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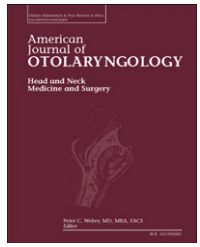

Primary cutaneous vs. parotid mucoepidermoid carcinoma of the scalp: A case report☆

Alexandra Junewicz, BA[a,*], *John Heaphy, MD*[b], *Pierre Lavertu, MD*[b], *Jay Wasman, MD*[c], *Devra Becker, MD*[d]

[a] *Case Western Reserve University School of Medicine, Cleveland, OH*
[b] *Department of Otolaryngology and Head and Neck Surgery, University Hospitals Case Medical Center, Cleveland, OH*
[c] *Department of Pathology, University Hospitals Case Medical Center, Cleveland, OH*
[d] *Department of Plastic Surgery, University Hospitals Case Medical Center, Cleveland, OH*

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ABSTRACT

Primary cutaneous mucoepidermoid carcinoma remains a rare occurrence. This is the first report of a case of primary cutaneous mucoepidermoid carcinoma originating on the scalp and subsequently metastasizing to the parotid gland. The patient was a 53-year-old female who presented with a purple mass on her scalp since 5 months prior to examination. Histopathology revealed nests and islands of atypical epithelioid cells with pleomorphism, medium to prominent nucleoli, and scattered mucin deposition highlighting with a mucicarmine stain. The atypical cells demonstrated intravascular involvement. These findings were compatible with metastatic adenocarcinoma. Later, fine needle aspiration of the patient's parotid lesion revealed malignant cells from a poorly differentiated carcinoma that appeared similar to the patient's previously excised scalp lesion. In addition to summarizing this patient's presentation, clinical course, and management, we discuss the diagnostic challenges posed by this atypical presentation. Primary cutaneous mucoepidermoid carcinoma should be considered in the differential diagnosis of patients presenting with a scalp mass. Moreover, patients with primary cutaneous mucoepidermoid carcinoma originating on the scalp should be evaluated for possible metastases.

1. Introduction

Mucoepidermoid carcinoma, whether primary or metastatic in origin, rarely presents in cutaneous locations. We report an atypical case of cutaneous mucoepidermoid carcinoma that presented as a scalp mass and subsequently metastasized to the parotid gland.

2. Clinical scenario

A 53-year-old female presented to the Plastic Surgery Clinic with a chief complaint of a "lump on my head." She stated that she first noticed a small mass on her scalp 5 months prior to her visit and that it had grown significantly over the past month. She complained of dry skin overlying the mass

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* *Corresponding author at:* 10510 Park Lane, #605, Cleveland, OH 44106. Tel.: +1 847 208 1335.
E-mail address: axj152@case.edu (A. Junewicz).

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that was painful and occasionally bled but denied any other constitutional or systemic symptoms. She noted that many years prior to the development of the mass, she had developed a small lesion on her scalp after pouring hot Vaseline on the area. At the time, she felt this lesion represented a burn, and it had subsided.

Physical examination revealed a mobile, dark purple mass on her right frontal–parietal scalp measuring 5 × 4 × 3.5 cm (Fig. 1). The mass had desquamating skin overlying it but no surrounding erythema, cellulitis, or lymphadenopathy. Facial nerve function and sensation were both intact. Vital signs and the remainder of the exam were within normal limits. CT scan was significant for a non-enhancing 3.9 × 2.7 cm soft tissue lesion arising from the right frontoparietal scalp with no involvement of the bony cortex.

A plan was made for excisional biopsy of the mass followed by skin grafting and staged reconstruction with tissue expanders. One week later, a pre-operative MRI with gadolinium contrast showed an enhancing 4.6 × 4.2 × 4.3 cm soft tissue mass arising from the right frontoparietal scalp with mild thickening of the underlying subgaleal layer but no evidence of bony cortex involvement or high vascularity. (Fig. 2) The mass was excised. The defect measured 7.5 × 5 cm and was covered with a split thickness skin graft harvested from the upper leg. Pathological examination of the surgical specimen revealed nests and islands of atypical epithelioid cells with pleomorphism, medium to prominent nucleoli, and scattered mucin deposition highlighting with a mucicarmine stain. Overall, these findings were interpreted as adenocarcinoma with intravascular invasion, compatible with metastatic adenocarcinoma.

