ORIGINAL RESEARCH PAPER
Volume - 15 | Issue - 02 | February - 2026 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

THE SUBMUCOSAL ENIGMA-UNDERSTANDING INTRAORAL LIPOMATOUS GROWTH

Dentistry

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ABSTRACT

Background: Intraoral lipomas are uncommon benign adipocytic tumors that may clinically resemble malignant conditions when presenting with persistent swelling or cervical lymphadenopathy. Their clinical presentation can mimic malignant lesions, including lymphoma, particularly when associated with facial asymmetry, deep vestibular swelling, or regional lymphadenopathy. Accurate differentiation is crucial to avoid unnecessary oncologic evaluation. **Case Presentation:** This report describes two patients who presented with long-standing swelling of the right mandibular region, each associated with palpable level Ib lymph nodes. The chronicity, progressive enlargement, and accompanying lymphadenopathy initially raised concern for a lymphoproliferative disorder. Clinical examination revealed soft, fluctuant, well-defined masses without mucosal changes. Both lesions were surgically excised, and histopathology confirmed simple lipomas composed of mature adipocytes with thin fibrous septa. Postoperative healing was uneventful, and no recurrences were noted. **Conclusion:** These cases demonstrate how benign intraoral lipomas can mimic lymphoma clinically, highlighting the importance of comprehensive assessment and mandatory histopathological confirmation. Early biopsy ensures accurate diagnosis, avoids unnecessary oncologic investigation, and guides appropriate treatment.

KEYWORDS

INTRODUCTION

Intraoral lipomas are benign mesenchymal tumors composed of mature adipose tissue and constitute only 0.1–5% of benign oral neoplasms.[1–4] Although the trunk and extremities are the most common sites for lipoma development, intraoral occurrences are relatively uncommon.[2–5] The buccal mucosa, tongue, lip, vestibule, and floor of the mouth are the most frequently involved locations, reflecting the natural distribution of fatty tissue within the oral cavity.[3–6] These tumors are generally slow-growing, painless, and well circumscribed, often discovered incidentally during routine dental examination.[1–3]

Despite their benign behaviour, the clinical appearance of intraoral lipomas may mimic significantly with malignant soft-tissue tumors, including non-Hodgkin lymphoma, particularly when lesions present with persistent swelling or are accompanied by palpable lymph nodes. Lymphomas arising in the oral cavity or mandible can initially appear as painless swellings without systemic manifestations, making differentiation from benign tumors challenging. In such situations, the presence of regional lymphadenopathy significantly increases the likelihood of a lymphoproliferative disorder.

The etiology of lipomas is uncertain, though proposed contributing factors include trauma, endocrine imbalance, metabolic disturbances, chronic inflammation, and genetic abnormalities. [3–5] Histological subtypes-such as simple lipoma, fibrolipoma, spindle-cell lipoma, or intramuscular lipoma-may vary in presentation but share common features of mature adipocytes organized in lobular patterns. [2–4]

This case series describes two patients with chronic mandibular swellings and associated lymphadenopathy, both initially evaluated as potential cases of lymphoma. Definitive diagnosis of simple lipoma was achieved through histopathologic analysis following surgical excision. These cases highlight the need for a structured diagnostic approach that integrates thorough clinical examination, lymph node assessment, and confirmatory biopsy to accurately differentiate benign lipomas from lesions that clinically resemble malignancy.

CASE-1

A 24-year-old woman presented with a 7-month history of progressive swelling involving the right lower face, accompanied by intermittent throbbing pain that worsened during mastication and tooth-brushing. She denied systemic symptoms such as fever, weight loss, or night sweats, and had no relevant medical or surgical history. The swelling had gradually increased in size, leading the patient to seek evaluation. On clinical examination, she appeared well, with no stigmata of systemic disease.

