie plana, sin ulceración y de crecimiento limitado. El continuo crecimiento de la lesión pudiera crear dificultad al masticar, al hablar, en la adaptación dental y cambio en la estética facial del paciente requiriendo la escisión de la lesión. Presentar una revisión de la literatura y de los casos clínicos de un estudio retrospectivo de 61 casos de lipomas diagnosticados en el servicio de patología entre 1978 y 2009 entre los 10 573 informes hechos durante ese mismo período. Se enfatizan los casos especiales de lipomas grandes de la región maxilofacial y la importancia del diagnóstico temprano de estas lesiones. Un cirujano dental debe ser capaz de diagnosticar los lipomas en una etapa temprana en el área maxilofacial para evitar un crecimiento masivo de estas lesiones.

Palabras clave: Lipoma, cirugía bucal, diagnóstico.

INTRODUCTION

Lipomas are benign tumors of mesenchymal origin consisting of mature fat cells which usually are involved by a thin fibrous capsule.¹ There are several forms and dimensions in this pathology depending of location, evolution time which may cause orofacial deformity in some patients.² Lipoma's etiology remains uncertain, even after pointing endocrine changes and heritance factors as possible causes.¹

It is known that lipomas are mainly present in the fifth and sixth decade of life,¹ being rarely found during childhood.^{3,4} Some authors reported that there is major incidence in males,^{3,5} not having any ethnical relation.⁵ Lipomas represent the most common tumor of soft tissues being between 15 and 20 % in oral cavity. Many studies have reported the buccal mucosa as the site with major occurrence of these lesions, but it has also been seen in lips, tongue, palate, buccal vestibule, floor of the mouth and parotid region.^{1,3} Clinically, lipoma is a superficial lesion having slow growth, generally asymptomatic, well defined, sessile or pedunculated base, lobule or unique mass, and yellow coloration.^{1,3} Some imaging examinations may be used to complement the diagnosis, being necessary to do an incisional or excisional biopsy to confirm the diagnosis and by histopathology. In order to do a clinic diagnosis, yellow coloration of lipomas should be observed as well as an event of fluctuation of the lesion when it is soaked in a recipient with formol 10 %, this lesion will be on the liquid surface due to its lower density than a fixer solution.^{5,6-8}

The treatment of Lipomas in the maxillofacial region, including all the histopathologic varieties, is a simple surgical removal. The recurrence is rare¹ and malignant transformation neither.⁶ Although, lipoma's growth is usually limited, it may grow in large proportions which can interfere in the speech, mastication, dental prosthesis adaption and facial aesthetics that reinforce the necessity to realize a surgical removal.^{7,8} The present study aims to show a retrospective study of 61 cases of lipoma which were diagnosed by Anatomic Pathological Center of Catholic University of Minas Gerais (PUCMG) from 1978 to 2009 within 10 573 histopathologic reports realized in this period. In addition, this study will emphasize some particularities in cases of large lipomas in the maxillofacial region and the importance of an early diagnosis of these lesions.

CASE REPORTS

Case 1

Male, 61 years old, complaining of enlargement on the lateral border of his tongue with approximately 30 days. After having the incisional biopsy done and histopathology confirmation of the diagnosis, surgical removal of entire lesion was chosen. The lesion had the characteristic features of lipoma such as yellow coloration, capsule, soft consistency and asymptomatic (Fig. 1).



Fig. 1. A. Clinical aspect of the lesion. **B.** Surgical exposure and excision. **C.** Sutured region.

Case 2

Female, 36 years old, 10 years of lesion, complaining of facial deformity in the right side of her face. After an aspirative punch and incisional biopsy, it was chosen to remove the whole lesion which was not well defined, mixing with fibrous conjunctive tissue and muscle tissue in buccal mucosa region (Fig. 2).



Fig. 2. A. Clinical aspect of the lesion. **B.** Aspiration. **C.** Surgical removal.

Case 3

Female, 38 years old, does not know about the start of lesion, complaining of pain on the mastication. In this case, it was chosen the excisional biopsy of the lesion which was lobule, streaking with a fat tissue in the chew, difficulting the dissection and lesion removal (Fig. 3).

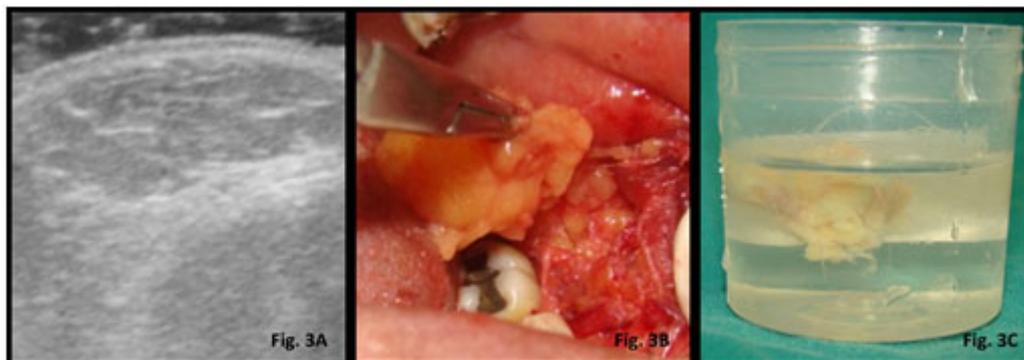


Fig. 3. **A.** Ultrasound image through the lesion. **B.** Dissection and exeresis of lesion. **C.** Fluctuating aspect of the lesion.

