

An Unusually Large Eccrine Poroma: A Case Report and Review of the Literature

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The eccrine poroma is an uncommon benign neoplasm previously thought to originate solely from the eccrine sweat gland. Initially believed to present on hairless acral surfaces, a more extensive distribution has been described. We report a case of a 55-year-old man with a slowly growing, 6-cm eccrine poroma on the medial aspect of his right foot of 40 years' duration. Clinicians should be aware that poromas can be of either eccrine or apocrine origin and can occur in areas other than acral skin. They also should understand the subclassification of the poroma family of neoplasms.

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The eccrine poroma is a benign adnexal neoplasm composed of a lobular growth of cuboidal monomorphic cells that show ductal differentiation. They arise from the intraepidermal portion of the eccrine duct and extend into the dermis while maintaining a connection to the epidermis. Eccrine poroma originally was described in 1956.¹ Typically, it presents as a soft, sessile, reddish papule or nodule protruding from a depression. Initially, it was thought to occur most often on hairless acral skin, particularly the soles or sides of the feet.² More recent studies have documented a wider distribution to include the scalp, face, chest, abdomen, and extremities. In a series of 353 specimens, 30% were located on the face, 15% on the feet, 14% on the trunk, 10% on the scalp, and 5% on the hands.³ Onset typically is in adulthood and there is no sex or ethnic predilection. The size of poromas have been reported

to range from a few millimeters to as large as 5 cm.³ Most eccrine poromas are devoid of melanin pigmentation and lack melanocytes on microscopic examination. However, pigmented eccrine poromas have been reported.^{4,5} This pigmented variety has been proposed to be more common in nonwhite skin⁶ and nonacral skin.⁵ Rarely, multiple poromas will develop in a widespread distribution, a clinical pattern referred to as poromatosis.⁷

To date, there are no precise figures on prevalence and the pathogenesis is still largely unknown. Multiple lesions have been reported to develop in the site of prior chronic radiation dermatitis and in a patient with mycosis fungoides who had been treated with electron beam therapy.^{8,9} Both cases were thought to be attributed to radiation damage. In addition, there have been rare cases associated with hidrotic ectodermal dysplasia¹⁰ and pregnancy.^{11,12}

We report a case of a long-standing poroma in a 55-year-old man. We also review the literature as it relates to our patient, and in doing so, we hope to clarify some of the confusion surrounding sweat gland tumors.

Case Report

A 55-year-old white man presented with a slowly growing, reddish tumor of 40 years' duration on the medial aspect of his right foot that was approximately 6 cm in diameter (Figure 1). He denied any pain, ulceration, sudden growth, or bleeding, but occasionally he noticed clear fluid oozing from the tumor. When the lesion first appeared, it was misdiagnosed as a wart and the patient unsuccessfully tried over-the-counter wart removers. He sought medical attention at his family's insistence and because he was no longer able to comfortably wear his shoe. He denied any other medical problems and was otherwise in good health and felt well throughout the tumor's existence.

Physical examination revealed a moist, 6-cm, verrucous, reddish brown tumor on the medial aspect of his right foot below the ankle. It appeared to be pedunculated. A small biopsy was obtained from

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Figure 1. A moist, 6-cm, verrucous, reddish brown tumor on the medial aspect of the right foot below the ankle.

the superior portion of the specimen. Histopathology demonstrated a lobular dermal proliferation of cuboidal cells with monomorphic appearance that were broadly connected to the epidermis. There were numerous ductlike structures and a supporting fibrovascular stroma (Figure 2).

Initial diagnosis favored a benign poroma, but because of the small sampling size, malignant degeneration could not be excluded. The entire lesion was successfully excised with 2-mm margins after intraoperative frozen section confirmed the absence of any malignant degeneration. The repair was performed with a split-thickness graft harvested from the patient's thigh.

Comment

Since the eccrine poroma was first described by Goldman et al,¹ the terms *eccrine* and *poroma* have become unified; thus poromas often are referred to as eccrine in a natural manner. Studies have demonstrated strong evidence that poromas may in fact arise from both eccrine and apocrine sweat glands.¹³⁻¹⁵ It has been speculated that eccrine poromas and apocrine poromas probably occur in nearly equal numbers.¹⁶

The subclassification of the poroma family is a confusing area of dermatopathology. Within the poroma family of neoplasms, there are 4 distinct variants: eccrine poroma, hidroacanthoma simplex (intraepidermal poroma), dermal duct tumor (intra-dermal poroma), and poroid hidradenoma.³ They are considered a variation of a single pathologic process in the proliferation of poroid cells rather than 4 discrete separate entities. Because they are benign poroid neoplasms, it has been proposed to collectively consider them as simply poromas. The 4 variants of poromas are histopathologically differentiated from one another mainly by where the neoplastic cells are situated. An eccrine poroma has neoplastic poroid