Extraoral assessment revealed diffuse facial asymmetry due to a soft, fluctuant swelling measuring approximately 3 × 2 cm over the right mandibular region. The swelling extended superiorly from 7 cm below the infraorbital rim to the inferior mandibular border, and anteroposteriorly from 2 cm behind the lip commissure to 5 cm anterior to the angle of the mandible. Submandibular lymph node examination showed bilateral level Ib lymphadenopathy, each node measuring 0.5 × 0.5 cm, mobile and firm, with the right side tender on palpation. Although the tenderness suggested a reactive process, the chronicity and nodal involvement raised initial concern for a lymphoproliferative disorder. Mouth opening was adequate.

Intraoral examination demonstrated vestibular obliteration in relation to teeth 44 and 45, with a soft, fluctuant, and well-defined swelling of approximately 2 × 2 cm in the buccal vestibule. Slip sign was positive. Given the anatomic location, slow progression, and presence of lymphadenopathy, the differential diagnosis included non-Hodgkin lymphoma with mandibular involvement, salivary or soft-tissue neoplasms, liposarcoma, and benign adipocytic tumors.

An excisional biopsy was performed under local anesthesia via bilateral mental nerve blocks. A vestibular incision from 44–46 allowed elevation of a full-thickness mucoperiosteal flap, exposing a well-encapsulated, yellowish soft-tissue mass that was excised in toto. (figure:1a,b) Histopathologic evaluation revealed sheets of mature adipocytes arranged in lobules separated by thin fibrous septa, without atypia, lipoblasts, or lymphoid aggregates. A minimal inflammatory infiltrate and occasional skeletal muscle fibers were noted. These findings were consistent with a benign lipoma, thereby excluding lymphoma or malignant adipocytic tumors.

The patient's postoperative course was uneventful. Sutures placed with 3-0 Vicryl supported primary healing, and the patient reported complete relief of pain at follow-up. There was no recurrence on subsequent reviews, and facial contour improved significantly. (figure:1c)

Although ultimately benign, this case highlights a diagnostic challenge commonly encountered in head and neck oncology. Mandibular swellings with associated lymphadenopathy frequently prompt evaluation for lymphoma, and clinical features alone may be insufficient to distinguish benign from malignant soft-tissue tumors. As seen in NCCN lymphoma case discussions, tissue diagnosis remains the cornerstone of evaluation. This case emphasizes the need for a systematic diagnostic approach and reinforces the principle-shared across lymphoma management-that histopathology guides definitive decision-making.

Figure : 1 a),b) Intra-operative c) mucosal closure

CASE-2

A 45-year-old woman presented with a 1-year history of progressively increasing swelling in the right lower jaw region. For most of this period, the swelling was painless; however, during the preceding week, she experienced intermittent throbbing pain, which worsened during mastication and tooth brushing. She denied fever, weight loss, or night sweats. Her medical history was significant for hypothyroidism diagnosed 8 years earlier, for which she had discontinued medication under physician supervision approximately one year ago. She reported no prior surgeries or significant dental history.

Clinical examination revealed a moderately built and nourished woman without systemic signs of illness. Extraoral assessment showed evident facial asymmetry caused by a localized swelling measuring approximately 1 × 1 cm along the right lower border of the mandible, extending from 1 cm anteroposteriorly to the right commissure of the mouth to approximately 3 cm anterior to the angle of the mandible. Bilateral level Ib submandibular lymph nodes were palpable, each measuring 0.5 × 0.5 cm; they were firm and mobile, with the right node tender on palpation & mouth opening was adequate. Although the small size and mobility suggested reactive lymphadenopathy, the chronicity of the swelling and nodal involvement warranted evaluation for possible lymphoproliferative pathology, including lymphoma.

