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### Title

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### Permalink

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### Journal

Dermatology Online Journal, 27(12)

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### Publication Date

2021

### DOI

10.5070/D3271256705

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Peer reviewed

# Postauricular apocrine hidrocystoma: a case and dermoscopy review

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## Abstract

Apocrine hidrocystoma is a benign cystic proliferation of apocrine sweat glands that classically presents as a slow-growing nodule on the face, especially in the periorbital region. Histopathological evaluation is required to definitively diagnose an apocrine hidrocystoma. Previous studies have described apocrine hidrocystomas in unusual locations. However, the authors have identified only two reported cases of apocrine hidrocystoma in the postauricular region. We present a third case of a postauricular hidrocystoma in a 26-year-old woman, as well as a brief review of the dermoscopic findings of apocrine hidrocystomas in the existing literature.

*Keywords: apocrine hidrocystoma, dermoscopy, postauricular, sweat glands*

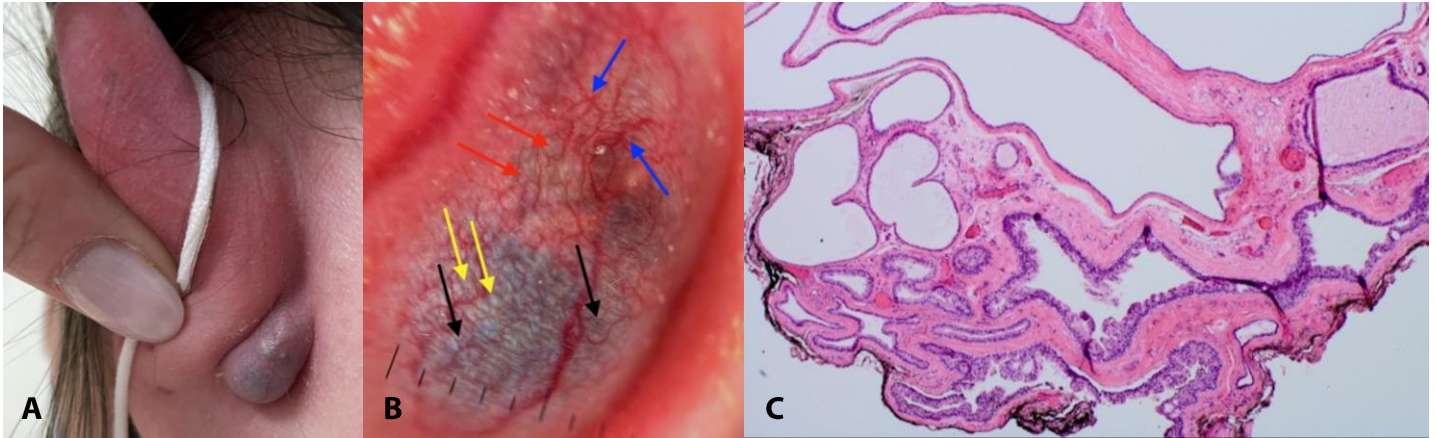
## Introduction

An apocrine hidrocystoma (AH) is a benign cystic tumor arising from the secretory portion of apocrine sweat glands [1]. The tumor most commonly presents in adults as a solitary, firm, cystic nodule on the face, especially in the periorbital region [1,2]. Dermoscopy may aid in the diagnosis and be used to rule out malignant tumors with a similar presentation, such as amelanotic melanoma and basal cell carcinoma. However, definitive diagnosis of apocrine hidrocystoma is based on histopathological evaluation [1]. The presence of an apocrine hidrocystoma in the postauricular region is rare. The authors have identified only two reported

cases with this location [2,3]. In both cases, histopathological analysis revealed a diagnosis of apocrine hidrocystoma in a middle-aged woman presenting with a postauricular mass [2,3]. We present a case of a postauricular apocrine hidrocystoma in a 26-year-old woman. A comparison of the three cases of postauricular hidrocystoma is presented in [Table 1](#).

