Ann Dermatol Vol. 32, No. 6, 2020
pISSN 1013-9087 · eISSN 2005-3894
https://doi.org/10.5021/ad.2020.32.6.516

CASE REPORT

Eccrine Poroma Arising within Nevus Sebaceous

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Secondary neoplasms in nevus sebaceous can develop during adolescence and adulthood. Trichoblastoma and syringocystadenoma papilliferum are the most common benign neoplasms, but poroma is rarely reported. A 28-year-old female presented with an asymptomatic mass on the scalp. She has had a hairless lesion on the scalp since birth. A soft mass developed on that lesion four years prior. Physical examination revealed a localized 1 cm×2.5 cm-sized brownish, verrucous-surfaced plaque with a 1 cm×1 cm-sized pedunculated erythematous tumor on the scalp. We performed skin biopsy on both the plaque and tumor lesions. The histopathological findings demonstrated the plaque lesion consistent with nevus sebaceous and the tumor lesion consistent with eccrine poroma. Surgical mass excision was performed. The patient was eventually diagnosed with eccrine poroma arising within nevus sebaceous. To the best of our knowledge, there are only six reported cases on poroma arising within nevus sebaceous. Although rarely documented in the literature, it should be considered as a secondary neoplasm within nevus sebaceous. **(Ann Dermatol 32(6) 516～518, 2020)**

-Keywords-
Nevus, Poroma, Sebaceous of Jadassohn

Received June 5, 2019, Revised October 25, 2019, Accepted for publication October 31, 2019

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INTRODUCTION

Nevus sebaceous (NS) is a congenital, benign, cutaneous hamartoma, which commonly occurs at birth and is located in the head and neck. It presents at first as well-demarcated skin-colored hairless plaques, and becomes more yellowish, thickening and verrucous at puberty[1]. Secondary neoplasms arising within NS can develop during adolescence and adulthood. One study found that 21.4% of lesions with NS developed secondary neoplasms; benign tumors accounted for 18.9%, whereas malignant tumors comprised the remaining 2.5%[2]. Trichoblastoma and syringocystadenoma papilliferum are the most common benign secondary neoplasms, while basal cell carcinoma is the most common malignant secondary neoplasm[1]. However, poroma arising within NS has rarely been reported.

CASE REPORT

A 28-year-old female with a hairless lesion on her scalp since birth complained of a soft mass that had developed on the lesion three to four years prior to presentation. Physical examination revealed a localized, 1 cm×2.5 cm-sized, yellowish to brownish, verrucous-surfaced plaque with a 1 cm×1 cm-sized pedunculated erythematous tumor on the scalp (Fig. 1). Skin biopsy was performed on both the plaque and tumor lesions. The histopathological evaluation demonstrated papillomatosis and acanthosis in the epidermis and numerous sebaceous and apocrine glands within the dermis of the plaque lesion. In addition, well-demarcated tumor nodules were noted in a downward proliferation toward the dermis composed of small cuboidal basaloid cells on the tumor lesion. The findings were consistent with NS and eccrine poroma, respectively. Surgical mass excision of the whole lesion was performed. Based on the histopathologic findings, the patient was eventually diagnosed with eccrine poroma arising

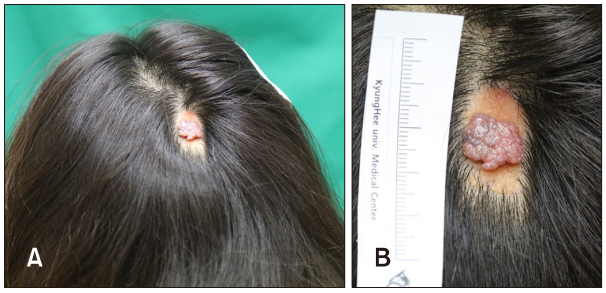

Fig. 1. (A, B) Localized, 1 cm×2.5 cm-sized, yellowish to brownish, verrucous-surfaced plaque with a 1 cm×1cm-sized, pedunculated, erythematous tumor on the scalp (we received the patient's consent form about publishing all photographic materials).

within NS (Fig. 2).