Intraoral examination revealed vestibular obliteration in relation to 44 and 45. On palpation, a soft, fluctuant, well-defined swelling approximately 1 × 1 cm was detected along the buccal vestibule of 44, 45, 46, and 47. Slip sign was positive. The lesion's location, duration, and lymph node findings prompted a differential diagnosis that included non-Hodgkin lymphoma involving the mandible, salivary or soft-tissue neoplasm, liposarcoma, and benign adipocytic tumors such as lipoma. (figure: 2a)

Surgical excision under local anesthesia was planned. Bilateral mental nerve blocks were administered, and a vestibular incision was placed from 44 to 46. A full-thickness mucoperiosteal flap was elevated, exposing a well-encapsulated yellowish soft-tissue mass, which was excised completely. (figure: 2b, 2c) The surgical field was irrigated with saline and metronidazole, and the wound was closed using 3-0 Vicryl sutures. Hemostasis was achieved, and the patient was scheduled for review after one week.

Histopathologic examination of the excised specimen showed lobules of mature adipocytes separated by thin fibrous septa, with occasional muscle fibers and minimal inflammatory infiltrate. No lipoblasts or atypical lymphoid cells were observed. These findings were consistent with a benign lipoma, thus excluding lymphoma, liposarcoma, and other malignant soft-tissue tumors.

The postoperative period was uneventful. The patient reported improvement in pain, reduction in swelling, and satisfactory healing at follow-up. No recurrence was noted on subsequent visits.

Figure : 2 a) Pre operative b) Intra-operative c) Excised biopsy specimen

Although ultimately diagnosed as a benign lipoma, this case underscores the diagnostic complexity of mandibular swellings accompanied by lymphadenopathy. Chronic, persistent swelling in the mandibular region-especially with associated regional nodes-often leads clinicians to evaluate for lymphoma, as emphasized in NCCN case discussions. This case reinforces the importance of biopsy-driven confirmation, particularly when clinical and radiologic features overlap with lymphoproliferative disorders.

DISCUSSION

The two cases in this series emphasize the diagnostic complexity encountered when benign adipocytic tumors resemble lymphoproliferative disease. In both patients, the presence of chronic mandibular swelling accompanied by palpable level Ib lymphadenopathy shifted the clinical suspicion toward non-Hodgkin lymphoma. [2–4–6] Lymphomas involving the oral cavity or mandible may be subtle in their early course, often presenting as persistent soft-tissue swellings without systemic symptoms, leading to potential diagnostic uncertainty.[1–3–6]

In both cases, the swellings were located in the mandibular vestibule-an area where lipomas are less common compared to the buccal mucosa but still well documented. [2–4] Naruse et al. reported that deeper or intramuscular lipomas can extend into adjacent tissue planes, thereby creating a more concerning presentation similar to malignant tumors. [2] Likewise, Egido-Moreno et al. noted that while clinical examination provides initial guidance, histopathological confirmation is essential for distinguishing lipomas from liposarcomas or lymphomas, as imaging alone cannot reliably differentiate them. [3]

Histopathologic evaluation of both cases revealed the hallmark features of simple lipoma: mature adipocytes arranged in lobules with thin fibrous septa, lacking atypia, lipoblasts, or lymphoid infiltrates. [1–2–4-8] These features were consistent with benign behaviour and effectively ruled out lymphoma or malignant adipocytic tumors. Surgical excision, the treatment of choice, resulted in excellent outcomes without recurrence-consistent with reported recurrence rates of 0–2%. [5–7]

The presence of hypothyroidism in one patient aligns with literature suggesting potential endocrine influences on lipoma development, though no direct causal relationship has been established. [3–5] Regardless, the coexistence of systemic conditions may occasionally contribute to diagnostic confusion.

These cases illustrate the importance of maintaining a broad differential diagnosis for mandibular swellings and emphasize that biopsy remains the definitive tool for distinguishing benign lipomas from malignant soft-tissue or lymphoid neoplasms. Accurate diagnosis prevents unnecessary anxiety, extensive imaging, and inappropriate oncologic management.

CONCLUSION

Intraoral lipomas are rare and can clinically mimic malignant lesions, particularly when associated with lymphadenopathy. These cases demonstrate that clinical findings alone are insufficient for diagnosis, underscoring the need for systematic evaluation and histopathological confirmation. Surgical excision is definitive, with excellent prognosis and low recurrence, highlighting the importance of considering benign lesions in the differential diagnosis of persistent oral swellings.

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