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CASE REPORT

INTRA-ORAL LIPOMA: A CASE REPORT

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ABSTRACT

Lipomas are common tumors in the human body, but are less frequent in the oral cavity (1-4%). They commonly present as slow growing asymptomatic lesions with a characteristic yellowish color and soft, often located in the buccal mucosa, floor of the mouth and tongue. We present case of a 70-year-old man with an asymptomatic buccal mucosa. The lesion was removed locally and was sent for histopathologic diagnosis, and final diagnosis of fibrolipoma was made.

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INTRODUCTION

Lipomas are common benign soft tissue neoplasms of mesenchymal origin that occur in the head and neck region in up to 15 to 20% of cases (Miloro, 2015 and Rafieiyan, 2010). Lipomas are found to account for 1%-4% of all oral cavity soft tissue neoplasms, where it usually presents as longstanding soft nodular asymptomatic swellings covered by normal mucosa (Rafieiyan, 2010), Classic lipomas histologically comprise of mature adipose tissue that is encapsulated with varying sizes of adipocytes. Other histologic variants include pleomorphic lipoma, angiolipoma, chondrolipoma, fibrolipoma, and spindle cell lipoma (Miloro, 2015). The metabolism of the lipoma differs from that of normal adipose tissue. It has been shown that the fat of lipoma is not used for energy production during starvation periods as it happens with normaladipose tissue (Chidzonga, 2006). Oral lipoma usually occurs as a solitary lesion. The color, often yellow in tone, depends on the thickness of the overlying mucosa. The surface is typically smooth and non-ulcerated except when traumatized (Rafieiyan, 2012).

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Case Report

A 70-year-old female presented to the Department of Oral surgery at the dental consultation and treatment hospital with a lesion on his left cheek that had been present for few months.
On general examination, patient was of normal built and height. Vital signs were normal and there was no abnormality detected on systemic examination. The patients' past medical history was not significant. This lesion was asymptomatic and had no change in size. Extraorally there was no facial asymmetry, and there was nothing abnormal detected on lymph nodes examination. Intraoral examination revealed a single unilateral swelling on right buccal mucosa, measuring approximately 2.5 x 3.0 cm, oval in shape with a well defined border, and smooth surface texture. Overlying mucosa was intact and there was no evidence of ulceration or inflammation. The lesion on palpation was soft in consistency, freely movable with no fixity to deeper structure, fluctuant, compressible, non-pulsatile, with no blanching effect. There was no localized rise in temperature and no tenderness. The lesion was excised under local anaesthesia by the use of blunt and sharp careful dissection (Fig. 1). The incision site was closed primarily with 3/0 catgut suture. Macroscopically, the resected mass was yellowish in color, smooth in surface and soft in consistency (Fig. 2). The lesion was sent for histological examination.

The description of histopathological examination indentified mature fat cells without cellular atypia forming lobules separated by thin fibrous septa. The final diagnosis was fibrolipoma. The patient healed well, and periodic surveillance was recommended although recurrence is rare with complete surgical excision.

