Open Access Original Research Article

MedPeer Publisher
Abbreviated Key Title: MedPeer
ISSN : 3066-2737
homepage: https://www.medpeerpublishers.com

Exceptional localization of mucoepidermoid carcinoma of minor salivary glands : a case report

DOI: 10.70780/medpeer.000QGS5

AUTHORS AND AFFILIATION

El Mehdi Harbili [1], Jalal Oubenjah [1], Ahmed Rouihi [1], Mohamed Zalagh [1], Saloua Ouraini [1], Mouad Moujoud [1], Fouad Benariba [1], Noureddine Errami [1]

[1] Department of Otorhinolaryngology and Head and Neck Surgery, Mohammed V Military Teaching Hospital, Faculty of Medicine and Pharmacy, Rabat, Morocco.

Corresponding author : Dr. El Mehdi Harbili

ABSTRACT

Mucoepidermoid carcinoma (MEC) is the most common malignant tumor of the salivary glands, predominantly affecting the major salivary glands, particularly the parotid. Involvement of minor salivary glands is less frequent, and localization within the tonsillar region is exceptional. Clinical presentation is often nonspecific, which may delay diagnosis. We report the case of a 34-year-old woman presenting with progressive dysphagia evolving into odynophagia over four months. Oropharyngeal examination revealed a homogeneous unilateral hypertrophy of the left palatine tonsil. Magnetic resonance imaging demonstrated a well-circumscribed tonsillar mass with diffusion restriction and contrast enhancement, without regional lymphadenopathy. The patient underwent bilateral tonsillectomy. Histopathological examination revealed a low-grade mucoepidermoid carcinoma with perineural invasion and clear surgical margins. Adjuvant radiotherapy was administered following multidisciplinary discussion. After one year of follow-up, no locoregional recurrence was observed. This case highlights the diagnostic challenge posed by unilateral tonsillar hypertrophy and emphasizes the importance of histopathological examination for early diagnosis and appropriate management.

KEYWORDS :

Mucoepidermoid Carcinoma - Minor Salivary Glands - Palatine Tonsile - Tonsillectomy - Low-grade Malignancy - Perineural Invasion

MAIN ARTICLE

INTRODUCTION

Mucoepidermoid carcinoma is the most frequent malignant neoplasm of the salivary glands, accounting for approximately 16–37% of all salivary gland malignancies [1]. It arises predominantly from the major salivary glands, particularly the parotid gland, while tumors originating from minor salivary glands represent a smaller but clinically significant proportion [2]. Minor salivary glands are widely distributed throughout the upper aerodigestive tract, most commonly in the palate, lips, and buccal mucosa [3]. Tonsillar involvement remains extremely rare.

The clinical presentation of MEC depends on tumor location and grade. In the oropharynx, symptoms may be nonspecific and include dysphagia, odynophagia, foreign body sensation, or unilateral tonsillar enlargement, often mimicking benign inflammatory or lymphoid conditions [4]. Histological grade is the most important prognostic factor and guides therapeutic management [5]. We report a rare case of mucoepidermoid carcinoma of the minor salivary glands revealed by unilateral tonsillar hypertrophy.

PATIENT AND OBSERVATION

A 34-year-old woman with no significant medical history presented with progressive dysphagia evolving into odynophagia over a four-month period. There was no associated dyspnea, trismus, fever, or weight loss.

Oropharyngeal examination revealed a homogeneous unilateral hypertrophy of the left palatine tonsil, extending toward the uvula without ulceration or bleeding. The right tonsil and the remainder of the oral cavity were normal. There was no cervical lymphadenopathy, and examination of the major salivary glands was unremarkable. Nasofibroscopy did not reveal additional abnormalities.

Magnetic resonance imaging showed a well-defined tissue mass centered on the left tonsil, with intermediate signal intensity on T2-weighted sequences, diffusion restriction, and contrast enhancement. No regional lymph node involvement was identified. (Figure:1)

The patient underwent bilateral tonsillectomy. Histopathological examination (Figure:2) revealed a tumor composed of mucous, intermediate, and squamous cells, consistent with low-grade mucoepidermoid carcinoma. Mucous cells represented more than 50% of the

tumor population. Perineural invasion was observed, but surgical margins were free of tumor. Immunohistochemical staining showed positivity for p63 and CD117. Following multidisciplinary tumor board discussion, adjuvant radiotherapy was administered. After one year of follow-up, the patient remained disease-free.

DISCUSSION

Mucoepidermoid carcinoma is the most common malignant tumor of the salivary glands; however, its occurrence in the minor salivary glands of the tonsillar region is exceptional [1,3]. Tumors arising from minor salivary glands account for a small proportion of salivary gland neoplasms, but a significant percentage of these lesions are malignant, with mucoepidermoid carcinoma and adenoid cystic carcinoma being the most frequently encountered histological subtypes [2].

