



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-to-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

Citation: De Diego MC, Beguerie JR. Dermoscopy of a non-pigmented eccrine poroma. *J Surg Dermatol* 2018; 3(2): 55; <http://dx.doi.org/10.18282/jsd.v1.i3.55>.

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Received: 2nd April 2019; **Accepted:** 24th May 2019; **Published Online:** 6th June 2019

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 “acrosiroma” 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^[1,3-6]. 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^[3-6,9-11]. 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 dermatologist 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 2×3-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**).



Figure 1. A 2×3-cm well-circumscribed, soft, red tumor with a slightly irregular surface exhibiting superficial scales, located on his right lumbar area



Figure 2A. Dermoscopy shows fine scales throughout the surface, “chalice-form” and “cherry-blossom” vascular structures. Some white-to-pink structureless areas and a linear coiled (glomerular) vessel were observed.



Figure 2B. Dermoscopy shows fine scales, “cherry-blossom” and “chalice-form” vascular structures, some linear coiled (glomerular) vessels, and a linear helical (“corkscrew”) vessel towards the periphery. Vascular structures are surrounded by a white-to-pink halo.

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

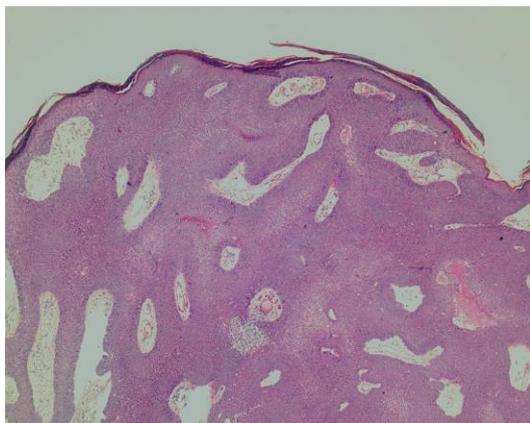


Figure 3A. (H-E ×50) Adnexal tumor exhibiting small cuboid cells arranged in anastomosed lobules

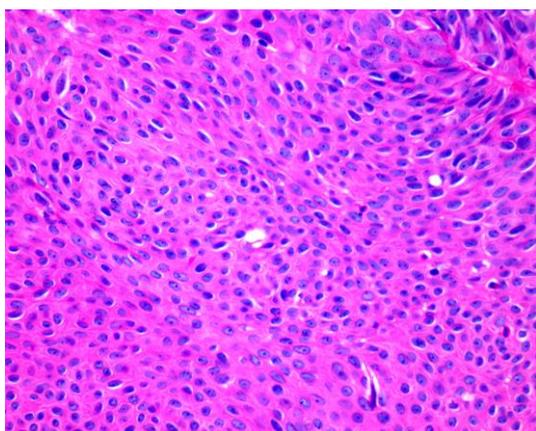


Figure 3B. (H-E ×500) A small cavity in the central area corresponds to eccrine ductal differentiation

probably due to the fact that it presents a highly vascularized stroma^[2,10]. In the case we have described, we found a polymorphous vascular pattern. Linear looped (irregular hairpin), “cherry-blossom” and “chalice-like” vascular structures were the most predominant patterns observed; the first was located mainly in the periphery 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.

Acknowledgements

The authors thank Prof. Jose G Casas for the histopathology work conducted in our publication.

Conflict of interest

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

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