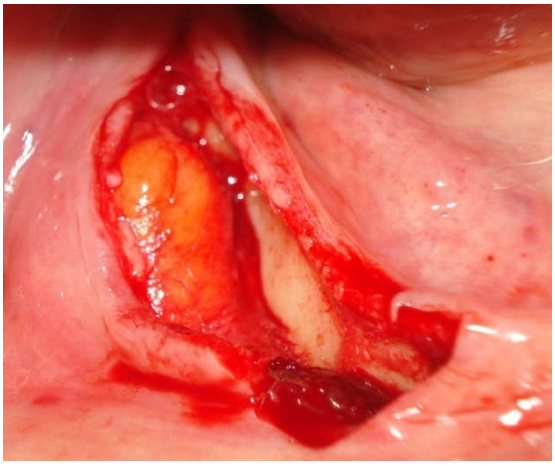

Figure 1. Excisional biopsy of the intraoral tumour mass

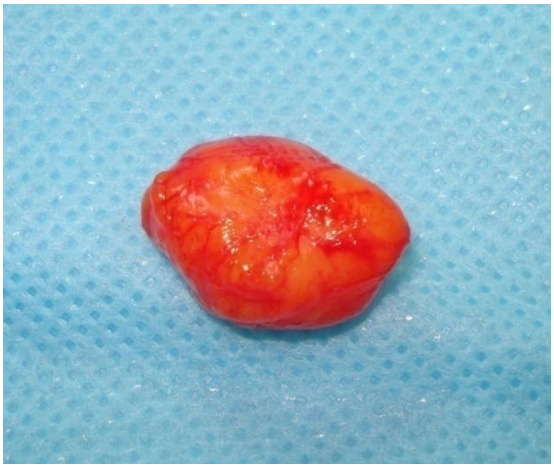

Figure 2. The resected specimen

DISCUSSION

The first description of an oral lipoma was provided in 1848 by Roux in a review of alveolar masses; he referred to it as a "yellow epulis" (Gothwal, 2010; Miloro, 2015 and Omisakin, 2010). The lipoma is a slowly enlarging, soft, smooth-surfaced mass of the submucosal tissues, when superficial; there is a yellow surface discoloration. The lesion may be pedunculated or sessile and occasional cases show surface bosselation (Omisakin, 2014). Generally, there are no differences in gender although a slight female predilection has been noticed for fibrolipomas and male predilection for simple lipomas. This finding is in contrast with the whole body where lipomas are twice as common in females as in males (Rafieiyan, 2010). They occur most often in patients older than 40 years (Gothwal, 2010). The lipomatosis lesions found in childhood include congenital infiltrating lipomatosis of the face, diffuse lipomatosis, nevus lipomatosis cutaneous superficialis, Michelin tire baby syndrome, and macroencephalia (Bannayan-Zonana syndrome) (Gothwal, 2010). The most common location for lipomas in the maxillofacial region is buccal mucosa followed by buccal sulcus, tongue, floor of the mouth, lips, gingival and palates (Chidzonga, 2006 and Rafieiyan, 2010). Rarely, a lipoma will occur within the maxillary bones or sinuses. Once present, a mucosal oral lipoma may increase to 5-6 cms over a period of years, but most cases are less than 3 cms in their greatest dimension at the time of diagnosis (Gothwal, 2010). The lipomas are mostly superficial subcutaneous encapsulated masses but when arising in deeper structures they are poorly circumscribed as in intramuscular (infiltrating) lipomas (Rosai, 1989). Intramuscular or infiltrating lipoma is an unusual clinical variant of this adipose tissue neoplasm, originating between skeletal muscle bundles and infiltrating through the intramuscular septa. They have a slight predilection for the tongue, due to the close relationship between the adipose tissue and the muscular layer. In infiltrating lipomas, there is a consistent and diffuse infiltration with dissociation and entrapment of the muscle fibers, some of which show degenerative changes.

The muscle tissue is replaced by the fat, which may extend beyond the muscle fascia into the intermuscular connective tissue spaces. Fascia, joint capsules, bones, and nerves may also be infiltrated (Ranginwala, 2010). Infiltrative lipomas could suggest a false diagnosis of fluctuant tumor, because deeply occurring lesions may produce only a slight surface elevation and may be well encapsulated, more diffuse, unmovable and less delineated than the superficial variety (Gothwal, 2010; Khadka, 2013; Rapala, 2016). Liposarcoma is another diagnosis to suggest but absence of cellular pleomorphism, nuclear hyperchromatism and low mitotic activity support the diagnosis of intramuscular lipoma (Ranginwala, 2010). The etiology remains unclear, probably the suggested pathogenic mechanisms include the "hypertrophy theory" which states that obesity and inadvertent growth of adipose tissue may contribute to formation of these oral lipomas however this theory is less convincing in explaining those lesions occurring in areas destitute of preexisting adipose tissue (Gothwal, 2010 and Rashad, 2012). Another theory known as "metaplasia theory" suggests that lipomatous development occurs due to aberrant differentiation of in situ mesenchymal cells into lipoblast, since fatty tissue can be derived from mutable connective tissue cells almost anywhere in the body (Rashad, 2012). Trauma, chronic irritation, obesity, developmental disorders, endocrine, dysmetabolic and genetic factors provoking the uncontrolled growth of lipomas have all been suggested to play a possible role in the development of intramuscular lipomas (Gothwal, 2010 and Rapala, 2016). Another theory suggests that lipomas are congenital lesions arising from embryonic multipotent cells (Joshi, 2015).

