CASE REPORT

**Dermoscopy of a non-pigmented eccrine poroma**

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**Abstract:** Eccrine poroma is a benign adnexal tumor arising from cells of the outer layer of the acrosyringium and upper dermal eccrine duct. It generally appears as a solitary, slow growing, sessile, pink-to-red and well-circumscribed papule, plaque or nodule. It is usually located on the palms and soles but it may also develop on other locations. Its clinical appearance can resemble other types of tumors such as hypo- or amelanotic melanoma. Dermoscopy has improved the evaluation of skin tumors. In the case of eccrine poroma, there are some studies that have described its dermoscopic findings. These mainly focus on its vascular structures. We present an 82-year-old patient who developed a 2×3-cm eccrine poroma on his lower back. Dermoscopy demonstrated the presence of a polymorphous vascular pattern displaying mostly linear looped (irregular hairpin-like) and “leaf-flower-like” vessels (“cherry-blossom” and “chalice-like”), with some resembling “cactus-like” structures. Only a few linear coiled (glomerular) and linear helical (corkscrew) vessels were observed. Some of these vascular structures were surrounded by a whitish-pink halo. Moreover, some pink structureless areas were present. We highlight the finding of the “leaf-flower-like” vessels, as these are vascular structures that have not been described in other types of skin tumors.

**Keywords:** Dermoscopy; eccrine poroma; polymorphous vascular pattern


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**Introduction**

Eccrine poroma is a benign adnexal tumor that arises from cells of the outer layer of the acrosyringium and upper dermal eccrine duct\(^1\). The term “acrospiroma” is considered by some to be a synonym for poroma, while others designate this term as encompassing both poroma and hidradenoma\(^2\). It appears as a solitary, slow growing, sessile, pink-to-red and well-circumscribed papule, plaque or nodule and sometimes exhibits pigmentation and rapid growth. It is usually located on the palms and soles, though it may also develop on other locations such as the head and neck, and the trunk. It is more frequently diagnosed in middle-aged and elderly persons, and equally affects both males and females\(^1,2-6\). The tumor is mainly asymptomatic. Its clinical presentation may resemble other benign or malignant neoplasms, and the clinical differential diagnosis includes hypo- or amelanotic melanomas, squamous cell, and basal cell carcinomas.

Dermoscopy has improved the evaluation of skin tumors and especially when it comes to evaluating non-pigmented lesions; it is the observation of the vascular patterns that becomes a key in the differential diagnosis. This has been vastly described for hypo- or amelanotic melanomas, basal cell carcinomas, or squamous cell carcinomas, to name a few\(^7,8\). However, there are a limited number of studies regarding dermoscopy of eccrine poroma to date. As it is predominantly a non-pigmented neoplasm, its dermoscopic evaluation should be focused...
on the vascular patterns, as these have been described in previous studies.[1,4,9-11] The evaluation of the vascular patterns under dermoscopy requires a proper technique—performed with a contact liquid, preferably ultrasound gel, and with slight pressure applied on the lesion. In doing so, the dermoscopist must consider the morphology and arrangement of the vessels, as well as any additional criteria observed that may be suggestive of certain lesions[4,7].

Case report

We present an 82-year-old man, with no relevant medical history, who sought consultation after noticing the recent onset of a “protuberance” on his lower back. It had been asymptomatic since its discovery, approximately two months prior to consultation, and had shown rapid growth. Physical examination revealed a 2x3-cm well-circumscribed, soft, red tumor with slightly irregular surface that exhibited superficial scales, located on his right lumbar area (Figure 1). He neither presented any other relevant findings nor any palpable lymphadenopathies.

The lesion was observed under polarized contact dermoscopy using cleansing gel alcohol. It revealed a polymorphous vascular pattern displaying mostly linear looped (irregular hairpin-like) and “leaf-flower-like” vessels (“cherry-blossom” and “chalice-like” vessels), with some resembling “cactus-like” structures. Only a few linear coiled (glomerular) and linear helical (“corkscrew”) vessels were observed. Some of these vascular structures were surrounded by a whitish-to-pink halo. Moreover, some pink structureless areas were present (Figure 2A and 2B).