## Case Synopsis

A 26-year-old woman presented with a lesion behind the left posterior ear that had been present for one year. The patient reported occasional pruritus but denied associated tenderness or bleeding of the lesion. Clinically, an 18mmx9mm violaceous nodule was observed in the left postauricular region (**Figure 1A**). Dermoscopy of the nodule demonstrated homogeneous bluish nodule with overlying arborized telangiectasias (**Figure 1B**). An elliptical excision was performed. Histological analysis with hematoxylin and eosin staining showed a cystic, multiloculated nodule. Central cystic spaces were lined by two cell layers, an internal layer of cuboidal cells demonstrating apocrine decapitation secretion and an external layer of myoepithelial cells. Portions of the lesion demonstrated epithelial hyperplasia with intracystic papillary proliferation of bland appearing cells (**Figure 1C**). A pathological diagnosis of apocrine hidrocystoma was made. The patient was seen for a post-operative appointment a week after the surgical excision and the surgical site was noted to be healing well without any complications.



**Figure 1. A).** 18mm×9mm violaceous nodule located in the postauricular aspect of the patient's left ear. **B).** Dermoscopy of the nodule showing homogeneous bluish nodules (black arrows), brown pigment globules (red arrows), white chrysalis structures (yellow arrows), and overlying arborized telangiectasias (blue arrows). **C).** H&E staining demonstrating a cystic, multiloculated nodule. Central cystic spaces were lined by two cell layers, an internal layer of cuboidal cells demonstrating apocrine decapitation secretion and an external layer of myoepithelial cells. Portions of the lesion demonstrated epithelial hyperplasia with intracystic papillary proliferation of bland appearing cells.

## Case Discussion

The use of dermoscopy has become increasingly more common in recent years. It has allowed for improved diagnostic accuracy in the evaluation of skin, hair, and nail findings. Dermoscopy bridges the gap between clinical inspection and histopathological analysis by allowing clinicians to noninvasively examine cutaneous findings that are invisible to the naked eye [4].

The use of dermoscopy in the evaluation and diagnosis of apocrine hidrocystoma has been reported infrequently in the literature. A number of shared features were identified among the studies. A translucent, homogenous background, ranging in color from blue to pink to yellow, was noted on dermoscopy in many apocrine hidrocystomas [5,8,9]. Arborizing vessels were identified in all but one study. Cinotti et al. suggested that the lack of arborizing vessels present on dermoscopy may have been related to the smaller size of the apocrine hidrocystomas studied [9]. Finally, the presence of "whitish structures" within the apocrine hidrocystomas were reported in two studies [5,6].

A basic understanding of the common dermoscopic features of apocrine hidrocystomas will aid clinicians

in the identification of this cystic tumor. These features include a symmetric, translucent to opaque, homogeneous areas. In addition, vascular structures, white chrysalis structures traversing across the tumor resembling tree branches and brown pigment globules arranged in a haphazard pattern are noted ([Table 2](#)), [5-9].

Apocrine hidrocystoma is a rare apocrine sweat gland tumor that classically arises on the face. It presents clinically as a solitary, firm, cystic nodule. Due to its nonspecific presentation, apocrine hidrocystomas may be mistaken for a number of other cutaneous nodules, including eccrine hidrocystomas, epidermoid cysts, and hemangiomas. More concerning tumors, such as amelanotic melanoma and basal cell carcinoma, may also be suspected ([Table 3](#)), [1,10,11]. Dermoscopy may help to narrow the differential diagnosis in patients presenting with indistinct cutaneous nodules.

Ultimately, histopathological examination is required to definitively diagnose an apocrine hidrocystoma. Histologically, apocrine hidrocystomas are lined with an inner columnar epithelial cell layer and an outer layer of flattened

**Table 3.** Differential diagnosis of apocrine hidrocystoma with corresponding dermoscopy findings.

Diagnosis	Dermoscopy features
Apocrine hidrocystoma	Central homogeneous area, translucent to opaque, occupying the entire lesion. The central area may be skin-colored, yellow, blue, or less frequently pinkish-blue or gray. Vascular structures, usually arborizing vessels, and whitish structures are common [8]
Ecrrine hidrocystoma	Central homogeneous area with a skin-colored or bluish hue, sometimes surrounded by a pale halo [8].
Epidermoid cyst	Punctum, pore sign, red lacunae, blue-white veil, and vascular patterns (arborizing telangiectasia, peripheral linear branched vessels), [12]
Hemangioma	Numerous round or oval red-bluish lacunae, usually well-demarcated. Lacunae often vary in size and color within the same lesion and may appear alone or in clusters against a homogenous reddish background [13]
Amelanotic melanoma	Blue-white veil, scar-like depigmentation, irregularly shaped depigmentation, irregular brown dots/globules, and predominant central vessels [14]
Basal cell carcinoma	Maple leaf-like areas, superficial fine telangiectasias, short white streaks in a chrysalis pattern, blue-gray ovoid nests, and ulceration [15]

epithelial cells [2]. They have low mitotic activity and rare nuclear atypia [11]. Apocrine hidrocystomas may stain positively for periodic acid-Schiff, although special staining is not required for the diagnosis. Additionally, the presence of polarizable, colorless crystals has also been described in apocrine hidrocystomas and other cutaneous sweat gland neoplasms [16].

