

SHORT REPORT

Dermoscopy of apocrine hidrocystomas: a morphological study

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Abstract

Background The dermoscopic morphology of apocrine hidrocystomas remains to be elucidated.

Objective To evaluate the morphological findings of apocrine hidrocystomas under dermoscopic observation.

Methods Dermoscopic examination of 22 cases of apocrine hidrocystomas was performed to evaluate specific dermoscopic criteria and patterns.

Results The most frequently occurring dermoscopic features were found to be: (i) A translucent to opaque, homogeneous area which occupies the whole lesion in all apocrine hidrocystomas (100%). The colour of this homogeneous area was skin-colored in 31.8% of our cases; yellow, in 31.8% and blue, in 22.7% of apocrine hidrocystomas. (ii) Vascular structures were identified in 81.8% of our cases; arborizing vessels, in 68.2% and linear-irregular vessels in 9.1% of our cases; and (iii) Whitish structures were identified in 22.7% of the lesions. The results of our study reveal that the presence of a homogeneous area that occupies the whole lesion and arborizing vessels is the most common dermoscopic pattern in apocrine hidrocystomas (68.2%).

Conclusion Apocrine hidrocystomas, above all in its pigmented variant, may represent a dermoscopic pitfall, being difficult to differentiate clinically and dermoscopically from basal cell carcinomas.

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Conflict of interest

None declared.

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Introduction

Apocrine hidrocystomas are uncommon, benign, cystic lesions of apocrine glands. They are usually found on the head and neck, commonly affecting the cheeks or eyelids. They are most often solitary, but multiple lesions have also been documented. They show an equal sex incidence and arise most often in the middle aged. Apocrine hidrocystomas present as an asymptomatic, intradermal, dome-shaped, translucent nodule with a smooth surface and its colour ranges from flesh-colored to blue-black. Histologically, apocrine hidrocystomas are large unilocular or multilocular dermal cysts typically lined by a double layer of epithelial cells with the outer layer consisting of myoepithelial cells and inner layer consisting of tall columnar cells. Decapitation secretion is usually present and is the hallmark of apocrine glands.¹

Their clinical diagnosis is usually straightforward. However, non-pigmented apocrine hidrocystomas may mimic basal cell

carcinomas and pigmented apocrine hidrocystomas may mimic blue nevi and malignant melanomas.² Dermoscopy is a non-invasive technique which has greatly improved the diagnostic accuracy of melanocytic and non-melanocytic skin tumours. We consider it worthwhile to communicate the dermoscopic features of a series of apocrine hidrocystomas that could improve the clinical diagnostic accuracy of this tumour.

Material and methods

Three sources of clinical cases were used in this study. These sites were Hospital de Sant Pau i Santa Tecla, Tarragona, Spain (site 1), Hospital Universitario de Alicante, Spain (site 2) and Hospital Universitario de Gran Canaria 'Doctor Negrín', Spain (site 3). Clinical data were obtained from each patient, including: age, sex and the anatomical location. All apocrine hidrocystomas were examined using DermLite Foto Equipment (3Gen, LLC, Dana Point, CA, USA), at 20- to 50-fold magnification. No pressure was

used to avoid the collapse of the vessels in the lesions. All the lesions in this study were evaluated for the presence of dermoscopic features by two of the contributing authors (PZ and JB). Diagnoses of all the lesions have been confirmed histopathologically.

Results

A total of 22 cases of apocrine hidrocystomas were collected (Table 1). The lesions were obtained from six women and seven men ranging in age from 36 to 76 years. All apocrine hidrocystomas were located on the face: 14 of the 22 lesions (63.6%) were located on the eyelids; 3 (13.6%), on the cheek; 2 (9.1%), on the eyebrows; 2 (9.1%), on the temple and the remaining 1 (4.5%), on the ear.

A careful dermatoscopic examination of the lesions allowed the observation of the following features (Figs 1–3): (i) A translucent to opaque, homogeneous area which occupies the whole lesion in all apocrine hidrocystomas (100%). The colour of this homogeneous area was skin-colored in seven cases (31.8%); yellow, in seven cases (31.8%); blue, in five cases (22.7%) and pinkish-blue or grey in one case each (4.5%). (ii) Vascular structures were identified in 18 apocrine hidrocystomas (81.8% of our cases): arborizing vessels, in 15 cases (68.2%) and linear-irregular vessels in two cases (9.1%). (iii) Whitish structures, including chrysalis, were identified in five cases (22.7%). (iv) A crust, in one case (4.5%). In

all the apocrine hidrocystomas included in the study, other specific criteria for melanocytic or non-melanocytic tumours previously described in the literature were absent.

Discussion

The results of our study reveals that a homogeneous area that occupies the whole lesion with arborizing vessels is the most common dermoscopic pattern associated with apocrine hidrocystomas. This pattern could be identified in 68.2% of our cases (15 of the 22 lesions).

