

# Verrucous Plaque on the Foot

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A 62-year-old man presented with an enlarging plaque on the foot of 3 years' duration. He experienced minor pain while walking but reported no other symptoms. His family history was negative for similar anomalies, and his medical history was negative for the presence of malignant tumors. Physical examination revealed a 2-mm erythematous plaque on the plantar aspect of the right foot with prominent overlying verrucous changes and no ulceration or regional lymphadenopathy. Dermoscopy and reflectance confocal microscopy of the lesion were performed along with a histopathologic examination after complete surgical excision.

## WHAT'S YOUR DIAGNOSIS?

- a. eccrine poroma
- b. keratoacanthoma
- c. plantar wart
- d. squamous cell carcinoma
- e. verrucous carcinoma

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The authors report no conflict of interest.

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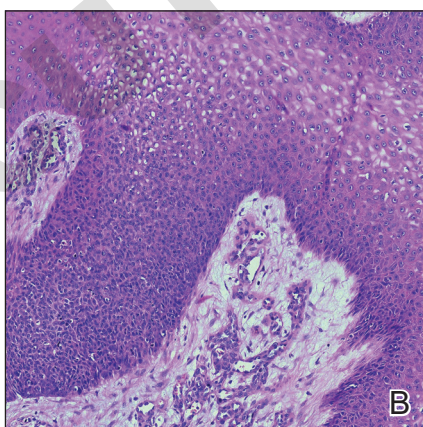
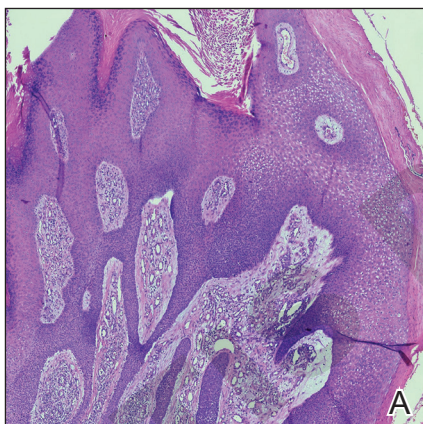
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## THE DIAGNOSIS: Eccrine Poroma

**H**istopathology demonstrated epidermal thickening, epidermal protrusions, a well-defined mass of tumor cells that extended from the epidermis down to the dermis, and luminal structures. Poroid cells and ovoid nuclei with basophilic cytoplasm also were evident (Figure 1). Dermoscopy showed papillomatous growth, milky-red areas, and dotted vessels (Figure 2). Reflectance confocal microscopy (RCM) at the spinous layer showed hyporefractile, dark, roundish lumina surrounded by keratinocytes (Figure 3). Based on the histologic, dermoscopic, and RCM findings, our patient was diagnosed with eccrine poroma.

Goldman et al<sup>1</sup> first described poroma in 1956. Poromas, which include eccrine poroma, are a group of benign cutaneous neoplasms arising from the terminal eccrine or apocrine sweat gland ducts.<sup>2</sup> Histologically, poroid cells appear as cuboidal keratinocytes with

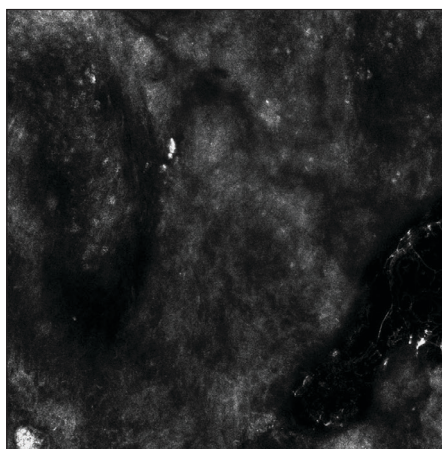
monomorphous ovoid nuclei and discrete nucleoli.<sup>3</sup> They usually appear as nodules or plaques with colors varying from flesh colored to red, brown, or bluish, and they clinically mimic several benign and malignant skin tumors. The differential diagnosis may include keratoacanthoma, plantar wart, verrucous carcinoma, basal cell carcinoma, and squamous cell carcinoma. Poromas can be of eccrine or apocrine origin.<sup>4</sup> They also belong to a broad group of neoplasms, including nodular hidradenomas, clear cell hidradenomas, hidroacanthoma simplex, dermal duct tumors, and hidradenomas.<sup>5</sup> Four subtypes—poroma, poroid hidradenoma, hidroacanthoma simplex, and dermal duct tumor—have been documented.<sup>6</sup> Because poromas have nonspecific and variable clinical presentations,



**FIGURE 1.** A, Histopathology revealed epidermal thickening, a well-defined mass of tumor cells extending from the epidermis down into the dermis, and luminal structures (H&E, original magnification  $\times 4$ ). B, Poroid cells appeared as cuboidal keratinocytes and ovoid nuclei with basophilic cytoplasm (H&E, original magnification  $\times 20$ ).



**FIGURE 2.** Dermoscopy showed papillomatous growth, milky-red areas, and dotted vessels (original magnification  $\times 10$ ).



**FIGURE 3.** Reflectance confocal microscopy displayed hyporefractile, dark, roundish lumina surrounded by keratinocytes (original magnification  $\times 1$ ).

they often are misdiagnosed as other skin neoplasms, and differentiation may be difficult. For example, some cases of poroma present with follicular, sebaceous, and/or apocrine differentiation, leading to difficulty in diagnosis.

Characteristic features of eccrine poroma seen on dermoscopy and RCM have the potential to aid in the diagnosis compared to histopathology. Marchetti et al<sup>7</sup> proposed 4 patterns of characteristic dermoscopic findings. Pattern 1 refers to the classic description with bleeding spots, a structureless yellow appearance, milky-red globules, and branched vessels. Patterns 2 and 3 simulate basal cell carcinoma, dermal nevus, or vascular tumors. Pattern 4 refers to tumors that are large in size and resemble keratinizing neoplasms.<sup>7</sup> Brugués et al<sup>8</sup> described poromas with the following RCM findings: an atypical honeycomb shape that was well separated from the normal epithelium, hyporeflectile nests with atypical cells, lack of palisading, and dark holes. One study described RCM parameters as cords without palisading, dark holes, prominent vascularization, and abundant stroma—findings that were positively associated with poroma in a univariate analysis. These findings assist in distinguishing poromas from other conditions in the differential diagnosis.<sup>9</sup>

There is a substantial overlap in clinical appearance with malignant conditions, including basal cell carcinoma, squamous cell carcinoma, cutaneous metastases, and Paget disease; therefore, the use of dermoscopy and RCM may be helpful in the diagnosis and recognition of specific features, as well as the corresponding patterns of poroma. Poromas commonly display vascularized features due to the variability of dermoscopic patterns of eccrine poroma, and further studies are required to establish the specificity of vascularized features.

Acral lesions are more likely to show the classic clinical features of erythema and exophytic growth. A case of a collision tumor with the verrucous changes of poroma,

seborrheic keratosis, and viral wart has been described.<sup>10</sup> The verrucous changes may lead to misdiagnosis as plantar warts or other neoplasms. Clinicians also should consider conditions that are induced by friction or trauma. In our patient, dermoscopy and RCM aided in the diagnosis of eccrine poroma due to the interference of prominent overlying verrucous changes.

Treatment of poroma is optional. Deeper lesions can be treated with surgical excision, and superficial lesions may be treated with electrosurgical destruction. Our patient was treated with surgical excision followed by repair of the surgical defect with a double V-Y flap.

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