

LARGE MANDIBULAR LIPOMA: A CASE REPORT

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ABSTRACT



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Aim This case report highlights an unusual presentation of an intraoral lipoma exceeding typical size limits, emphasizing the diagnostic and therapeutic approaches undertaken.

Summary A 29-year-old female presented with intermittent left cheek swelling, initially suggestive of an infectious process. Imaging studies, including ultrasound and MRI, confirmed a well-defined, fat-containing lesion consistent with a lipoma measuring 37 mm. Given the lesion's size and location along the external aspect of the left horizontal mandibular branch, surgical excision was performed under general anesthesia. The procedure was uneventful, with meticulous dissection ensuring nerve preservation. Histopathological analysis confirmed a classic lipoma. Postoperative recovery was favorable, with transient hypoesthesia of the mandibular nerve resolving within one month. This case underscores the importance of imaging and histopathological examination in diagnosing atypically large intraoral lipomas and highlights the efficacy of surgical excision with minimal recurrence risk.

Key learning points

1. Intraoral lipomas can present beyond typical size ranges, highlighting the need for clinical awareness in differential diagnosis of soft tissue masses, especially for non-tender, slow-growing lesions.
2. Imaging, particularly ultrasound and MRI, is essential for the preliminary identification and characterization of intraoral lipomas.
3. Surgical excision is highly effective for intraoral lipomas, with minimal recurrence and manageable postoperative complications.
4. Histological examination is critical to differentiate between the subtypes of oral lipomas, guiding accurate diagnosis and management.
5. The etiology of intraoral lipomas remains uncertain, underscoring the need for further research into potential lifestyle and genetic factors.

KEYWORDS

Maxillofacial Surgery; Oral Pathology; Intraoral Lipoma; Lipoma management; Soft Tissue Tumor.

1. INTRODUCTION

Lipomas are the most common benign mesenchymal tumors occurring in humans and are predominantly composed of mature adipocytes. Lipomas mainly occur in various parts of the body, such as the trunk and proximal regions of the extremities, but are uncommon in the oral cavity. These entities represent a mere 1–5% of all benign oral tumors [1], but they present unique diagnostic and therapeutic challenges. Lipomas in the oral cavity do not exhibit a predilection for any specific location, and occurrences have been reported in areas such as the tongue, buccal mucosa, and floor of the mouth. They tend to occur in patients between the ages of 40 and 60, with the average age of occurrence being approximately 52 years, although

they can appear at any age.

Histologically, oral lipomas present in a spectrum of subtypes, including but not limited to simple lipomas, fibrolipomas, spindle cell lipomas, intramuscular or infiltrating lipomas, and angiolipomas. Each subtype exhibits distinct histopathological features, whose identification is critical for accurate diagnosis and appropriate management.

Clinically, oral lipomas often present as asymptomatic, slow-growing masses that may be overlooked or misdiagnosed due to their subtlety and benign nature. This report describes a case involving an adult female patient who underwent successful surgical removal of an intraoral lipoma.

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2. CASE PRESENTATION

A 29-year-old woman presented at the Oral and Maxillofacial Surgery Department at the Brussels University Hospital Erasme with a history of intermittent left cheek swelling for several years (Fig.1). She was first admitted without appointment, as she described a sudden onset of cheek swelling that could be compatible with cellulitis. The patient had no notable medical history or medication usage to report, but disclosed that she smoked approximately 10 ci-



Figure 1. Preoperative intraoral view.

garettes daily. The patient's oral hygiene was found to be excellent, no cavities were observed, and no pain was elicited during dental percussion. Moreover, an orthopantomogram revealed no significant lesions. Blood work showed no elevation in white blood cells, C-reactive protein (CRP), or other relevant markers of infectious or allergic origin.

A cervical ultrasound revealed a 37-mm mass in the left cheek, initially suggestive of a lipoma (Fig. 2).

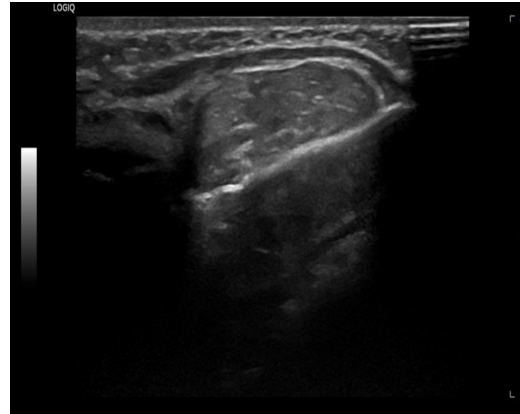


Figure 2. Ultrasonographic image depicting a well-defined hypo-echoic mass consistent with a lipoma.