The patient's post-operative course was uncomplicated with 100% take of the skin graft and successful healing of the scalp and donor sites. A PET scan revealed a hypermetabolic right intraparotid lymph node and level 2 lymph nodes concerning for metastatic disease (Fig. 3). An MRI demonstrated a nonspecific 9 to 10 mm ovoid enhancing lesion within the superficial lobe of the right parotid gland. It also showed 3 discrete level IIb lymph nodes measuring 11 mm in greatest dimension corresponding to the region of abnormal uptake noted on the PET scan. An FNA of the right parotid mass revealed malignant cells derived from a poorly differentiated adenocarcinoma with numerous lymphocytes in the background and an appearance similar to the specimen from the excised scalp lesion.

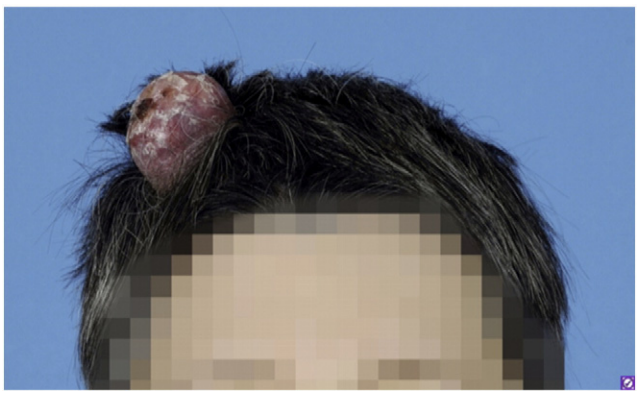

Fig. 1 – Prominent mobile, dark purple mass on the patient's right frontal–parietal scalp (5 × 4 × 3.5 cm).

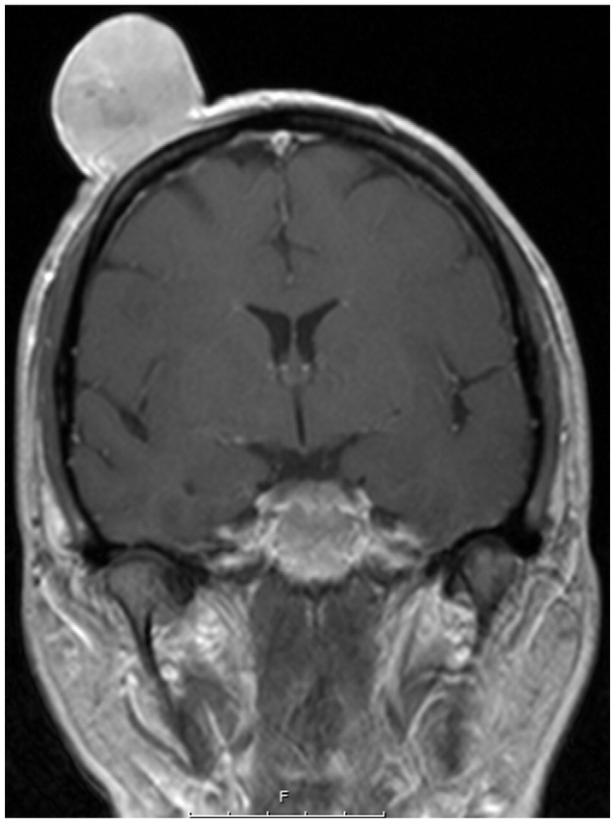

Fig. 2 – Sagital T1 weighted MRI post gadolinium of the head showing a 4.6 × 4.2 × 4.3 cm solid enhancing soft tissue mass arising from the right frontoparietal scalp with mild thickening of the underlying subgaleal layer. There is no evidence of bony cortex invasion or marrow signal abnormality.

Approximately 10 weeks after surgical excision of the scalp mass, the patient underwent a right superficial parotidectomy with facial nerve dissection and right modified radical neck dissection (level 1b through level 5). The remaining defect was closed with an anterolateral thigh myocutaneous flap. Pathological examination of the surgical specimen revealed a high-grade mucoepidermoid carcinoma measuring 2.5 cm in greatest dimension with significant cytologic atypia, necrosis, and brisk mitotic activity. Metastatic carcinoma was present in 1 of the level 5 lymph nodes. The patient was discharged home after a brief hospital stay and experienced no complications in the post-operative period. She has refused post-operative radiation therapy.

3. Discussion

Though a relatively common finding in the parotid gland, mucoepidermoid carcinoma is an uncommon finding in cutaneous locations. Despite this, parotid and cutaneous mucoepidermoid carcinomas are similar in most respects [1]. Mucoepidermoid carcinoma, which is thought to derive from pluripotent cells of the excretory duct, is commonly defined by the presence of epidermoid, mucus-producing, and