

Mucoepidermoid Carcinoma of Minor Salivary Gland Mimicking as Fibroma: A Rare Case Report

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Abstract

This comprehensive case report details a rare presentation of Mucoepidermoid Carcinoma (MEC) in the minor salivary gland, manifesting with clinical characteristics remarkably similar to those of a benign fibroma. MEC, a predominant malignancy within the salivary gland neoplasms, primarily affects the major salivary glands, with occurrences in the minor glands being particularly rare and challenging to diagnose due to their indolent progression and atypical presentations. This report highlights the case of a 69-year-old female who presented with a painless, gradually enlarging mass in the floor of the mouth, initially presumed to be a traumatic fibroma based on its clinical appearance and location. Histopathological examination following an excisional biopsy revealed it to be intermediate-grade MEC, characterized by a mix of intermediate, epidermoid, and mucus-producing cells, along with notable mitotic activity and perineural invasion. Treatment includes surgical excision with clear margins and consideration of adjuvant radiotherapy, according to current guidelines for MEC management. This case underscores the critical importance of histopathological analysis in the differential diagnosis of oral lesions and the necessity for a high degree of clinical suspicion for malignancies in cases of atypical presentations. This case adds valuable insight into the diverse presentations of MEC and reinforces the importance of considering this diagnosis in the evaluation of persistent oral lesions, particularly when they mimic benign conditions.

Keywords: Mucoepidermoid Carcinoma, Minor Salivary Gland Tumors, Fibrotic growths of Oral Cavity.

Introduction

Mucoepidermoid Carcinoma (MEC) stands as a pivotal entity within the realm of salivary gland neoplasms, marking its significance with a prevalence ranging between 2.8% and 15% of all salivary gland tumors. This neoplasm exhibits a predominant affiliation with the major salivary glands, particularly the parotid, and to a lesser extent, the minor salivary glands. Despite its wider distribution, the involvement of minor salivary glands, accounting for 10%–15% of all salivary gland neoplasms, brings forth unique clinical challenges. The palate emerges as the most common site of origin for minor salivary gland tumors, with over 60% malignancy rate, underscoring the critical nature of these lesions.^{1,2}

A peculiar aspect of MEC in minor salivary glands is its indolent progression, often presenting as asymptomatic lesions with a prolonged history, thereby complicating early diagnosis. Clinically, these lesions can exhibit a spectrum of colours and, in cases of low-grade malignancy, mimic benign entities like pleomorphic adenoma due to their slow enlargement and cystic development. This clinical presentation can significantly mislead the diagnostic process, especially when lesions manifest in atypical locations or resemble non-threatening conditions such as fibromas, as observed in the rare presentation within the floor of the mouth adjacent to dental prostheses.³⁻⁵

This case report delineates a remarkably rare instance of MEC mimicking a fibroma in the minor salivary gland, specifically situated in the floor of the mouth—a site accounting for approximately 3.5% of minor salivary gland MEC occurrences. The mean age of onset, typically around 48 years, and a slightly higher prevalence in women. The lesion's deceptive presentation, characterized by its solitary, firm, and painless mass, starkly contrasts the aggressive nature of high-grade malignancies, thus emphasizing the necessity for astute clinical vigilance and comprehensive diagnostic approaches in unveiling the true nature of such enigmatic presentations.

Case Presentation:

A 69-year-old female sought care at the Oral Medicine Outpatient Department, reporting a persistent pain and swelling beneath the tongue on the floor of the mouth (FOM) that had developed over past year. The lesion, initially asymptomatic, had progressively enlarged to its current size, with the patient noting a recent onset of discomfort during mastication. Apart from a significant dental history marked by complete extractions 16 years prior and the subsequent use of complete dentures for 15 years, her medical and family histories were notably unremarkable. Physical examination delineated a solitary, slightly erythematous, nodular swelling on lingual side of right mandibular residual ridge with respect to 44,45 region in the floor of mouth. This swelling was characterized as firm, non-tender, and mobile, not adhering to the underlying structures.

The clinical presentation and location of the lesion, adjacent to the sharp lingual flange of the patient's lower denture, initially led to a provisional diagnosis of traumatic fibroma. The differential diagnosis was broad, encompassing entities such as pyogenic granuloma, haemangioma, lipoma, giant cell fibroma, peripheral giant cell granuloma and fibrosed mucocele reflecting the clinical complexity and the need for a comprehensive diagnostic approach. Excisional biopsy of lesion is performed and histopathological examination showed presence of solid nests, lobules, and sporadic cysts populated by intermediate, epidermoid, and mucus-producing cells. Notable findings included cells displaying moderate pleomorphism, a high nuclear-to-cytoplasmic ratio, hyperchromatic nuclei, variably prominent nucleoli, and moderate amounts of eosinophilic cytoplasm. Mitotic activity and perineural invasion were also observed. Suggestive of intermediate grade Mucoepidermoid Carcinoma (MEC),

Given the lesion's malignancy level and the presence of perineural invasion, consideration for adjuvant radiotherapy was recommended according to contemporary therapeutic guidelines.

