Abstract

Eccrine ductal carcinoma (EC) is a rare entity that develops from the eccrine sweat glands of the skin. It can be locally destructive and has a worse prognosis once metastasized. Management of eccrine ductal carcinoma encompasses a multidisciplinary team with treatment consisting of wide local excision followed by adjuvant radiation therapy. We report a 60-year-old woman who presented with a mass along the nasal alar groove at the site of a cutaneous squamous cell carcinoma excised years prior. A biopsy of the mass was performed demonstrating a new primary, eccrine ductal carcinoma. She underwent excision with reconstruction followed by adjuvant therapy. This case highlights the importance of continued surveillance of cutaneous malignancies postoperatively for recurrence or development of new primaries. Eccrine carcinoma, although rare, should remain on the differential when investigating cutaneous malignancies.

Introduction

Eccrine ductal carcinoma is a rare neoplasm of the skin representing 0.01% of all malignant cutaneous neoplasms, and is the most common subtype of adnexal carcinomas. Currently, only 13 cases of squamoid eccrine ductal carcinoma have been reported in literature as of the year 2016. There are currently no specific methods to definitively differentiate EC from other malignant eccrine carcinomas (MEC) and this highlights an incomplete understanding of the origin of eccrine carcinomas, the lack of a standard nomenclature, and the lack of specific stains to delineate cells of epithelial, eccrine and apocrine origin. Given the rarity of EC there has been no criteria for diagnosis or guidelines for treatment.

Case Report

Patient is a 60-year-old female who had a lesion on the left nasal sidewall and ala that was the site of a prior cutaneous squamous cell carcinoma that had been removed via Mohs, eight years prior. She complained of itchiness and scaling in this region. She developed a non-healing ulcer on the left alar groove and left sided nasal obstruction. Biopsy via curettage rendered a diagnosis of infiltrating adnexal carcinoma favoring eccrine carcinoma. Her clinical examination demonstrated a 2.5cm ill defined indurated plaque involving the left ala, sidewall, and alar crease with evidence of skin retraction. The left ala is thickened throughout and nodularity is noted into the medial cheek subunit, there was also crusting in the nasal vestibule.

Due to her past medical history of ER+PR+Her2- right breast cancer with nodal disease imaging was obtained to further evaluate the extent of the lesion and to rule out metastasis. The MRI with and without contrast demonstrated asymmetric enhancement of the left nasal soft tissue and ala measuring 2.2 x 0.7 x 2.1 cm. A PET scan revealed no evidence of metastatic disease or recurrence of her breast cancer.

She underwent Mohs procedure demonstrating atypical basaloid epithelial cells infiltrating into deep fat, muscle, and abutting cartilage. The final defect was 5cm x 6cm (Figure 2). The following day she underwent a right paramedical forehead flap reconstruction, autologous costal cartilage grafting, septal flap, and a cheek advancement flap of the left cheek. Three weeks later she underwent a staged pedicled takedown with adjuvant radiation therapy 8 weeks after.

Histopathology demonstrated an interstitial dermal proliferation of strands and islands of predominantly atypical basaloid epithelium with ductal differentiation and focally sclerotic stroma. 

Discussion

Nasal eccrine ductal carcinoma is a rare diagnosis; however, should remain on the differential. EC shows a preference for the head, neck, and extremities and are most often presented in the middle-aged and elderly as a hard, usually non-ulcerated cutaneous nodule. However, reports of ulceration have been noted. Prunitus has also been associated with these lesions, which is a similar finding in this case. The type of biopsy used to determine the diagnosis has ranged from shave biopsy, to incisional or excisional biopsy. On histology, ductal eccrine carcinoma present as infiltrative with a poor growth arrangement that extends deep to the hypodermis. Diagnosis can be difficult because many of these biopsies are superficial while these lesions can have more of an infiltrating growth pattern.

After the diagnosis is made, 18F-FDG PET/CT imaging should be considered because of the metastatic potential of these lesions. Approximately 50% of eccrine ductal carcinomas metastasize. Due to the likelihood of recurrence, wider margins during excision are required. There are no strict guidelines established for treatment; however, wide local excision versus Mohs resection have both been documented in the literature. The recurrence rates of ECs have also been reported to be higher with surgical excision (10–70%) versus Mohs (0–6%) at an average 30.5 months follow up. Based on these results, Mohs resection is the favored treatment to provide patients with optimal results.

The role for adjuvant treatment has been examined and the risk of locoregional recurrence has been noted to be up to 60% in those who had surgical resection only. Those with high-risk histopathologic features including perineural invasion, lymph node involvement, high-grade pathology, positive margins, multi-focal disease, recurrence, or extracapsular extension would benefit from adjuvant radiation therapy as this significantly improved locoregional control. There is no data on the timing of adjuvant radiation and the role of chemotherapy is unknown in the management of eccrine carcinoma. Treatment with radiation alone without surgical resection has mixed results.

Conclusions

Eccrine carcinoma is a rare cutaneous malignancy of the sweat glands with an aggressive potential and high risk for metastasis and recurrence. There are a few case reports documenting the diagnosis and management of eccrine carcinoma. The histopathology becomes most important with obtaining the appropriate diagnosis; but, this is also based on getting an adequate biopsy sample as too superficial of a biopsy may provide a misdiagnosis including one of cutaneous squamous cell carcinoma. Imaging should be considered to evaluate for metastasis. Surgical excision via Mohs decreases the risk of recurrence. Adjuvant radiation therapy should also be considered because of the infiltrative nature and risk of perineural and intravascular involvement as well as high recurrence risk. Eccrine carcinoma, although rare, should remain on the differential when investigating cutaneous malignancies.

References

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