

# Pigmented Eccrine Poroma on the Scalp

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**Eccrine poromas mainly involve the non-hairy surfaces of the skin, however, have also been found on hair bearing areas.**

**Pigmentation in the tumor cells is rare but has been mentioned in a few papers.**

**The following case documents an example of a pigmented eccrine poroma which occurred in an unusual location; the posterior scalp. (Ann Dermatol 1:111-113, 1989)**

*Key Words:* Pigmented eccrine poroma, Posterior scalp

Eccrine poroma, a relative uncommon benign cutaneous tumor of the intraepidermal portion of eccrine sweat gland duct occurs mainly on the non-hairy volar surfaces of the feet and on the hands and fingers in unusual locations.<sup>1,3</sup> Eccrine poromas such as the nipple<sup>4</sup> and ear<sup>5</sup> have been reported in domestic literature; other sites reported have been the chest, back, neck, nose and scalp.<sup>2</sup>

Although the absence of melanin pigment in tumor cells of an eccrine poroma and the absence of melanocytes are considered characteristic histopathologic findings,<sup>1</sup> a few cases containing them have been reported.

We report herein a case of pigmented eccrine poroma of the posterior scalp.

## REPORT OF A CASE

A 32-year-old woman was seen because of an asymptomatic slowly growing mass on the posterior portion of her scalp for 3 years. On examination, the lesion was a solitary, pedunculated, glistening bluish-brown tumor that measured 1.9×1.7×0.3 cm and its surface was smooth and multilobulated (Fig. 1).

Light microscopic examination of an excisional biopsy specimen revealed that the tumor cells arose within the lower portion of the epidermis from which they extended downward into the dermis as anastomosing bands (Fig. 2). Vascular hyperplasia

and a sparse perivascular mononuclear cell infiltrate were also seen in the dermis. The tumor cells were composed of small, uniformed, cuboidal cells that were connected by intercellular bridges (Fig. 3).

Irregularly dispersed melanin pigments identified by Fontana-Masson stain were found within the tumor cells (Fig. 4). The lesion did not recur after the excisional biopsy.

## DISCUSSION

Eccrine poroma, first described by Pinkus in 1956,<sup>1</sup> usually appears as a skin colored to reddish brown, slightly scaly, sessile, solitary nodule on non-hairy skin in volar locations. The soles were involved more commonly than palms. The onset in our patient was earlier than the usual age of onset which is over 40.<sup>2,3</sup>

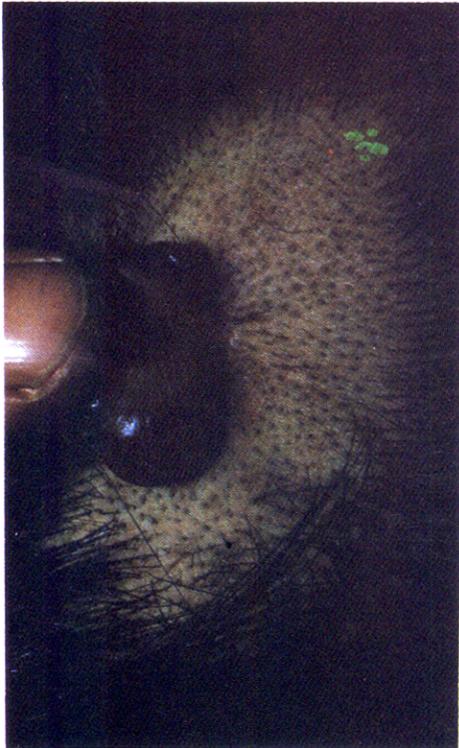
Eccrine poromas were thought to arise only from non-hairy volar skin rich in the eccrine glands at the time when they were described and, indeed, the first several reported cases were limited to that.<sup>1,6,7</sup> Subsequently, the tumor has also found to develop on hair-bearing skin.<sup>4,5,11</sup> Hyman and Brownstein<sup>2</sup> reviewed 56 reported cases and 45 new cases of eccrine poroma. Among them, eighty-eight cases (88%) were found on both the lower and upper extremities and the remaining 12% of the tumors were on the abdomen, back, chest, ears and neck. There were only 2 cases occurring on the scalp.