The histopathological correlation of the homogeneous area is the presence of a large unilocular or multilocular cystic space situated within the dermis. Typically, this is lined by a double layer of epithelial cells: an outer layer of cuboidal or elongated myoepithelial cells and an inner layer of cuboidal or columnar cells with decapitation secretion.¹ Dermoscopically, the colour of the homogeneous area is uniform in the whole lesion and varies from skin-colored to pink, yellow or blue in the different lesions. The cause of blue coloration in pigmented apocrine hidrocystomas, which was found in 22.7% of our cases, is not known. Some authors have associated this coloration with the presence of lipofuscin, melanin or iron in the cysts, but most authors suggested that the pigmentation observed clinically in pigmented apocrine hidrocystomas is due to the Tyndall phenomenon.³ We have not observed

Table 1 Clinical and dermoscopic characteristics observed in 22 apocrine hidrocystomas

Clinical characteristics				Dermoscopic features		
Cases	Age (years)	Sex	Location	Homogeneous area	Vascular structures	Other structures
1	74	F	Temple	Skin-colored	–	
2	57	M	Eyebrow	Pink	Arborizing vessels	White areas
3	43	M	Cheek	Blue	–	White areas
4	76	M	Ear	Blue	Linear-irregular vessels	White areas
5	74	M	Eyebrow	Blue	Linear-irregular vessels	White areas
6	58	M	Cheek	Blue	–	–
7	56	M	Cheek	Grey	Arborizing vessels	–
8	48	F	Temple	Yellow	Arborizing vessels	–
9	43	F	Eyelid	Skin-colored	–	–
10	55	M	Eyelid	Yellow	Arborizing vessels	–
11	55	M	Eyelid	Skin-colored	Arborizing vessels	–
12	55	M	Eyelid	Yellow	Arborizing vessels	–
13	55	M	Eyelid	Skin-colored	Arborizing vessels	–
14	55	M	Eyelid	Skin-colored	–	–
15	55	M	Eyelid	Yellow	Arborizing vessels	–
16	55	M	Eyelid	Yellow	Arborizing vessels	–
17	55	M	Eyelid	Yellow	Arborizing vessels	–
18	55	M	Eyelid	Yellow	Arborizing vessels	–
19	55	M	Eyelid	Blue	Arborizing vessels	–
20	36	F	Eyelid	Skin-colored	Arborizing vessels	–
21	65	F	Eyelid	Orange	Arborizing vessels	–
22	42	F	Eyelid	Skin-colored	Arborizing vessels	White areas/Crust

F, Female; M, Male.

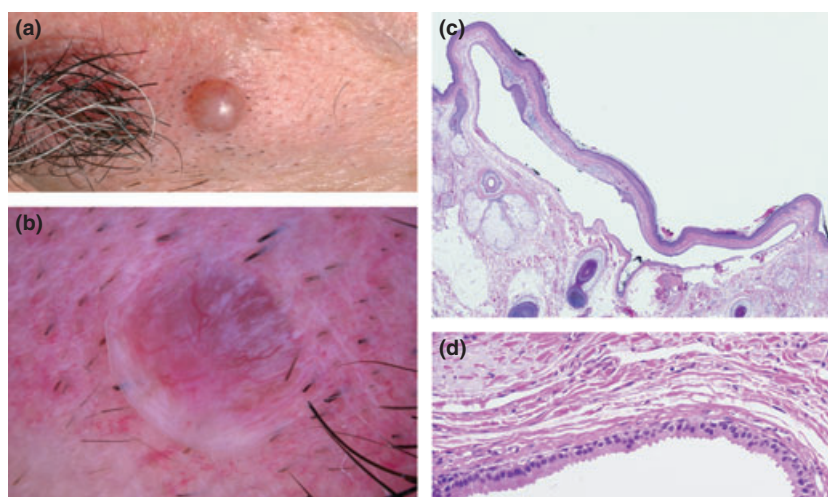


Figure 1 (a) Asymptomatic, dome-shaped, pink nodule located on the eyebrow of a 57-year-old man. (b) In the dermoscopic view, we can find a translucent, pinkish, homogeneous area which occupies the whole lesion; arborizing vessels and whitish structures (DermLite Foto; 3Gen, LLC. Original magnification x 10). (c) The result of histological examination was apocrine hydrocystoma (haematoxylin–eosin, original magnification x 20). (d) We can observe the characteristic decapitation secretion of this lesion (haematoxylin–eosin, original magnification x 40).