The rarity of tonsillar MEC contributes to diagnostic delay. Unilateral tonsillar hypertrophy is most often attributed to benign inflammatory or lymphoid conditions, particularly in young adults, and malignancy may not be initially suspected [4,6]. Several recent studies emphasize that persistent unilateral tonsillar enlargement, especially when associated with progressive symptoms such as dysphagia or odynophagia, warrants thorough investigation and histological evaluation to exclude neoplastic causes [4,6]. The present case illustrates this diagnostic challenge, as the clinical examination did not initially suggest malignancy.

Histologically, MEC is characterized by a variable mixture of mucous, intermediate, and squamous cells. Tumors are graded as low, intermediate, or high grade based on architectural features, cytological atypia, mitotic activity, necrosis, and neural or vascular invasion [5]. Histological grade is the most important prognostic factor. Low-grade tumors generally exhibit indolent behavior, with reported five-year survival rates exceeding 90%, whereas high-grade tumors are associated with aggressive behavior and significantly worse outcomes [5,7].

Perineural invasion, as observed in our patient, is an important adverse prognostic feature, even in low-grade tumors [8]. Recent studies have demonstrated that perineural invasion is associated with increased risk of local recurrence and may justify adjuvant radiotherapy despite favorable histological grade and clear surgical margins [8,9]. This finding supported the decision for postoperative radiotherapy in the present case.

Complete surgical excision with tumor-free margins remains the cornerstone of treatment for MEC of both major and minor salivary glands [5,7]. In tonsillar localization, bilateral tonsillectomy allows adequate oncological control and histological assessment. Neck

dissection is generally reserved for high-grade tumors or clinically evident nodal disease. Adjuvant radiotherapy is recommended in cases of high-grade histology, close or positive margins, perineural invasion, or advanced local disease [8,9]. Chemotherapy has no established role in the management of low-grade MEC and is usually reserved for unresectable or metastatic disease.

Overall prognosis of MEC depends on tumor grade, stage, and completeness of surgical excision. Recent series published after 2021 confirm excellent outcomes for low-grade tumors treated with complete resection and appropriate adjuvant therapy when indicated [7,9]. Early diagnosis remains essential to ensure favorable outcomes.

CONCLUSION

Mucoepidermoid carcinoma of the minor salivary glands with tonsillar localization is a rare entity with nonspecific clinical presentation. Persistent unilateral tonsillar hypertrophy should raise suspicion of underlying malignancy. Histopathological examination is essential for definitive diagnosis. Treatment relies primarily on complete surgical excision, with adjuvant radiotherapy tailored according to histological and prognostic factors. Early diagnosis allows excellent outcomes, particularly in low-grade tumors.

FIGURES :

