Poroid Hidradenoma: An Uncommon Cutaneous Adnexal Neoplasm

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Sir,

Poroid hidradenoma presents as an asymptomatic solitary swelling affecting a wide range of population (13–91 years) with a predilection for the geriatric age group (sixth to seventh decade). We hereby present a case of a middle-aged gentleman with a poroid hidradenoma over the left forearm.

A 36-year-old otherwise healthy male presented to us with a solitary mass over the left forearm, present for the preceding 3 years. To start with, it was a tiny lesion, which has gradually increased in dimensions to attain the present status. Family history and medical and surgical history were unremarkable. Cutaneous examination revealed a solitary firm nodule with pigmented and multifaceted surface (dimensions being 1 cm × 1.5 cm) over the left forearm [Figure 1]. Regional lymphadenopathy was absent. Rest of the mucocutaneous examination was noncontributory. Excision biopsy was performed under aseptic precautions. Histology revealed a dermal neoplasm with reactive church spire type acanthosis. The tumor was composed of both solid and cystic portions. Two types of cells were clearly distinguishable within the mass, one being poroid (polyhedral cells, rounded nucleus, and slightly basophilic cytoplasm) and the other being cuticular (pale round cells with clear cytoplasm) [Figures 2–4]. Based on clinicopathological correlation, a diagnosis of poroid hidradenoma was done. The patient is under periodic follow-up.

Hidradenomas are tumors arising from sweat glands, which are of two types. One group comprises tumors developing from eccrine sweat glands, and these are characterized by dermal nodules which do not have any connection with the overlying epidermis. The predominant cell types include cuticular and poroid. These are designated as “poroid hidradenomas.” The second group is characterized by tumors with apocrine differentiation, composed of mucinous, polygonal, and clear cells. Besides, there are four variants of poroid neoplasms based on the location of the neoplastic cells, namely, hidroacanthoma simplex, dermal duct tumor, poroid hidradenoma, and eccrine poroma. Poroid hidradenoma is a relatively newly described variant, and very few cases have been reported in the literature.¹
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Figure 1: Solitary firm pigmented nodule over the left forearm

Figure 2: Well-circumscribed dermal tumor with reactive church spire type acanthosis (H and E, ×40)

Figure 3: Well-circumscribed dermal tumor consisting of both solid and cystic areas. Solid areas show lumen formation (H and E, ×100)

Figure 4: Solid area consisting of two cell types - poroid cells seen as polyhedral cells with a rounded nucleus and slightly basophilic cytoplasm (black arrow), and cuticular cells seen as pale round cells with clear cytoplasm (red arrow) (H and E, ×400)

Clinically, the tumor presents as a well-circumscribed red to blue papule, nodule, or plaque (1–2 cm in diameter) over the head and neck, thigh, axilla, trunk, abdomen, limbs, vulva, etc. Clinical differentials include apocrine hidradenoma, lipoma, fibrolipoma, epidermal inclusion cyst, basal cell carcinoma, pyogenic granuloma, and malignant eccrine poroma.

Hidroacanthoma simplex is characterized by an ovoid collection of poroid cells within the normal epidermis. However, dermal duct tumor shows the presence of similar cells in the dermis. The hallmark of eccrine poroma is the presence of a clear-cut margin between the lesion and the normal keratinocytes of epidermis, along with small cuboidal cells with darker nuclei protruding into the dermis. Thus, eccrine poroma involves the basal layer of the epidermis and extends into the superficial dermis. In poroid hidradenoma (consistent with our case), the neoplastic cells are situated in the dermis, without any connection to epidermis. The skeleton resembles a hidradenoma (absence of connection to the epidermis, presence of solid and cystic areas). Besides, the finding of poroid and cuticular cells (suggestive of a poroid neoplasm) clinches the diagnosis.[2] The histology must be evaluated carefully because there are reports of coexistence of eccrine poroma and poroid hidradenoma within the same lesion.[3] Papillary poroid hidradenoma is a newly described variant of poroid hidradenoma, which in addition to the features of classical poroid hidradenoma, has a characteristic papillary architecture.[4]

On immunohistochemistry, cuticular cells are immunoreactive to cytokeratin (CK) 8 and carcinoembryonic antigen. However, poroid cells are partially immunoreactive to CK 10.[5] This proves that poroid hidradenoma is closely related to the dermal eccrine ducts and eccrine secretory elements.

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Conflicts of interest
There are no conflicts of interest.

References
1. Goksugur N, Yilmaz F. Poroid hidradenoma. Acta Dermatovenerol Croat 2011;19:122-3.
2. Obaidat NA, Alsaad KO, Ghazarian D. Skin adnexal neoplasms – Part 2: An approach to tumours of cutaneous sweat glands. J Clin Pathol 2007;60:145-59.
3. Chiu HH, Lan CC, Wu CS, Chen GS, Tsai KB, Chen PH. A single lesion showing features of pigmented eccrine poroma and poroid hidradenoma. J Cutan Pathol 2008;35:861-5.
4. Piana S, Tagliavini E. Papillary poroid hidradenoma. Am J Dermatopathol 2010;32:101-2.
5. Ueno T, Mitsuishi T, Kawana S. Poroid hidradenoma: A case report with review of Japanese published work. J Dermatol 2007;34:495-7.