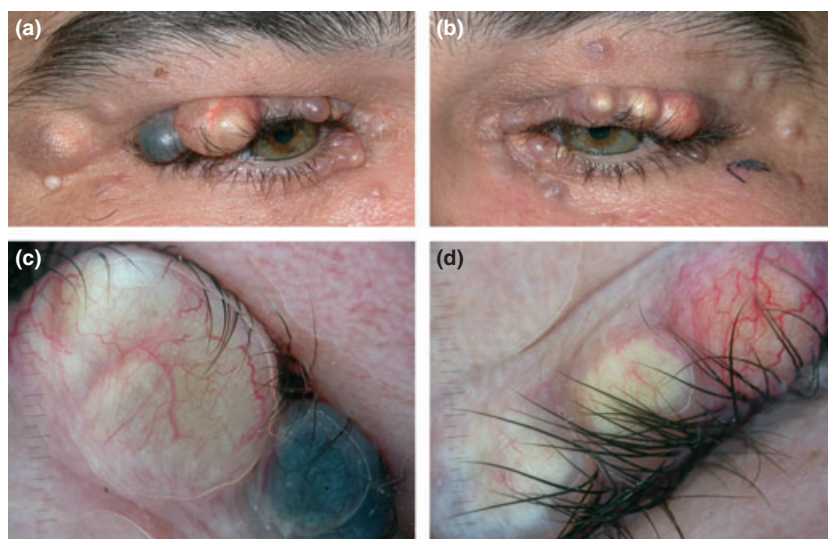


Figure 2 (a) and (b) 55 year-old man with multiple apocrine hydrocystomas located on the eyelids. (c) and (d) Dermoscopically, we can observe five apocrine hydrocystomas which show the typical appearance of this kind of lesion: a yellowish or bluish homogeneous pigmentation which occupies the entire lesion and arborizing vessels (DermLite Foto; 3Gen, LLC. Original magnification x 10).

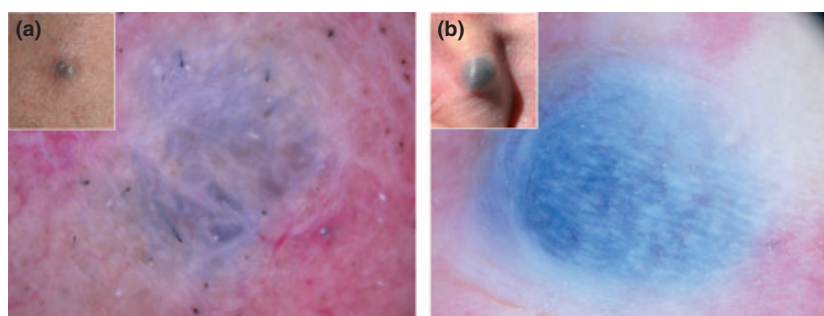


Figure 3 (a) Apocrine hydrocystoma located on the cheek of a 43-year-old man. In the dermoscopic view, we can find a bluish homogeneous pigmentation in the entire lesion with whitish structures. (b) Apocrine hydrocystoma located on the ear of a 76-year-old man. In the dermoscopic view, we can find a bluish homogeneous pigmentation in the entire lesion with linear-irregular vessels and whitish structures. (DermLite Foto; 3Gen, LLC. Original magnification x 10).

lipofuscin, iron or melanin in our cases. Dermoscopically, a bluish homogeneous pigmentation in the whole lesion can be observed in some tumours like: blue nevus, nodular or metastatic melanoma, aneurysmal dermatofibroma, solitary angiokeratoma, Kaposi sarcoma, trichilemmal cyst, basal cell carcinoma and rarely in some Spitz/Reed nevi.^{4,5}

Vascular structures were observed in 81.8% of the apocrine hidrocystomas of our series and it is important to note that we found arborizing vessels in 68.2% of the lesions. Arborizing vessels are defined as in focus telangiectasia with distinct treelike ramifications and are the most common structure associated with basal cell carcinoma.^{5,6} Menzies *et al.*⁶ found arborizing vessels in 52% of the 142 pigmented basal cell carcinomas of their series and Altamura *et al.*⁷ observed these vascular structures in 57.1% of their 609 basal cell carcinomas, representing the most reliable and robust parameter to diagnose this tumour. Argenziano *et al.*⁸ found that arborizing vessels had a positive predictive value of 94.1% for basal cell carcinomas. However, arborizing vessels can also be observed in irritated dermal nevi, sebaceous hyperplasias, pigmented poromas, xanthogranulomas and leishmaniasis, to name a few.⁹ We found arborizing vessels in 68.2% of apocrine hidrocystomas and they were indistinguishable from those found in basal cell carcinomas.

Finally, we found white structures in five cases of apocrine hidrocystomas (22.7%). Chrysalis, also named shiny white streaks, was observed in all of these five cases. These white, linear structures only visible with polarized dermoscopy have been found in melanomas, Spitz/Reed nevi, dermatofibromas and basal cell carcinomas to name a few and their histological substrate is believed to be dermal fibrosis.^{10,11} In our cases, we did not observe an increased amount of collagen in our cases, and we think that the changes in the orientation of collagen due to the pressure of the large dermal cysts could be the explanation for the presence of these white structures, including chrysalis.

In conclusion, a homogeneous area that occupies the whole lesion with arborizing vessels is the most common dermoscopic pattern associated with apocrine hidrocystomas (68.2%). Attention must be given to pigmented apocrine hidrocystomas that clinically and dermoscopically may often mimic basal cell carcinoma; thus, histopathological evaluation remains the gold standard for diagnosis.

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