Eccrine Porocarcinoma Presenting as a Recurrent Wart

Richard Torbeck, MD; Justin Fazio, MD; Jason B. Lee, MD; Joshua Trufant, MD

PRACTICE **POINTS**

- Eccrine porocarcinoma is more common in older patients (age range, 71–75 years).
- Local recurrence and nodal metastasis are reported as high as 20% with wide local excision.
- Higher cure rates recently have been reported with Mohs micrographic surgery.

Eccrine porocarcinoma (EPC) is an exceedingly rare sweat gland tumor most commonly seen in older patients. Diagnosis of EPC is rare, representing a small percentage of cutaneous malignancies. In the absence of established guidelines, wide local excision (WLE) has traditionally been considered the standard treatment. However, there is growing evidence of increased local recurrence and nodal metastasis associated with WLE. More recently, Mohs micrographic surgery (MMS) is emerging as an effective treatment method with higher cure rates. We report a case of EPC presenting as a recurrent wart in a 36-year-old man that was successfully treated with MMS.

Cutis. 2019;103:166-168.

Eccrine porocarcinoma (EPC), originally described by Pinkus and Mehregan[1] in 1963, is an exceedingly rare sweat gland tumor most commonly seen in older patients. Fewer than 300 cases have been reported in the literature, and it is believed to represent only 0.005% to 0.01% of cutaneous malignancies.[2] In the absence of established guidelines, wide local excision (WLE) has traditionally been considered the standard of treatment; however, local recurrence and nodal metastasis rates associated with WLE have been reported as high as 20%.[3] More recently, a number of case reports and small case series have demonstrated higher cure rates with Mohs micrographic surgery (MMS), though follow-up is limited.[3-5] We describe a case of EPC presenting as a recurrent wart in a 36-year-old man that was successfully treated with MMS.

Case Report

A 36-year-old man with no notable medical history presented with a 0.5×0.5-cm, asymptomatic, flesh-colored, hyperkeratotic, polypoid papule on the right medial thigh (Figure 1). The lesion was diagnosed as a wart and treated with cryotherapy by another dermatologist several years prior to presentation. Dermatoscopic examination at the current presentation showed a

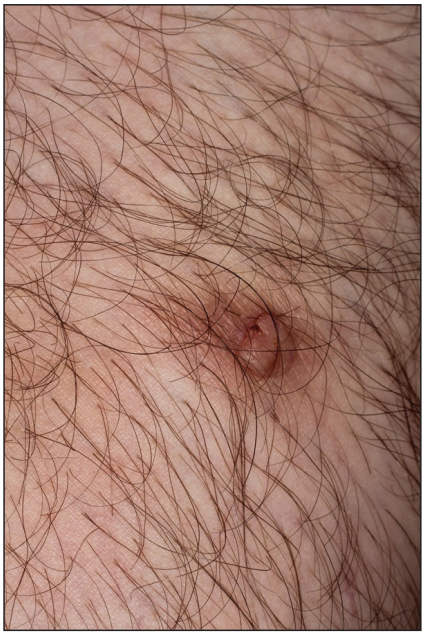

FIGURE 1. A 0.5×0.5-cm, flesh-colored, hyperkeratotic, polypoid papule on the right medial thigh.

Drs. Torbeck and Fazio were from and Drs. Lee and Trufant currently are from the Department of Dermatology & Cutaneous Biology, Thomas Jefferson University, Philadelphia, Pennsylvania. Dr. Torbeck currently is from the Icahn School of Medicine at Mount Sinai, New York, New York. Dr. Fazio currently is from the Department of Dermatology, Medical College of Wisconsin, Milwaukee.

The authors report no conflict of interest.

Correspondence: Justin Fazio, MD, Medical College of Wisconsin, Department of Dermatology, 8701 W Watertown Plank Rd, Milwaukee, WI 53226.

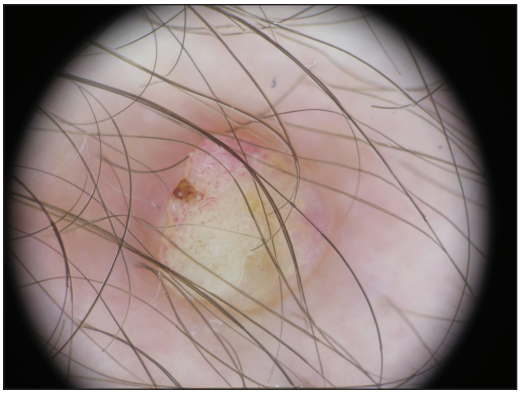

FIGURE 2. Dermatoscopic examination showed a homogenous yellow center with a few peripheral vessels and a faint pink-tan halo.