This diagnosis was later confirmed by an MRI, which delineated a lesion with fat signal characteristics (hyperintense in T1 and T2, hypointense in T2 with fat saturation, and T1 post-gadolinium with fat

saturation), consistent with a lipoma that measured 37 x 13 x 17 mm (length x anteroposterior x craniocaudal). The lipoma was located along the external aspect of the left horizontal mandibular branch (figure 3).

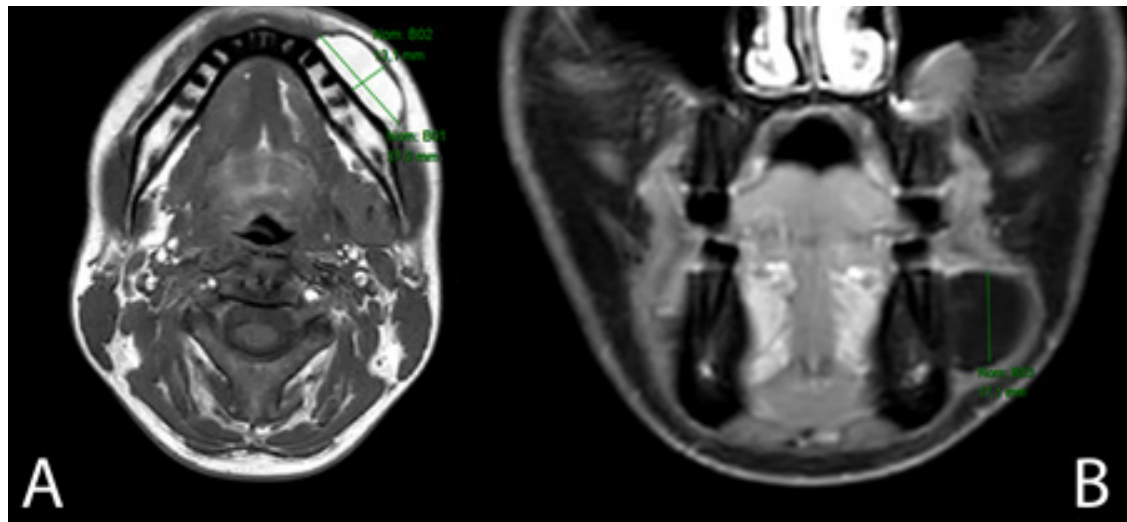


Figure 3. MRI scans with A) axial and B) coronal views (T2 fat-saturated), illustrating a homogenous, high-signal intensity mass on T1-weighted images characteristic of a lipoma's fat content

The decision was made to perform an excisional biopsy and excision of the lesion (figure 4). The procedure was performed under general anesthesia due to significant anxiety on the part of the patient. An electrocautery unit was used to make an incision along the vestibular sulcus from tooth 33 to 36, which immediately exposed the lipoma. Careful dissection was undertaken to preserve the mandibular nerve, with meticulous attention to hemostasis. The wound was then closed with simple interrupted sutures using

3-0 Vicryl (polyglactin 910). The follow-up after 14 days showed an uneventful wound healing process; however, there was a transient hypoesthesia of the mandibular nerve, which resolved completely after one month.

3. DISCUSSION

This case report regarding an intraoral lipoma in an adult female patient underscores the clinical rarity and diagnostic subtleties of these tumors in the oral cavity.

Lipomas, which typically occur in other areas of the body, manifest distinctively when they occur in the oral region. This patient's presentation with a non-tender, soft mass and the subsequent imaging and histopathological findings are characteristic of intraoral lipomas and align with reports in the literature (2). However, this particular lipoma was significantly larger than average, as intraoral lipomas rarely exceed 2.5 cm

in diameter (3).

Regarding the localization of intraoral lipomas, the buccal mucosa is the most common site, followed by the tongue; together, these two sites account for 50% of intraoral lipomas. Other notable locations include the lip, palate and floor of the mouth, vestibule, retromolar area, and gingiva [4].



Figure 4. A) Operative view after superficial excision showing the mass in situ, B) isolation and exposure of the lipoma, C) post-excision site showing the surgical bed, and D) sutured closure of the surgical site.