Discussion:

This case report delineates a rare presentation of intermediate-grade Mucoepidermoid Carcinoma (MEC) in the minor salivary gland, notably mimicking a traumatic fibroma. MEC's presentation in the floor of the mouth is exceptionally uncommon, contributing to the diagnostic challenge. The differential diagnosis

of oral lesions is broad, encompassing benign and malignant entities; hence, accurate histopathological evaluation is paramount for appropriate management.

MEC is the most prevalent malignant salivary gland neoplasm in major salivary glands commonly parotid, characterized by its histological diversity and clinical behaviour. Its occurrence in minor salivary glands is less frequent. Our case is congruent with the literature indicating a higher incidence in females and primarily affecting adults in their fifth to sixth decades of life. Unlike the classic presentation in major salivary glands, MECs in minor glands, particularly in atypical sites like the floor of the mouth, often lead to delayed or misdiagnosis due to their rare occurrence and nonspecific clinical features.⁴⁻⁶

The clinical mimicry of benign lesions, as observed in our patient, underscores a significant diagnostic pitfall. Fibromas, being among the most common benign tumors in the oral cavity, present as firm, painless masses, similar to low-grade MECs. This resemblance necessitates a high index of suspicion and the routine inclusion of MEC in the differential diagnosis of persistent oral lesions, irrespective of their benign appearance.⁷⁻⁹

Histopathologically, MEC is distinguished by its heterogenous cellular composition, including mucous, intermediate, and epidermoid cells. The presence of mitotic activity and perineural invasion, as noted in our case, indicates a more aggressive behaviour and necessitates a comprehensive treatment approach.^{10,11} Treatment strategies for MEC, particularly in minor salivary glands, revolve around surgical excision with clear margins, often supplemented by adjuvant radiotherapy for intermediate to high-grade tumors or those with adverse features. The therapeutic rationale parallels our management approach, advocating for a multidisciplinary strategy to optimize patient outcomes.¹²⁻¹⁴ Collaborative care involving oral physicians, oral surgeons, pathologists, and radiation oncologists is crucial for the effective management of such complex cases.¹⁵

Conclusion

The intricate case of Mucoepidermoid Carcinoma (MEC) of the minor salivary gland, masquerading as a benign fibroma, accentuates the critical nature of comprehensive diagnostic vigilance and a multidisciplinary approach to management. This report underscores the necessity of considering MEC within the differential diagnosis of persistent oral lesions, irrespective of their innocuous appearance, to circumvent diagnostic pitfalls. It emphasizes the paramount importance of histopathological examination in the accurate diagnosis of oral lesions and reinforces the need for collaboration across specialties in the treatment of salivary gland malignancies. This case serves as a pivotal reminder of the challenges faced in diagnosing and managing salivary gland tumors and the importance of adopting an evidence-based, patient centred approach to ensure optimal outcomes.

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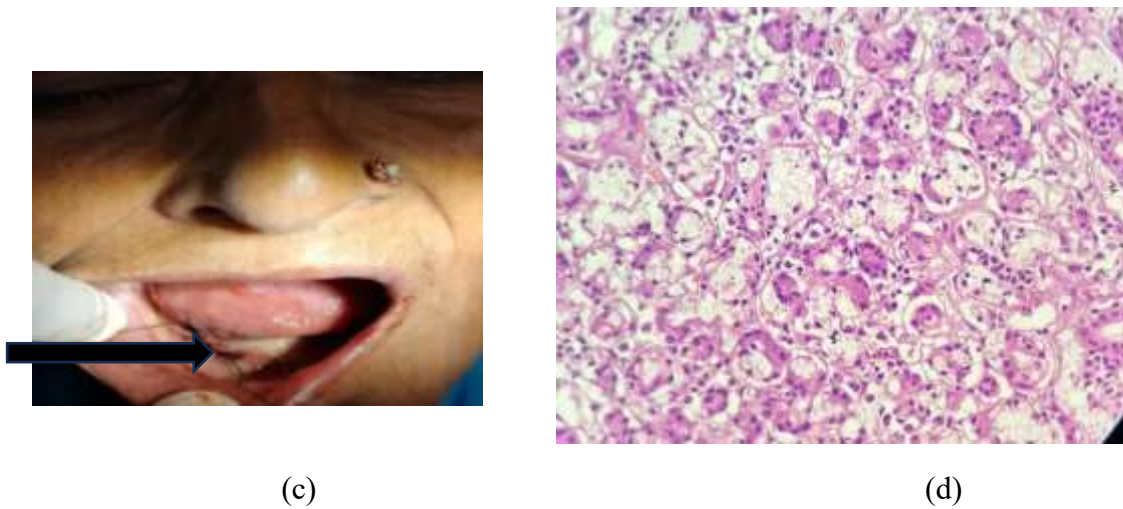
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(a)



(b)



(c) (d)

Fig (a-d): Pictures of patient showing Mucoepidermoid Carcinoma (MEC) in the minor salivary gland a) solitary, slightly erythematous, nodular swelling on the right side of lingual gingiva adjacent to 44,45 region b,c) Excised lesion, postoperative images d) Histological section showing presence of solid nests, lobules, and sporadic cysts populated by intermediate, epidermoid, and mucus-producing cells.