Endocrine Mucin-Producing Sweat Gland Carcinoma in an Elderly Man

To the Editor:

INTRODUCTION

Endocrine mucin-producing sweat gland carcinoma (EMPSGC) is an uncommon low-grade adnexal neoplasm that most commonly occurs on the eyelid of elderly women.1 First reported over 20 years ago, EMPSGC exists on a spectrum that begins with eccrine cysts and ends with invasive mucinous carcinoma.2 It is analogous to solid papillary carcinoma of the breast.3 More than 70 cases of this entity have been reported in the literature, with most cases being reported in the last 5 years.3 This is likely due to an increase in diagnosis, not necessarily an increase in incidence. EMPSGC can be locally aggressive and can recur, but it is not known to metastasize. Treatment options include excision with wide margins or Mohs micrographic surgery.4 We present the case of a 70-year-old white man who had a biopsy of an eyelid lesion clinically concerning for basal cell carcinoma (BCC).

CASE

A 70-year-old white man presented to his ophthalmologist for a 6-week follow-up after having cataract surgery. He complained of a slowly enlarging bump on his left upper eyelid. Physical examination revealed a firm, 4-mm skin-colored papule on the left lateral upper eyelid on a background of extensive photodamage. An excisional biopsy with margins was performed to rule out BCC. Histopathological examination revealed a well-circumscribed dermal tumor comprising round to oval cells with round, central nuclei and prominent nucleoli with scattered atypical mitoses and lakes of mucin (Figs. 1A–D). Immunostains were positive for chromogranin, synaptophysin, cytokeratin 7 (CK7), estrogen receptor, and GATA3 (Figs. 2A–E). Calponin and p63 stains highlighted stromal myofibroblasts around the tumor, rendering a diagnosis of EMPSGC. Since the excision, patient has been doing well, with no evidence of tumor recurrence.

DISCUSSION

EMPSGC is an uncommon low-grade adnexal neoplasm that most often occurs on the eyelid of elderly women. They are often biopsied to rule out BCC, squamous cell carcinoma, chalazion, sebaceous carcinoma, hидradenomas, and even cysts. First reported in 1997 by Flieder et al, there has been an increase in the number of reported cases, most of which have been reported in the last 5 years. At that time, the similarity of EMPSGC to solid papillary carcinoma of the breast was also reported.1 EMPSGC has even been reported to arise in a nevus sebaceous.5 Histologically, EMPSGC commonly mimics BCC, hidradenoma, apocrine adenoma, and dermal duct tumor.6 Lesions are composed of medium-sized

REFERENCES


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Andrea Saggini, MD*
Viviana Lora, MD†
Roberto Baldelli, MD‡
Augusto Orlandi, MD*†
Carlo Kota, MD§

*Anatomic Pathology, Department of Biomedicine and Prevention, University of Rome Tor Vergata, Rome, Italy
†Clinical Dermatology, Department of Clinical Dermatology, San Gallicano Dermatological Institute IRCCS, Rome, Italy
‡Endocrinology Unit, AO San Camillo, Forlanini, Rome, Italy
§Dermatopathology Unit, San Gallicano Dermatological Institute IRCCS, Rome, Italy

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round to oval cells with central nuclei and abundant eosinophilic cytoplasm. Mucin is present both intracellularly and extracellularly, imparting a bluish hue to some cells. Microcysts and pools of mucin can also be evident, as in this case. Few mitoses are present, and there is no atypia or necrosis. Nuclei have diffusely stippled chromatin, imparting a salt-and-pepper appearance.4,6 Because of a general lack of epidermal connection of EMPSGC, cutaneous metastasis should also be ruled out. It is often difficult to rule out cutaneous metastasis, especially one of breast origin, given its analogous nature to solid papillary carcinoma of the breast.

According to Flux et al, location on the eyelid and demonstration of a focal in situ component argues against a metastatic lesion and favors a primary cutaneous neoplasm.7 However, patient demographics should be considered in all cases, with emphasis on age-appropriate cancer screening. Invasive mucinous carcinoma should be ruled out, given its existence on the spectrum of EMPSGC. Zembowicz et al8 reported the association of EMPSGC with invasive mucinous carcinoma in 6 cases. Similar to EMPSGC, hidradenoma has a nodular solid and cystic architecture but has a more heterogeneous cellular composition. p63 staining tends to be positive in a large proportion of tumor cells. Apocrine adenoma can have a varying architecture and may be solid, cystic, cribriform, or papillary. Compared with EMPSGC, the cytoplasm of apocrine adenoma tends to be more eosinophilic and granular with more prominent nucleoli. In addition, mucin production and expression of estrogen and progesterone receptors are not characteristic of apocrine neoplasms.9

The complexity of the above differential requires the aid of immunohistochemical markers. Neuroendocrine markers, such as chromogranin, synaptophysin, and neuron-specific enolase, are positive in EMPSGC. Other immunohistochemical stains used include CK7, estrogen receptor, progesterone receptor,
epithelial membrane antigen, and CAM 5.2. p63 can be positive in benign ductal areas but is negative within nodules of the tumor, as demonstrated in our case. A recent analysis of 11 cases by Held et al revealed positive staining with a relatively new marker, MYB. This marker represents the gene fusion product MYB–NFI B that has been found in several adnexal tumors, causing overexpression of the MYB protein. The MYB protein itself is a leucine zipper transcription factor that plays a part at several points in the cell cycle. Fernandez-Flores et al reported CK8 and CK18 positivity and CK 5/6 negativity in 3 cases. Use of the above immunostains has resulted in the correct diagnosis of this entity in a case reported by Held et al. With increased use of immunostains, it is possible that more cases of EMPSC will be accurately diagnosed.

Our case demonstrates the difficulty of clinical diagnosis of EMPSC, with excisional biopsy being performed to rule out BCC. We present this case to demonstrate classic histological findings of this rare neoplasm and to increase awareness of this entity in the clinical and histopathological differential diagnosis of eyelid tumors. We also hope to stress the importance of using immunohistochemistry to aid in the diagnosis of basaloid neoplasms.

Sheevam Shah, MD*
Palak Parekh, MD*
Michelle Rodriguez, MD†
*Department of Dermatology
Baylor Scott and White Temple, TX
†Department of Pathology
Baylor Scott and White Temple, TX

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