



Cutaneous Extension of Parotid Mucoepidermoid Carcinoma from a Malignantly Transformed Warthin Tumor (WT) Mimicking Primary Cutaneous Adnexal Carcinoma

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Abstract

Cutaneous mucin-producing adnexal neoplasms can have a similar appearance to mucoepidermoid carcinoma extending or metastatic to the skin. In the clinical setting, cutaneous lesions of this type arising in the head and neck, especially those which are multiple or recurrent, should be carefully reviewed as potential extension or metastasis of primary lesions located elsewhere.

We report a case of a 47-year old gentleman who presented with a history of recurrent left post-auricular cyst. Excisional biopsy was histologically consistent with an adnexal mucin-producing carcinoma. Based on the malignant diagnosis, and subsequent imaging, the patient underwent further resection of the skin, parotid and cervical lymph nodes, which ultimately revealed extra-parenchymal extension of a superficial parotid mucoepidermoid carcinoma arising in a Warthin tumor.

Between 1995 and 2015, only nine reports of mucoepidermoid carcinoma arising within Warthin tumor were reported, none of which have identified extra-parenchymal extension to the skin as the presenting finding, nor has the confounding histologic diagnosis of mucinous carcinoma been previously described in this setting (1, 2, 3, 4).

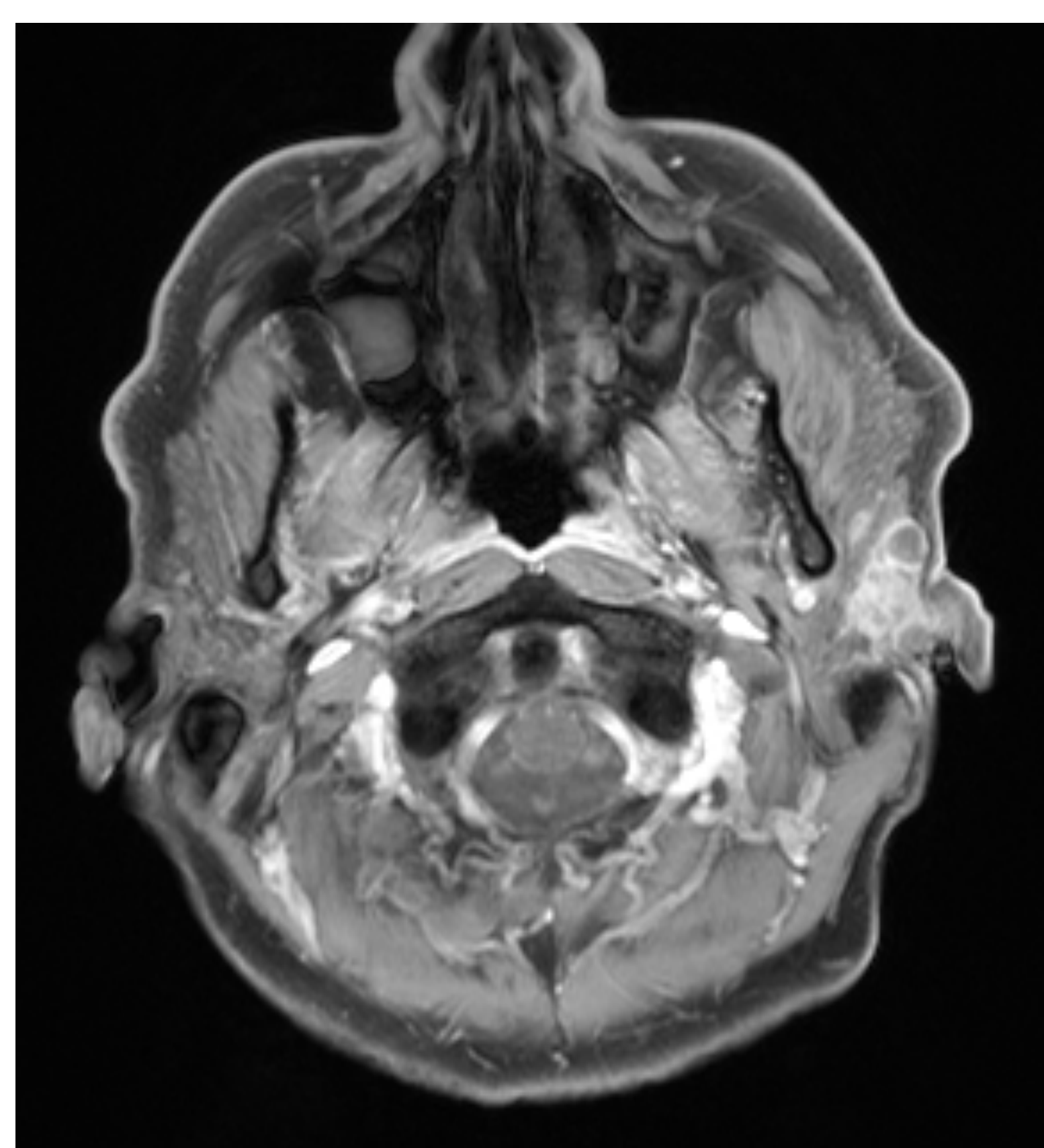


Figure 1 – MRI, axial image through left parotid showing a solid and cystic mass with post-auricular cutaneous extension

Case Report

A 47-year-old man had a history of a firm, mobile cystic lesion behind his left ear. This lesion was subsequently excised and revealed a benign skin adnexal cystic tumor consistent with syringocystadenoma papilliferum. Five years after the original excision, the patient presented with another lesion in the same location from which he drained clear thin fluid, but denied pain in this area. He was evaluated by a dermatologist and received a steroid injection and oral antibiotic. The lesion had not resolved several months later on follow up evaluation, and thus it was excised and pathology revealed a mucinous carcinoma. Given the cutaneous presentation and patient's previous history, this lesion was thought to be of adnexal origin.