A partial biopsy was performed to rule out malignant neoplasms such as amelanotic melanoma or squamous cell carcinoma. We found well-circumscribed lesions composed of small cuboidal epithelial cells with abundant eosinophilic cytoplasm and monomorphic ovoid nuclei extending into the dermis as broad columns of cells from the epidermis. We also observed cytoplasmic vacuolation within some centrally located tumor cells, eosinophilic hyalinized collagen and blood vessels in the stroma. Histopathology showed diagnosis compatible with eccrine acrospiroma (Figure 3A and 3B). Complete surgical excision was subsequently performed.

Discussion

Dermoscopic patterns of eccrine poroma should be mainly evaluated based on its vascular structures. This is
identified three structures shown being surrounded by a white[...]

...flower and leaf like‖ pattern, while the latter two were mostly within the center of the lesion. A few of these structures displayed a “cactus-like” appearance. Also, some pink structureless areas were observed, as well as isolated linear coiled (glomerular) and helical (corkscrew) vessels and were primarily towards the periphery of the lesion.

These findings resemble those observed by Aydingoz et al., who described a “flower and leaf like” pattern, consisting of arborizing vessels with small circular endings first, and a pink patch showing midrib and veins originating from it, resembling a leaf[10]. Shalom et al. also reported this finding in the largest series regarding the dermoscopy of eccrine poromas[11]. Dominguez Espinosa proposed the term “cherry-blossom” and “chalice-form” to better describe these structures[6]. In our case, we added a “cactus-like” vascular structure. We believe that the finding and characteristics of such structures depend on how dermoscopy is performed on the lesion, i.e. how much pressure is applied and where the dermatoscope is applied on.

Altamura et al. were pioneers in establishing the descriptions of the dermoscopic findings of non-pigmented eccrine poromas. They described a polymorphous vascular pattern consisting of pink-to-reddish, irregularly-shaped and irregularly-sized structures, similar to the milky red areas of melanoma but also with dotted, hairpin and linear irregular vessels. The authors initially considered the diagnosis to be amelanotic melanoma as it tends to present these dermoscopic features[7,9].

Nicolino et al. observed a similar polymorphous vascular pattern in a non-pigmented eccrine poroma, but they observed the presence of a white-to-pink halo surrounding linear irregular vessels[3]. This was seen in our case in a smaller degree and it tends to be found in keratinizing neoplasms such a squamous cell carcinoma[7]. This is why it should be considered among the differential diagnosis. Ferrari et al. identified three dermoscopic profiles in their series of eccrine poromas, with all three being surrounded by a white-to-pink halo: (1) glomerular and pink-white structureless areas; (2) glomerular and linear irregular vessels; and (3) hairpin vessels and linear irregular vessels[4]. We could not identify such defined profiles in our report. Sgouros et al. presented two cases of eccrine poroma: one case exhibiting a polymorphous linear, elongated hairpin and glomerular vessels; and the other presenting both glomerular and hairpin vessels, surrounded by a whitish halo in the periphery. This was similar to our case whereby the hairpin vessels were located in the periphery of the lesion[5].

Finally, besides the vascular structures shown previously, “interlacing white cords” is another feature demonstrated by Shalom et al. in their series which they correlated to dermal fibroplasia[11]. We did not find such structure in this eccrine poroma.

When finding these vascular structures, especially a polymorphous vascular pattern, differential diagnosis should include amelanotic melanoma and squamous cell carcinomas. The former may present milky red areas, irregular hairpin vessels, and corkscrew vessels similar to the case we have described. On the other hand, squamous cell carcinomas display glomerular vessels[7,8]. In our case, some of these findings were observed; however, the existence of “chalice-like” and “cherry-blossom-like” vessels prevailed. This may be a
key to the diagnostic approach of eccrine poromas with dermoscopy, since it has not been associated with other neoplasms to date.

Conclusions

We found the “chalice-form” and “cherry-blossom” vessels (also described as “leaf-flower-like”) to be the predominant vascular pattern. We highlight the need for adequate training in the evaluation of vascular structures using dermoscopy; this includes a proper technique as well as recognition of the morphology and distribution of the vascular structures. This will surely improve the clinical approach in the diagnosis of cutaneous non-pigmented neoplasms. With regards to eccrine poroma, further studies are required in order to determine certain dermoscopic profiles.

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Conflict of interest

The authors declare no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

References