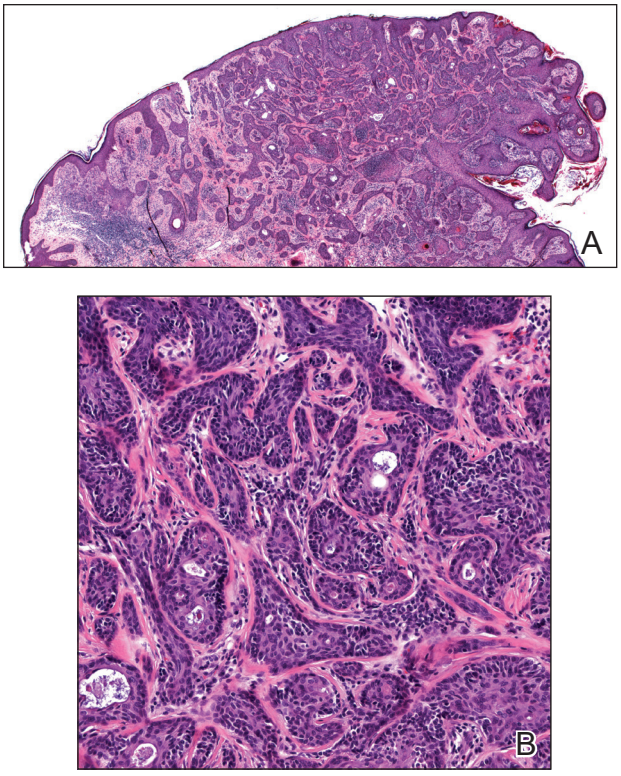

FIGURE 3. A, Histopathology revealed an exophytic and endophytic neoplasm emanating from the epidermis that consisted of epithelial crowded aggregations that were jagged in outline and irregular in shape (H&E, original magnification ×20). B, The ducts within the aggregations varied in size (H&E, original magnification ×200).

homogenous yellow center with a few peripheral vessels and a faint pink-tan halo (Figure 2). Our differential diagnosis included a recurrent wart, fibrosed pyogenic granuloma, irritated intradermal nevus, skin tag, and adnexal neoplasm. A shave biopsy was performed. Histopathologic analysis revealed multiple aggregations of mildly pleomorphic epithelial cells emanating from the epidermis, with many aggregations containing ductal structures (Figure 3). Rare necrotic and pyknotic cells were present, but no mitotic figures or lymphovascular invasion were identified. Immunohistochemical staining was positive for carcinoembryonic antigen and epithelial membrane antigen but negative for Ber-EP4. These findings were consistent with a well-differentiated EPC.

The patient was offered MMS or WLE, with or without sentinel lymph node biopsy (SLNB). He opted for MMS. The initial 1-cm margin taken during MMS was sufficient to achieve complete tumor extirpation, and the final 3.7×2.5-cm defect was closed primarily. The MMS debulking specimen was sent for permanent sectioning and showed a small focus of residual tumor cells, but no mitoses or lymphovascular invasion were seen. The patient was referred to surgical oncology to discuss the option of SLNB, which he ultimately declined. He also was offered regional or whole-body positron emission tomography–computed tomography (PET-CT) to rule out metastatic disease, which he also declined. There was no evidence of recurrence or lymphadenopathy 19 months postoperatively.

Comment

Eccrine porocarcinoma is an exceptionally rare adnexal neoplasm that most commonly affects older adults. The average age at diagnosis is 71 years in men and 75 years in women.[2] Our case is rare because of the patient's age. Benign eccrine poromas occur most frequently on the palms, soles, axillae, and forehead where eccrine density is highest; EPC occurs most frequently on the lower extremities.[6] It may arise de novo or from malignant transformation of a preexisting benign poroma. Clinically, EPC may present as an asymptomatic pink-brown papule, plaque, or nodule and may have a polypoid or verrucous appearance, as in our patient. Ulceration is common.[7] The differential diagnosis often includes nodular basal cell carcinoma, squamous cell carcinoma, pyogenic granuloma, and seborrheic keratosis.