Lipoma can be classified histopathologically as

- **Fibrolipoma:** most common microscopic variant of oral lipoma, characterized by a significant fibrous component intermixed with lobules of fat cells.
- **Angiolipoma:** a mixture of fat cells and numerous small blood vessels.
- **Spindle cell lipoma:** variable amounts of uniform appearing spindle cells, typically in conjugation with a lipomatous compound.
- **Pleomorphic lipoma:** presence of spindle cells with hyperchromatic giant cells.
- **Intramuscular/Infiltrating lipoma:** more deeply situated and having an infiltrative growth pattern

extending between skeletal and smooth muscle bundle (Raj, 2012 and Ranginwala, 2010).

Our case presented histopathologic features of Fibrolipoma.
Lipoma has a characteristic radiographic appearance. The deeper lipomas need to be assessed by means of imaging modalities to establish a diagnosis, define the size, location and relationship with adjacent muscle as well as to determine operative plan (Rapala, 2016). On CT scan it shows a high density from 83 to 143 Hounsfield units with well or poorly defined margins depending on the capsule (Rafieiyan, 2010).
Ultrasonography shows a lesion which is round or elliptical in shape with intact or mostly intact capsule. Most lipomas are hypoechoic with echogenic lines or spots (Chidzonga, 2006). The majority of lipomas had no internal vascularity as seen in the present cases, on ultrasound although some of them expressed mild and minimal vascularity. Tumors with entrapped muscle fibers may appear heterogeneous and will have internal striations on ultrasound imaging (Rapala, 2016).
Magnetic resonance imaging (MRI) gives a greater soft tissue definition than CT scan, also ultrasound is less informative than MRI (Rashad, 2012). None of these imaging techniques was necessary for preoperative assessment in the presented case as the lesion was located in accessible area of the buccal sulcus and there were no anatomical hazards to complicate the surgery.

Lipomas may occur sporadically or as one of several inherited disorders including familial multiple lipomatosis and benign symmetric lipomatosis (Rapala, 2016). Multiple head and neck lipomas have been observed in neurofibromatosis, Gardner syndrome, Encephlocraniocutaneous lipomatosis, multiple familial lipomatosis, and Proteus syndrome. Generalized lipomatosis has been reported to contribute to unilateral facial enlargement in hemifacial hypertrophy (Rashad, 2012). Oral lymphoepithelial cyst clinical appearance is very similar to oral lipoma. Oral dermoid and epidermoid cyst also presentend as submucosal nodule (Raj, 2012). However, granular cell tumor, neurofi broma, traumatic fibroma, minor salivary gland tumors and malignant lipomatous are other differential diagnosis (Juneja, 2014). Treatment of lipomas consists of simple surgical removal, irrespective of the histological subtype, with no recurrence being expected. The surgical approach is dependent on the site of the tumor and the proposed cosmetic result (Rafieiyan, 2010). Malignant change in lipoma is thought to be almost nonexistent though malignant transformation of lipomas in a few cases was reported (Demir, 2002).

Conclusion

Oral lipomas are uncommon neoplasms in the oral cavity. Their diagnosis is confirmed by clinical and microscopic examination. The treatment is surgical excision. Oral lipomas must be excised surgically, and microscopic examination must be performed on the tissue.

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