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Radiologic and Histologic Findings of Locally Advanced Mucoepidermoid Carcinoma Managed with Total Surgical Excision

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Keywords

Salivary gland neoplasm, histology, computed tomography

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Conflict of Interest Statement

No conflicts of interest.

IMAGING-VIDEO-AUDIO MEDIA

Radiologic and Histologic Findings of Locally Advanced Mucoepidermoid Carcinoma Managed with Total Surgical Excision

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Abstract

The present case report provides images from computed tomography and histology of a patient with a salivary gland neoplasm consistent with mucoepidermoid carcinoma.

Keywords: Salivary gland neoplasm, Histology, Computed tomography

1. Introduction

Mucoepidermoid carcinoma (MEC) is a malignant glandular epithelial neoplasm and is the most common primary malignant salivary gland tumor.¹ It presents in a wide age range of adults (15–86 years of age).² One third of cases are asymptomatic, though this varies with site and size.⁴

2. Case presentation

70-year-old female with a past medical history of schizophrenia, hypertension, and hypercholesterolemia presented to the dentist for multi-tooth extraction and found to have an incidental left buccal mass. The lesion was large and exophytic, extending from the left posterior mandible to the left buccal mucosa. The patient initially refused a biopsy. Two months after multi-tooth extraction, the mass was increasing in size and causing weight loss.

CT of facial bones with IV contrast demonstrated a well-defined cystic lesion with expansion and apparent erosion of the medial aspect of the mandible (Fig. 1A). The 4.9 × 4.2 × 5.8 cm mass had an associated 1.5 cm hyperdense nodule at the

medial aspect (Fig. 1B). Biopsy was most consistent with an epithelial neoplasm suggestive of low-to-intermediate grade MEC, and the patient was referred to surgery.

Left oral cavity composite resection including hemimandibulectomy with ipsilateral modified radical neck dissection, tracheotomy, and ALT free flap reconstruction was performed. Fig. 2 demonstrates the solid component of the excised specimen. Histology of the lesion displays back-to-back glandular features and solid proliferation of mucous cells, intermediate and epidermoid cells (Fig. 3A–B). Post-procedural surgical pathology confirmed MEC, low-grade. Surgical margins, left lingual nerve, and 30 neck lymph nodes were negative for carcinoma. Given mandibular invasion, classification was pT4N0. The patient was hospitalized for four weeks. Six months later, the patient was back to regular living arrangements and doing well.

3. Discussion

This case is consistent with larger trends of MEC. The mass was asymptomatic until the lesion grew and led to weight loss. ACR guidelines for imaging

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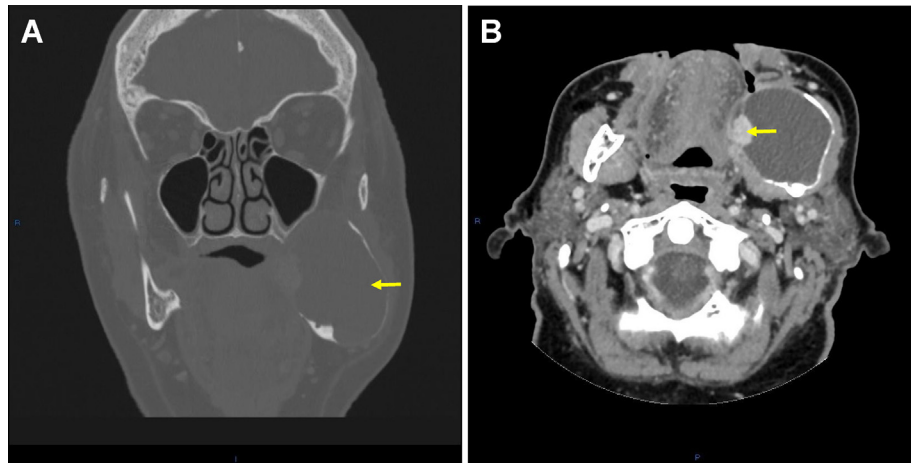


Fig. 1. A. Coronal CT with contrast in bone window demonstrates a well-defined expansile cystic mass (yellow arrow) within the left mandibular ramus. B. Axial CT with contrast in soft tissue window demonstrates a hyperattenuating, presumably enhancing nodular component medially (yellow arrow).