Eccrine poromas are characterized microscopically by the proliferation of intra-epidermal poral epithelial cells; bands of these cells projected into the dermis.<sup>1,2</sup> Tumor cells differed from malphigian

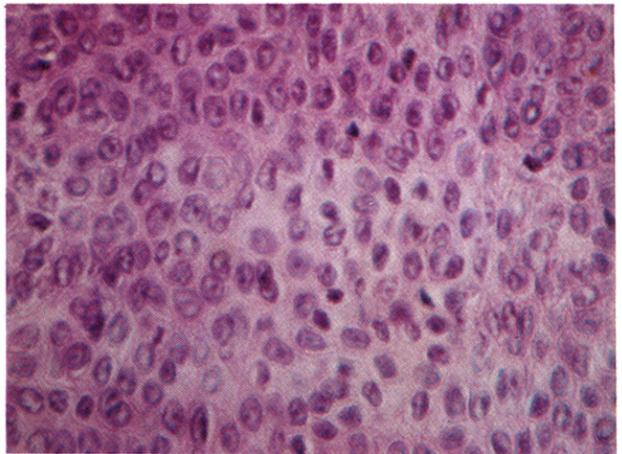
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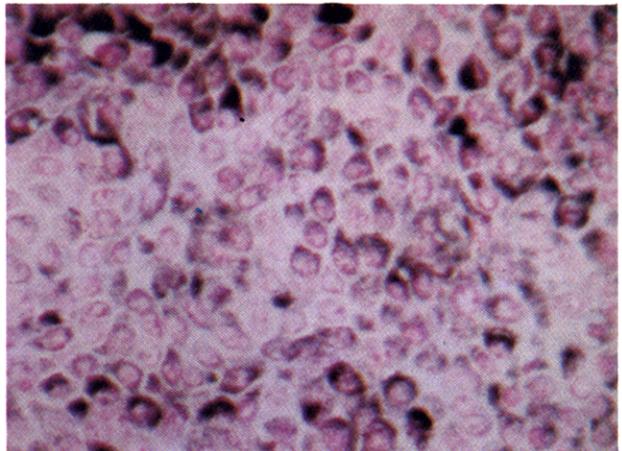
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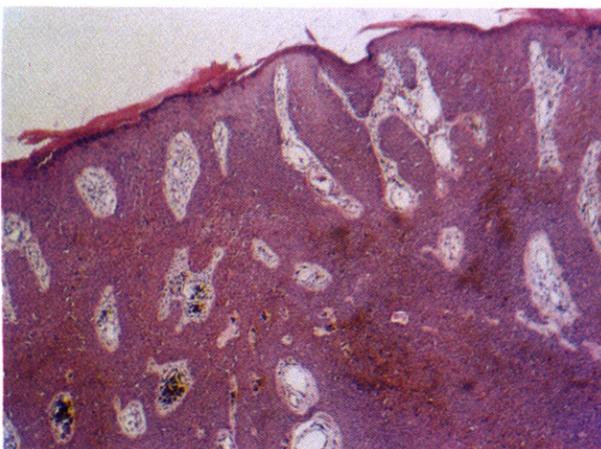
**Fig. 1.** A 1.9×1.7×0.3 cm, solitary, pedunculated tumor on the posterior scalp.



**Fig. 3.** The tumor is composed of uniformly small cuboidal cells connected by intercellular bridges (H & E stain, ×400).



**Fig. 4.** Melanin granules are often found in the tumor cells (Fontana-Masson stain, ×400).



**Fig. 2.** Tumor cells arise within the lower portion of epidermis from which they extend downward into the dermis as anastomosing bands (H & E stain, ×40).

cells by their small size, the absence of melanin granules and the presence of abundant amounts of unevenly distributed glycogen so that they were sharply demarcated from normal epidermal cells.<sup>12</sup>

Although the absence of melanocytes and melanin granules is regarded as one of the characteristic histopathologic findings, there have been few reports

of pigmentation in eccrine poromas.

Knox and Spiller<sup>6</sup> found melanin granules in the epithelium of an eccrine poroma in a Negro patient and Yasuda *et al*<sup>7</sup> also detected melanin granules and several melanocytes in the superficial portion of a tumor in a Japanese patient. Joe *et al*<sup>9</sup> identified melanin granules in the tumor cells of a domestic patient. Melanin granules may be encountered even in Caucasian patients.<sup>8</sup>

The reason for the presence of pigmentation in eccrine poromas is uncertain. The racial difference does not seem to be related to pigmentation of eccrine poromas because pigmentation has been reported not only in colored people but also in Whites. To our knowledge, the occurrence of pigmentation of an eccrine poroma from an unusual site (eg., the scalp)

is rare. We could find only one similar case which was a pigmented nodular hidradenoma of the scalp with features of an eccrine poroma.<sup>10</sup>

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