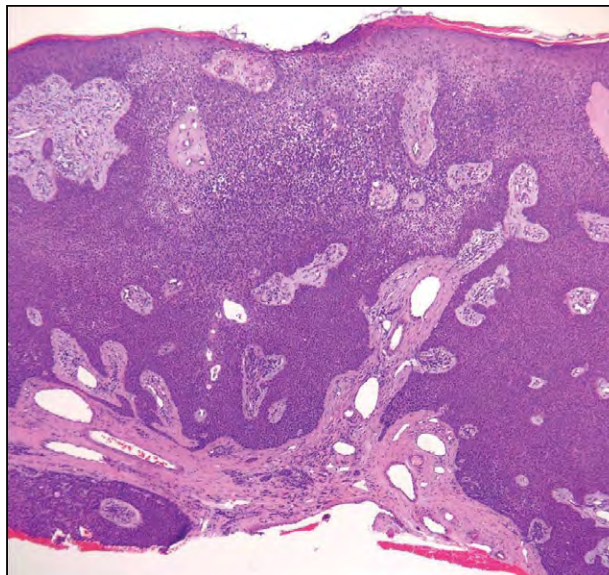


Figure 2. Histopathology of a biopsy specimen taken from the superior edge of the tumor revealed a lobular dermal proliferation of cuboidal cells with monomorphic appearance that were broadly connected to the epidermis, consistent with an eccrine poroma. There were numerous ductlike structures and a supporting fibrovascular stroma (H&E, original magnification $\times 10$).

cells involving the basal layer of the epidermis and at least the upper part of the dermis. Hidroacanthoma simplex is an intraepidermal proliferation of poroid cells arranged as discrete nests. Both dermal duct tumor and poroid hidradenoma are nodular reticular dermal proliferations of poroid cells; dermal duct tumor consists of multiple nodules of poroid cells, while poroid hidradenoma usually appears as a single large nodule of poroid cells with solid and cystic areas. The histopathologic features seen most consistently in all types of poromas include poroid cells, cuticular cells, intracytoplasmic or intercellular vacuolization en route to formation of ducts, necrosis en masse, and monomorphism of nuclei from poroid and cuticular cells throughout the neoplasm.³ It should be noted that the poroid hidradenoma has been described as a distinct entity from the poroma family. Accordingly, this author subdivided the poroma family into the hidroacanthoma simplex, eccrine poroma, dermal duct tumor, syringoacanthoma, and syringofibroadenoma variants.¹⁷

Sweat gland tumors represent 1% of all primary skin lesions and the eccrine poroma comprises 10% of these tumors.¹⁸ Furthermore, it is well-known that benign neoplasms can precede the development of malignant neoplasms, and the benign poroma can precede its malignant counterpart, the porocarcinoma.¹⁹⁻²²

Spontaneous bleeding, pain, and itching have been mentioned as signs and symptoms that could signal development of porocarcinoma¹⁸; however, some skepticism has been expressed about the reliability of these symptoms.³ Some patients do experience a period of rapid growth prior to seeking medical attention. In a study of 69 cases of eccrine porocarcinomas, 11 of 62 invasive cases (18%) appeared to arise in continuity with a benign preexistent poroma.²⁰ In another report, less than 1% of porocarcinomas were found adjacent to poromas,³ which is in contrast to an earlier study by Shaw et al²¹ that showed that all 27 cases of eccrine porocarcinomas were mixed with a benign eccrine poroma. It is unknown if the porocarcinoma is strictly of eccrine or apocrine origin, but Weedon¹⁷ speculates that many porocarcinomas are of apocrine origin. He cautions that further studies are needed before any reclassification is done.¹⁷

Because the eccrine poroma is benign, surgical treatment is optional and left for the physician and patient to decide together.¹⁶ Other options include a therapeutic shave removal or gentle electrodesiccation and curettage. After discussing the options with our patient, we proceeded with full excision to adipose. We felt it was the best treatment in our patient because there is still an uncertain amount of risk for malignant degeneration that is yet to be fully determined. In addition, initially we were only able to sample a small portion of the tumor and there was risk for a random sampling error that could have missed a malignancy.

Conclusion

Our case of a large eccrine poroma represents an opportunity to review the literature to help update and clarify the dermatologic lexicon regarding sweat gland tumors. Further studies are needed to elucidate the pathogenesis and classification of these tumors.

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