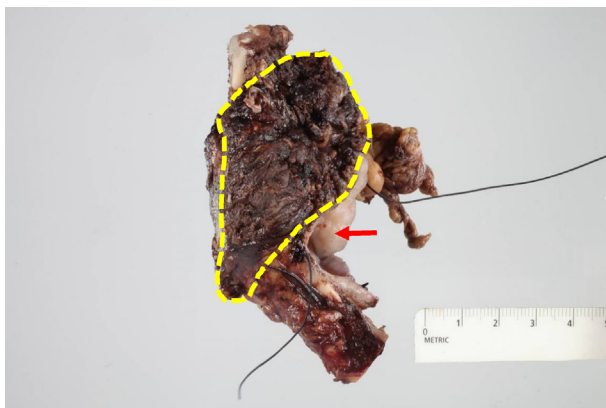


Fig. 2. Gross image of left composite jaw resection. Mass (dotted line) involving the left mandible with overlying buccal mucosa (arrow).

parotid region mass(es) include ultrasound, CT, or MRI.⁵ Ultrasound is preferred for small tumors in major salivary glands, CT is recommended if bone is

involved, and MRI is recommended for soft tissue delineation.⁶ After imaging, the differential included odontogenic lesions, namely ameloblastoma versus salivary gland tumors. Histologic characteristics are particularly important in determining management for MEC. Low grade lesions can typically be managed with surgical resection while high grade or high stage tumors may require adjuvant post-operative radiotherapy. Determining factors include close or positive surgical margins, extracapsular spread, lymphatic or perineural invasion, and nodal metastasis.^{3,4} On histology, the characteristic mucus with intermediate and epidermoid cells suggests MEC. Given the proximity of the tumor to minor salivary gland tissue, this is clinically and pathologically thought to arise from the minor salivary gland tissue at the base of the tongue as opposed to a primary intraosseous lesion. This case demonstrates the importance of utilizing clinical,

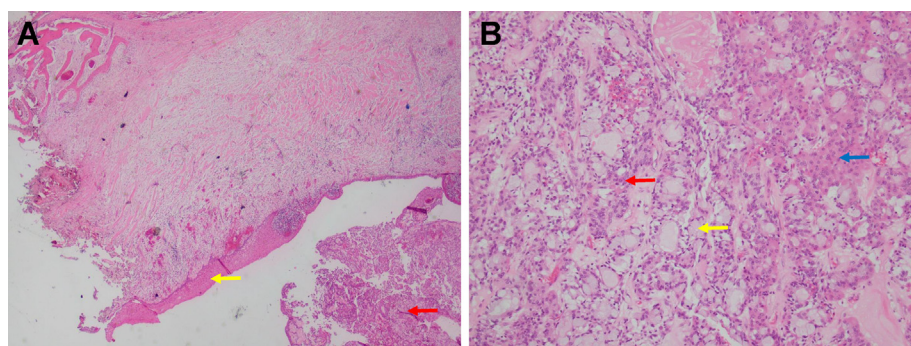


Fig. 3. A. Microscopic image of the mass. In this image, the cyst lining is shown (yellow arrow) with the attachment site of the solid tumor component (red arrow). Adjacent bone is seen in the upper left. B. High-power demonstrates the characteristic mucus (yellow arrow), intermediate (red arrow), and epidermoid (blue arrow) cell types seen in mucoepidermoid carcinoma.

radiologic, and histologic findings to diagnose and manage patients.

Conflicts of interest

The authors state there are no conflicts of interest.

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