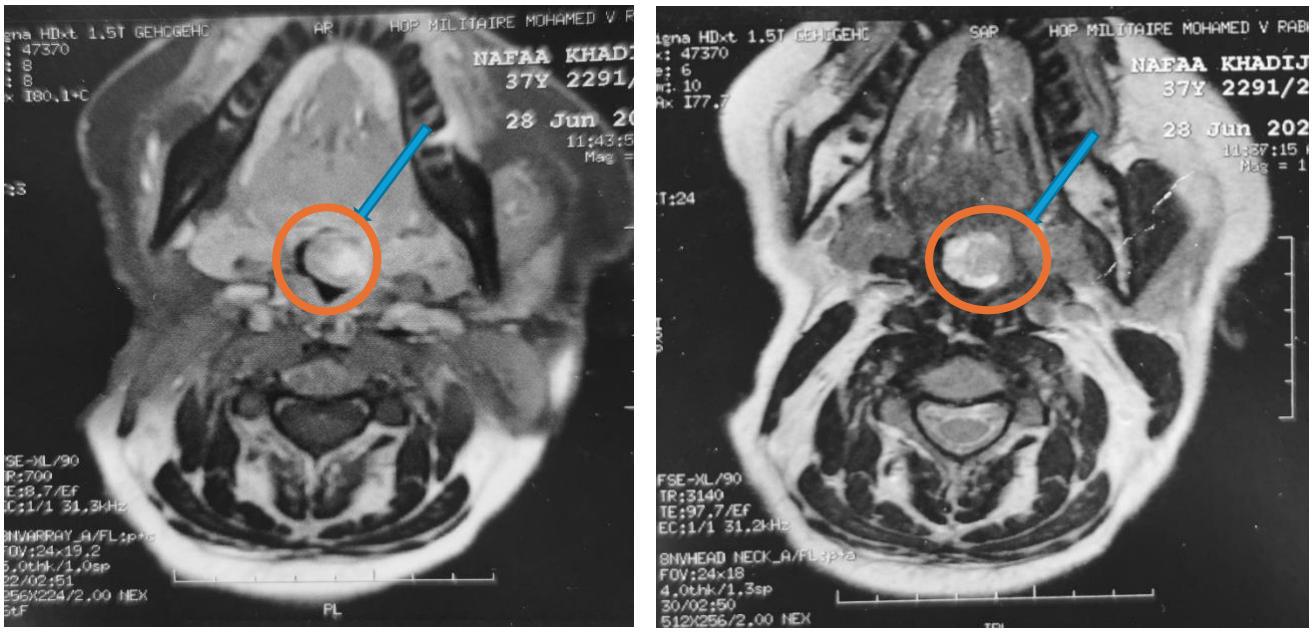

Figure 1 : MRI showing a heterogeneous lesion of the left palatine tonsil with intermediate signal intensity on T2 FLAIR sequences and enhancement on T1-weighted images after

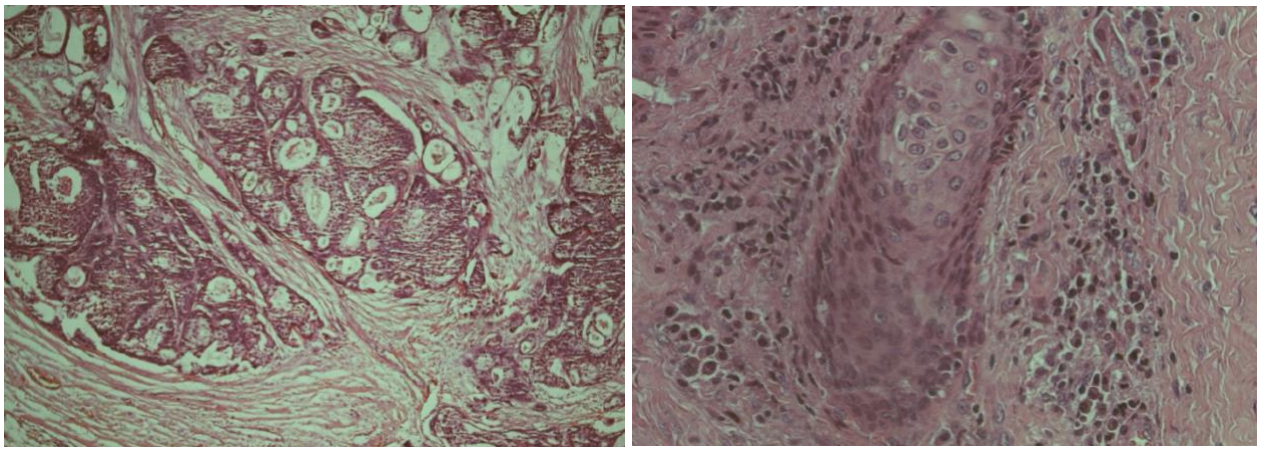

Figure 2 : Histology confirmed mucoepidermoid carcinoma with squamous differentiation.

ACKNOWLEDGEMENTS

Funding

No funding was received for this study.

Conflicts of Interest

The authors declare no conflicts of interest.

Patient Consent

Written informed consent was obtained from the patient for the publication of this case and the accompanying clinical and radiological images.

REFERENCES

1. Zhang H, Li Y, Wang J, et al. Salivary gland mucoepidermoid carcinoma: clinicopathological features and outcomes. Eur Arch Otorhinolaryngol. 2021;278(9):3567-3574.

2. Abreu R, Silva A, Monteiro E, et al. Minor salivary gland carcinomas: epidemiology and management. Head Neck. 2022;44(7):1572-1580.

3. Vargas L, Martinez R, Gomez J, et al. Imaging features of minor salivary gland tumors of the oropharynx. Clin Imaging. 2023;98:41-47.

4. Suh JD, Cho JH, Kim SW, et al. Unilateral tonsillar enlargement: when to suspect malignancy. Eur Arch Otorhinolaryngol. 2022;279(11):5263-5270.

5. Zhou M, Chen X, Liu Y, et al. Prognostic factors in mucoepidermoid carcinoma of salivary glands. Head Neck Surg. 2024;46(2):221-229.

6. Tsetsos N, Poutoglidis A, Fyrmpas G, et al. Rare malignant tumors of the tonsil: diagnostic pitfalls. Am J Otolaryngol. 2023;44(2):103672.

7. Shimizu K, Sato K, Yamamoto T, et al. Long-term outcomes of low-grade mucoepidermoid carcinoma. Laryngoscope Investig Otolaryngol. 2020;5(6):1123-1129.

8. Lee JY, Kim HJ, Park JS, et al. Perineural invasion in salivary gland carcinoma: prognostic significance. Neuroradiology. 2021;63(5):725-733.

9. National Comprehensive Cancer Network. Salivary Gland Tumors Guidelines. Version 2023.