Treatment options for an apocrine hidrocystoma include surgical excision, incision and drainage, needle puncture, electrodesiccation, carbon dioxide vaporization, and laser treatments [11,17,18]. Surgical excision with removal of the cyst wall is typically curative, although patients should receive adequate follow-up to assess for recurrence [18].

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## Conclusion

Clinicians should consider the diagnosis of apocrine hidrocystoma when evaluating cystic nodules of the face. Despite its rare presentation, a differential diagnosis of apocrine hidrocystoma should also be considered for cystic lesions presenting in the postauricular region. Although definitive diagnosis should be made with histopathological analysis, clinicians should familiarize themselves with the common dermoscopic findings of apocrine hidrocystomas to aid in detection.

## Potential conflicts of interest

The authors declare no conflicts of interest.

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**Table 1.** Comparison of three patients with a postauricular apocrine hidrocystoma.

	Kayabasoglu, 2014 [2]	Pandher, 2021 [3]	Cavanagh, 2021
Age	47	Middle-aged	26
Sex	Female	Female	Female
Race	Not reported	Not reported	White
Lesion location	Right postauricular region	Right postauricular region	Left postauricular region
Size	10mmx15mm	2.3cmx2cm	18mmx9mm
Color	Flesh colored	Blue-gray	Violaceous
Morphology	Multiple conglomerating vesicles	Nodule with three rounded projections and a fibroelastic consistency	Nodule
Pathology	Cystic cavity lined by a double layer of cells, with inner columnar epithelial cells and outer flattened myoepithelial cells	Cystic, multiloculated nodule, covered by two cell layers, an internal layer of cuboidal cells and an external layer of myoepithelial cells	Cystic, multiloculated nodule with central cystic spaces lined by two cell layers, an internal layer of cuboidal cells demonstrating apocrine decapitation secretion and an external layer of myoepithelial cells. Portions of the lesion demonstrated epithelial hyperplasia with intracystic papillary proliferation of bland appearing cells
Special stains	Not performed	Not performed	Not performed
Treatment	Excisional biopsy with 3mm surgical margins	Surgical excision with narrow margins	Surgical excision with narrow margins
Follow up	No complications or recurrence at 6 month follow up	Not reported	Well-healed surgical site without recurrence of the lesion

**Table 2.** A review of the dermoscopic findings of apocrine hidrocystoma in the existing literature.

Author Year [ref]	Journal article	Dermoscopy findings
Zaballos 2014 [5]	Dermoscopy of apocrine hidrocystomas: a morphological study	All apocrine hidrocystomas demonstrated a translucent to opaque, homogeneous area that occupied the entire lesion. The color of the homogeneous area was skin colored (31.8%), yellow (31.8%), and blue (22.7%). Vascular structures were identified in 81.8% of cases. Vascular patterns included arborizing vessels (68.2%) and linear-irregular vessels (9.1%). Whitish structures were identified in 22.7% of the lesions
Ankad 2015 [6]	Dermoscopy of apocrine hidrocystoma: a first case report.	Brown pigment globules arranged in a haphazard pattern, arborizing telangiectasias, and whitish structures traversing across the tumor resembling tree branches. Brown pigment globules observed under dermoscopy are attributed to melanin in the rete ridges or in the epidermis
Zaballos 2015 [7]	Dermoscopy of tumours arising in naevus sebaceous: a morphological study of 58 cases	Total symmetric homogeneous area and arborizing telangiectasias seen in 60% of cases
Zaballos 2018 [8]	Dermoscopy of adnexal tumors	Pattern composed of arborizing vessels in a pinkish background
Cinotti 2019 [9]	Dermoscopy for the diagnosis of eyelid margin tumors	Most hidrocystomas appeared blue on dermoscopy, in contrast to basal cell carcinomas and nevi which were not blue. Smaller hidrocystomas may not demonstrate arborizing vessels