Histologically, EPCs are characterized by aggregations of cohesive basaloid epithelial cells forming eccrine ductal structures.[2] Cellular atypia may be extremely subtle but, if present, can be helpful in differentiating malignant from benign lesions. Features of basal and squamous cell carcinoma also may be present. Definitive diagnosis is frequently based on the overall invasive architectural pattern.[5] Robson et al[2] examined 69 cases of EPC for high-risk histologic features and concluded that tumor depth greater than 7 mm, mitoses greater than 14 per high-power field, and the presence of lymphovascular invasion were independently predictive of mortality. Moreover, after adjusting for mitosis and depth, an infiltrative border vs a pushing border was strongly predictive of local recurrence.[2] Immunohistochemical stains, although not necessary for diagnosis, may have utility as adjunctive tools. Cells lining the ducts within EPCs commonly stain positive for carcinoembryonic antigen, though glandular myoepithelial cells stain positive for S-100. Negative Ber-EP4 staining helps to differentiate EPC from basal cell

carcinoma. Abnormal expression of p53 and overexpression of p16 also has been described.[4]

The rarity of EPC has precluded the development of any evidence-based management guidelines. Historically, the standard of care has been WLE with 2- to 3-cm margins. A review of 105 cases of EPC treated with WLE showed 20% local recurrence, 20% regional metastases, and 12% distant metastasis rates.[8] Mohs micrographic surgery, which allows examination of 100% of the surgical margin vs less than 1% for WLE with the standard bread-loafing technique, might be expected to achieve higher cure rates. A review of 29 cases treated with MMS monotherapy demonstrated no local recurrences, distant metastasis, or disease-specific deaths with follow-up ranging from 19 months to 6 years.[5] One case was associated with regional lymph node metastases that were treated with completion lymphadenectomy and adjuvant radiation therapy.[7] The high mortality rate of patients with nodal disease has led some to recommend PET-CT and SLNB for patients with EPC. However, the prognostic value of such procedures has not been clearly defined and there is no demonstrated survival benefit for treatment of widespread disease. Our patient declined both SLNB and PET-CT, and our plan was to follow him clinically with symptom-directed imaging only.

Conclusion

Patients with EPC generally have a favorable prognosis with prompt diagnosis and complete surgical excision. Although most commonly seen in elderly patients, EPC may present in younger patients and may be clinically and histologically nondescript with little cytologic atypia. Based on a small but growing body of literature, MMS appears to be at least as effective as WLE as a primary treatment modality for EPC, while offering the advantage of tissue sparing in cosmetically or functionally important areas.

REFERENCES

1. Pinkus H, Mehregan AH. Epidermatropic eccrine carcinoma. a case combining eccrine poroma and Paget's dermatoses. *Arch Dermatol.* 1963;88:597-606.
2. Robson A, Greene J, Ansari N, et al. Eccrine porocarcinoma (malignant eccrine poroma): a clinicopathologic study of 69 cases. *Am J Surg Pathol.* 2001;25:710-720.
3. Tolkachjov SN, Hocker TL, Camilleri MJ, et al. Treatment of porocarcinoma with Mohs micrographic surgery: The Mayo Clinic Experience. *Dermatol Surg*. 2016;42:745-750.
4. Tidwell WJ, Mayer JE, Malone J, et al. Treatment of eccrine porocarcinoma with Mohs micrographic surgery: a cases series and literature review. *Int J Dermatol.* 2015;54:1078-1083.
5. Xu YG, Aylward J, Longley BJ, et al. Eccrine porocarcinoma treated by Mohs micrographic surgery: over 6-year follow-up of 12 cases and literature review. *Dermatol Surg.* 2015;41:685-692.
6. D'Ambrosia RA, Ward H, Parry E. Eccrine porocarcinoma of the eyelid treated with Mohs micrographic surgery. *Dermatol Surg.* 2004;30:4:570-571.
7. Vleugels FR, Girouard SD, Schmults CD, et al. Metastatic eccrine porocarcinoma after Mohs micrographic surgery: a case report. *J Clin Oncol.* 2012;30:188-191.
8. Snow SN, Reizner GT. Eccrine porocarcinoma of the face. *J Am Acad Dermatol.* 1992;27:306-311.