A Case of Eccrine Nevus

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Eccrine nevus is an unusual entity with various clinical manifestations. Histologically the eccrine apparatus appears simply increased in number and/or size, but structurally normal.

We present a case of eccrine nevus on the dorsum of the left 3rd and 4th fingers in a 20 year-old female. The lesions were 3 x 2 cm sized, well demarcated, smooth surfaced, brownish plaques with mild hyperhidrosis. Histological examination revealed hyperkeratosis in the stratum corneum and hyperpigmentation of basal layer, and an increased number of eccrine sweat glands and many eccrine coils in the dermis was seen.

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Eccrine nevus is a very rare disease. There is considerable clinical variation when it appears as a nodule, tumor, plaque, linear, or zosteriform configuration. Two sweat-discharging types, a solitary sweat-discharging pore type and numerous sweat discharging pore type, are classified by the number of sweat-discharging pores. But histologically the eccrine apparatus appears simply increased in number and/or increased in size of the eccrine coil in cases with only one eccrine duct, but structurally normal or nearly normal.

Herein, we report a case of eccrine nevus, which was of the pigmented plaque with numerous sweat-discharging pore type.

REPORT OF A CASE

A 20 year-old female visited the Department of Dermatology, Soonchunhyang University Hospital in June, 1993, with a complaint of brownish plaques on the dorsa of the left 3rd and 4th fingers. She developed the lesions at least 10 years ago. The lesions were 3x2 cm sized, well demarcated, with a hard, smooth surface, and brownish plaques(Fig. 1). We could see a somewhat increased amount of sweating on the lesional skin after emotional stimulation or exercise compare to normal skin. But it was hard to tell if this meant mild hyperhidrosis because we could not see any sharp outline on lesional skin by the Iodine-Starch test. Past medical history and family history were non-contributory. Physical examination did not reveal regional lymphadenopathy or other cutaneous lesions. Results of detailed motor and sensory examination by the neurologist were entirely within normal limits. The complete blood count, urinalysis, and hand roentgenogram did not reveal any abnormal findings.

A biopsy specimen of the pigmented plaque with a 2mm punch revealed hyperkeratosis and hyperpigmentation of the basal layer. There were increased numbers of eccrine coils in the dermis, which composed of normal secretory and ductal portion located in deep dermis without vessel proliferations. Secretory lumens appeared larger than normal in size(Fig. 2). The internal cellular wall layer and basement membrane zone of the secretory and ductal tubules were covered by a fine cuticle of PAS-positive material(Fig. 3). On electron microscopic examination, the clear cells in the secretory portion were seen to contain numerous
Fig. 1. 3 × 2cm sized, well demarcated, hard, and brownish plaque on the dorsum of the left 3rd finger.

Fig. 2. Biopsy specimen taken from the hard plaque on the dorsum of the left finger shows hyperkeratosis and hyperpigmentation of basal layer, and increased number and size of eccrine coils in the deep dermis. Secretory lumens were larger than normal in size (pointer). (H & E stain, ×40).

Fig. 3. The internal cellular wall layer and basement membrane zone of the secretory and ductal tubules were covered by a fine cuticle of PAS-positive material (PAS stain, ×40).

DISCUSSION

Eccrine nevi are rare and purely eccrine nevi are very rare. Clinically, various types have been described, a centrally depressed nodule surrounded by a slightly scaly border, a papular lesion in a linear arrangement skin lesion with asymptomatic or hyperhidrosis on the lesion, eccrine nevus with epidermal change which consisted of papular lesions on the extensor aspect of left leg without hyperhidrosis. In our patient, the skin lesions, in contrast to previous reported cases, were revealed as well circumscribed, smooth surface, brownish plaques with mild hyperhidrosis, which were of the numerous sweat-discharging pore type.

Localized unilateral hyperhidrosis has various causes. One of these is alteration of the sympathetic nervous system by lesion in the central nervous system. Spinal cord injuries may be associated with increased sweating in some cases. Localized hyperhidrosis can also appear in patients with periperal neuropathies after sympathectomy and in association with intrathoacic neoplasms. Some cases are idiopathic. Cutaneous diseases hyperhidrosis has been reported associated with localized hyperhidrosis and is inclined to occur with
blue nub er bleb nevus, glomus tumor, POEMS syndrome, Causal gia, pachydermokeratosis, eccrine nevus, neuritis, myelitis, syringomyelia, and tabes dorsalis.4,8

Eccrine nevi show an increase in the number and/or increase in the size of the eccrine coils, but structurally normal or nearly normal without vessel changes4,6,10. Routine histologic examination of our case revealed an increase number of secretory coils and slightly dilatation of eccrine duct, but vascular changes were absent. The internal cellular wall layer and basement membrane zone of the secretory and ductal tubules were covered by a fine cuticle of PAS-positive material, especially strong staining was noted in the lumen and basement membrane zone of the secretory portion. An electron microscopic picture of the secretory portion of eccrine sweat gland revealed normal findings.

Although some authors reported several cases of eccrine nevus showing malformed structures in eccrine duct: contortion of the duct4; diamond-shaped duct5; a branching off of the duct6; pseudobasaloid cell nest7; adenomatous change in the eccrine duct7, we found no significant structural changes in our case.

Several curious combinations of eccrine gland hyperplasia such as eccrine angiomatus hamatoma and eccrine pilar angiomatus hamatoma have been reported8,10. Eccrine angiomatus hamatoma or sudoriparous angioma is shown, clinically, as an angiomatus lesion with occasional tenderness and local hyperhidrosis. Histologically, hyperplasia of eccrine sweat apparatus and vascular elements are present in the some lesions8,11. Eccrine pilar angiomatus hamatoma shows histologically pilar structures in addition to the hyperplasia of the eccrine sweat apparatus and vascular elements in the same lesion.

Surgical exision is the usual treatment of eccrine nevus. If the skin lesions have hyperhidrosis, the use of antidepresson agent with weak anticholinergic is a benefical therapy8. We did not give to any treatment to our patient because of there was only mild hyperhidrosis and because of the cosmetic problem. At the follow up 16 months, later the size of the plaques on the 3rd and 4th fingers had not changed.

REFERENCES