Case 4

Female, 55 years old, does not know about the start of lesion, complaining of pain, complaining of the difficulty to fit her lower partial denture. In this case, an excisional biopsy was done once the lesion was well defined by a fibrous capsule (Fig. 4).

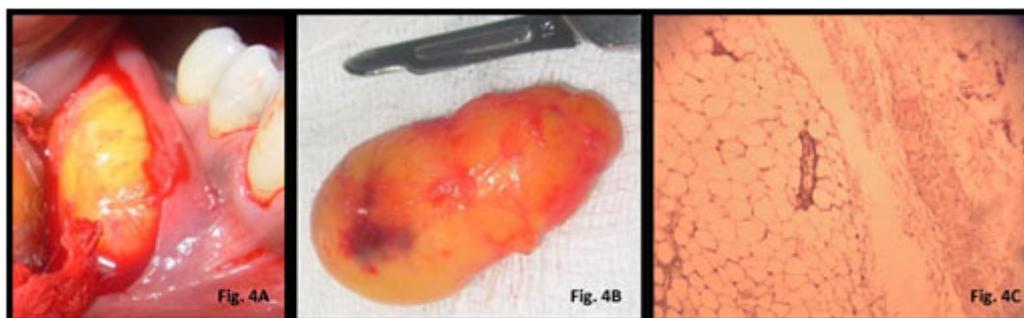


Fig. 4. **A.** Surgical exposure of the lesion. **B.** Macroscopic aspect of the lesion. **C.** Histopathological aspect.

All the cases described above have been in follow up period, without signs of recurrence and functional/aesthetic commitment.

DISCUSSION

The etiology of lipomas is still discussed. Trauma and infection were also indicated as possible etiological agents. However, any factor has been established as a cause to lipoma's onset. Lipoma has a higher incidence in obese people even having metabolism independent to a lipid's metabolism. It is known that the occurrence of

multiple lipomas may be associated with Cowden syndrome or multiple hamartoma syndrome.⁹

Even though lipomas mainly occur in the subcutaneous tissue, it might locate in a profound and uncommon area into facial spaces. This fact requires imaging examinations such as computadorized tomography, magnetic resonance imaging and ultrasound in order to help with diagnosis and treatment.^{10,11}

Being a rare benign mesenchymal neoplasm in the oral cavity, generally, there are some features in lipoma that facilitates the diagnosis. In addition to yellow coloration, the lower density than a fixer solution, making a surgical piece fluctuates when soaked in recipient. However, *Souza et al*,¹² reported a lipoma case which did not observe these features.¹² According to some authors, these facts are probably found due to the deepness of lesion relating to surfacing epithelium that difficults the translucence of typical yellow coloration of lipoma lesions. The event of non fluctuation in formol solution 10 % may be explained because a great quality of perilesional hemangiomas connective tissue which gives greater weight to a surgical piece. These findings provide more importance to the histopathologic evaluation to confirm the diagnosis.

According to *Avelar et al*,⁵ it is not possible to distinguish microscopically a lipoma from normal fat tissue, being possible only to see the metabolism process once the tumors are not used as a source of energy. Based on histopathologic findings, lipomas may be classified as simple, fibrolipoma, angiolipoma, intramuscular (infiltrating) lipomas, pleomorphic lipomas, salivary glands lipoma (sialolipomas), mixoid lipomas and atypical lipomas.¹³ According to *Avelar et al*,⁵ simple lipomas are the most common histopathologic type, being rare in children. Lipoblastoma and lipoblastomatosis are more frequent seen in these age group.

Differential diagnosis should be done between lipoma and dermoid and epidermoid cysts, lymphoepithelial cysts, mucocele, ranula, pleomorphic adenoma and mucoepidermoid carcinoma.¹⁴ Mesenchymal neoplasm should be also included in the differential diagnosis.⁵ Oral lymphoepithelial cyst differs from oral lipoma due to smaller nodules and usually occurs between the first and third decade of life. In addition, a majority of these cysts in oral cavity is found in soft palate, pharynx mucosa and lymph nodes.¹⁵ Dermoid and epidermoid cyst are also found as submucous nodules which usually occur in the midline of mouth floor,¹⁶ in different locations on the oral mucosa. Therefore, it is important to conduct a thorough clinical diagnosis and histopathologic evaluation to confirm diagnosis. Even though, surgical removal is considered as a protocol for treating these lesions, other methods have been applied with this aim. *Martorelli et al*¹⁷ indicates the use of laser and electric surgery to treat intra oral lipomas. Different microscopic forms have the same prognosis. However, it is important to warn about the higher rate of recurrence of intramuscular lipomas because of their infiltrative growth pattern, and it is a rare condition in the oral and maxillofacial region.¹⁸

A dental surgeon should be able to diagnose lipomas in an early stage in the maxillofacial area avoiding a massive growth of these lesions. It will be essential to prevent any aesthetic and functional disturbances in patients. An adequate treatment and postsurgical follow up in lipomas are fundamental to reestablish the region and monitor any possible chances of recurrence.

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