However, subsequent radiological imaging demonstrated an enhancing cystic and solid mass measuring 2.5 x 1.3 x 2.2 cm in the superficial lobe of the left parotid gland with a possible small satellite lesion and a dominant lesion appearing contiguous with the subcutaneous skin underneath the surgical site (**figure 1**). Subsequently, a wide local excision of the left upper neck skin with partial auriculectomy *en bloc* with a left superficial parotidectomy with facial nerve preservation was performed as well as a left level 2 through 4 neck dissection with cervicofacial advancement flap closure. Pathology from surgery returned as low-grade mucoepidermoid carcinoma arising from Warthin tumor (**figures 2-4**). All 20 lymph nodes were negative for metastasis, however invasion of the underlying skin was noted. The disease was therefore staged at T4a N0 M0, stage IVA. Adjuvant therapy was not recommended. At 18 months post-excision, the patient continued to be without evidence of disease recurrence. He continues to follow up with exams and imaging periodically.

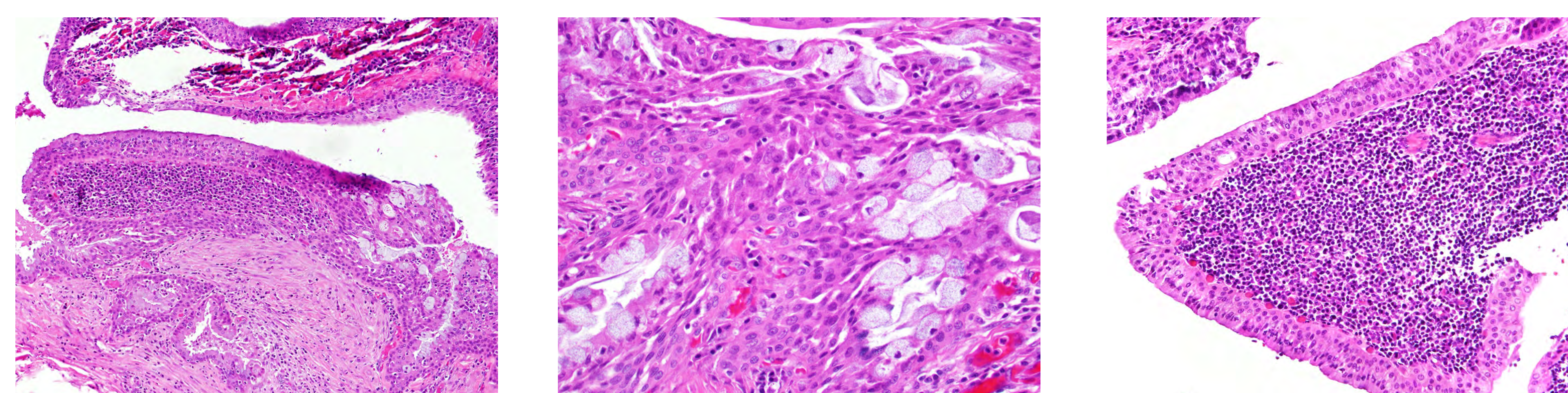


Figure 2– Transition zone between Warthin tumor oncocytic epithelium (left) and mucoepidermoid carcinoma (right) (40X).

Figure 3 – Proliferation of epidermoid (squamous cells), mucocytes, and intermediate cells consistent with low grade mucoepidermoid carcinoma (400X).

Figure 4 – Warthin tumor component demonstrating cystic spaces lined by double layered oncocytic epithelial layer with lymphoid stroma (200X).

Discussion

- On microscopic evaluation, mucinous cells from a mucoepidermoid carcinoma will appear similar to a mucinous carcinoma of another origin when taken out of context.
- On clinical evaluation, low-grade cutaneous adnexal and low-grade parotid carcinomas may both present as slow-growing, painless masses.
- On radiologic evaluation, MRI is preferred over CT for the evaluation of these tumors due to the superior soft tissue differentiation.
- The pathologic criteria for diagnosing malignant degeneration of WT are three fold: 1) the presence of preexisting Warthin tumor, 2) the presence of a transition zone between the benign ductal epithelial component and carcinoma, and 3) the exclusion of metastases to the lymphoid component of the WT (3,4,5). In this case, these criteria were satisfied on the basis of pathologic findings demonstrated in Figures 2-4 below, and clinical history as described above.
- Malignant transformation of Warthin tumor is rare, occurring in approximately 1% of cases (5).
- In the clinical setting, cutaneous lesions of this type arising in the head and neck, especially those which are multiple or recurrent, should be carefully reviewed as potential extension or metastasis of primary lesions located elsewhere.

Conclusion

Mucoepidermoid carcinoma arising from a Warthin tumor is rare with our report documenting only the tenth case in the English literature. The case presented here is perhaps more important because it serves as a cautionary clinical tale for clinicians who are frequently diagnosing and treating cutaneous malignancies. A pathologic diagnosis of cutaneous mucin-producing adnexal carcinoma in the region of the parotid gland (cheek, ear, and post-auricular skin) might actually represent extension of a mucoepidermoid carcinoma of the underlying parotid gland. Physical examination that includes a thorough head and neck examination exploring this possibility should be undertaken in this situation. If exam warrants it, further imaging should be undertaken to examine extent of disease in the parotid gland so that appropriate treatment can be planned.

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