Approximately 5% of lipomas can manifest in multiple forms and are associated with conditions such as neurofibromatosis or familial adenomatous polyposis syndrome (2) (4). However, cases of intraoral lipomas appear to be exclusive and solitary in nature (5). A notable aspect of this case is the patient's lack of significant medical history, with the exception of tobacco use. Tobacco consumption has not been conclusively linked to the development of intraoral lipomas, which suggests that the occurrence of these tumors could be independent of tobacco use. The exact cause of lipomas is still not fully understood, and the occurrence of lipomas appears to be influenced

by multiple factors with no direct correlation to habits such as tobacco consumption. Some researchers have proposed that lipoma formation might be triggered by recurrent minor trauma that potentially stimulates the growth of fatty tissue. However, a definitive link between such trauma and the occurrence of a lipoma remains elusive. Other studies have suggested that these tumors may originate from embryonic multipotential cells, which are dormant until hormonal changes during adolescence activate their differentiation into mature adipose tissue, leading to the gradual emergence of a lipoma (5).

Diverse subtypes of lipomas have been described. In the reported case, the histopathological analysis established a classic lipoma, the most common variant of intraoral lipomas, accounting for between 45% and 50% of all intraoral lipomas (figure 5 and 6).



Figure 5. Excised lipoma

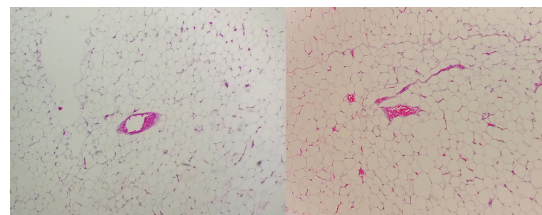


Figure 6. Histopathological examination showing a proliferation of mature adipocytes typical of lipoma

It has been suggested that oral lipomas are more common in males, while oral fibrolipomas are more frequent in females; however, there is no clear evidence to support these suggestions (6) (5). Our patient presented with a simple lipoma.

Surgical excision remains the treatment of choice, and there is a less than 1% recurrence rate (5). Steroid injections in the center of the lipoma have been suggested in the literature as an alternative treatment to reduce the size of tumors of less than

2.54 cm in diameter. Because they cause local fat atrophy, these injections have been associated with few complications (7).

However, the patient described in this report was not a suitable candidate for this treatment. The hypoesthesia, which resolved within a month, is a relatively uncommon but possible postoperative complication related to the location of the lesion. Comprehensive radiographical evaluation is crucial for both the diagnostic process and the surgical planning.

4. CONCLUSION

This case underscores the rarity of intraoral lipomas and the importance of thorough clinical, imaging, and histopathological evaluation for accurate diagnosis. Surgical excision remains the gold standard treatment, ensuring a favorable prognosis with minimal risk of recurrence. Early recognition and appropriate management are essential to prevent potential complications and ensure optimal patient outcomes.

AUTHORS CONTRIBUTIONS

MK, CW, FS Patient management. MK, EM Drafting of the article. LE Revision of the article. CP Revision and final approval of the article.

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CONFLICT OF INTEREST

Authors declare that there is no conflict of interests.

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Dr. Mehdi Keddar was a doctoral student at the Université Catholique de Louvain (2011-2019) where he obtained his MD title (Doctor of Medicine). He obtained his DDS title (Doctor of Dental Surgery) after a three-year period of studies (2019-2022) at the Université Libre de Bruxelles. Since 2019 he has been a Resident in Training at the Université Libre de Bruxelles (Stomatology and Maxillo-Facial Residency).

Questions

1. What is the most common location for intraoral lipomas?

- a. Palate;
- b. Buccal mucosa;
- c. Tongue;
- d. Floor of the mouth.

2. Which imaging technique is NOT typically used for the diagnosis of intraoral lipomas?

- a. Ultrasound;
- b. MRI;
- c. CT Scan;
- d. PET Scan.

3. What is the age range most commonly associated with the occurrence of intraoral lipomas?

- a. 20-30 years;
- b. 40-60 years;
- c. 10-20 years;
- d. 30-40 years.

4. Which of the following is NOT a subtype of oral lipomas mentioned in the report?

- a. Simple lipomas;
- b. Fibrolipomas;
- c. Spindle cell lipomas;
- d. Osteolipomas.



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