DISCUSSION

First described by Goldman et al.[3] in 1956, poroma is a benign adnexal tumor originating from an intraepidermal component of the sweat gland duct that was initially classified as a neoplasm originating from the eccrine gland. Apocrine poroma, first described in 1988 by Requena et al.[4], shares many clinical similarities with eccrine poroma. More recent data suggest that apocrine components may be present as well[5]. Clinically, a poroma usually presents

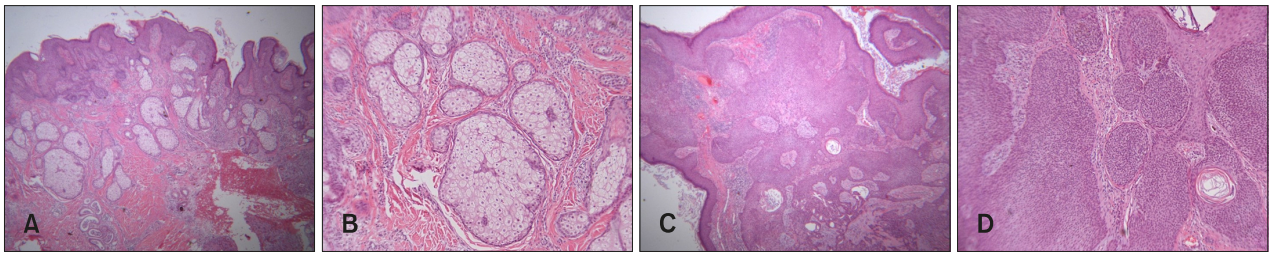

Fig. 2. (A, B) The histologic findings were consistent with nevus sebaceous. (A) Papillomatosis and acanthosis were visualized in the epidermis, and numerous sebaceous glands and apocrine glands were observed within the dermis (H&E, ×40). (B) Numerous lobules of sebaceous glands were noted within the dermis without connection to the epidermis (H&E, ×100). (C, D) The findings were consistent with eccrine poroma. (C) Well-demarcated tumor nodules were found with a downward proliferation toward the dermis (H&E, ×40). (D) Tumor nodules composed of small cuboidal basaloid cells were also seen (H&E, ×100).

Table 1. Previously reported cases of poroma arising within nevus sebaceous (NS)

Report	Year	Patient sex/age (yr)	Location	NS size	Type	Onset	Clinical presentation of poroma	Other co-occurred secondary neoplasms
Jaqueti et al.[11]	2000	-	-	-	Apocrine poroma	-	-	-
Seo et al.[8]	2004	Female/11	Scalp	2 cm×2 cm	Apocrine poroma	1 year ago	0.3 cm×0.3 cm sized erythematous papule	Tubular apocrine adenoma
Lee et al.[7]	2009	Male/63	Left cheek	10 cm×1.5 cm	Eccrine poroma	40 years ago	Multiple pebble-like papules and nodules with various size and color	Sebaceous adenoma, basal cell epithelioma
Wang et al.[9]	2013	Female/48	Scalp	11 cm×2.5 cm	Apocrine poroma	6 months ago	A 2 cm diameter red plaque	Trichoblastoma, sebaceous carcinoma
Cicek et al.[10]	2015	Male/40	Scalp	3.5 cm×1.9 cm	Eccrine poroma	Recently	Brown lesion with a rough surface	Basal cell carcinoma
Girdwichai et al.[1]	2016	Female/30	Scalp	3 cm×6 cm	Eccrine poroma	8 months ago	A solitary, slightly verrucous erythematous nodule, 3 cm in diameter	None

-: not available.

as a solitary, slow-growing, dome-shaped, painful papule or nodule commonly located on the palmar or plantar surface[6]. Involvement of the scalp is rare[2]. Poroma has been found to occur in patients with other skin diseases, and it can also develop within NS[6]. To the best of our knowledge, there are only six reported cases of poroma arising within NS (Table 1)[1,7-11].

Among these reported cases, three were diagnosed as eccrine poroma, and three were found to be apocrine poroma. Apocrine poroma appears to occur at a higher rate in poroma originating from NS. In the apocrine poroma, the folliculosebaceous apocrine lineage shows homogeneous eosinophilic intraluminal secretion and lining cells with eosinophilic cytoplasm, the presence of sebaceous cells lined by poroid cells, and foci of follicular differentiation in the periphery[6]. In the present case, no folliculosebaceous apocrine lineage was visible, which is characteristic of eccrine poroma. If the histopathologic findings do not clearly distinguish between the two poroma types, immunohistochemical studies may be helpful. Immunohistochemical staining for epithelial membrane antigen (EMA) and carcinoembryonic antigen (CEA) on poroma reveal the following: apocrine poroma stains EMA negative or positive and CEA positive, but eccrine poroma stains EMA positive and CEA focally positive[7,8].

There have been a new hypothesis that has recently been studied, suggesting that eccrine gland is included in the pilosebaceous unit[12]. And in one study, eccrine gland hyperplasia was occured in 14% of NS lesion[13]. Therefore it might be thought that eccrine gland might be affected in NS.

Herein we report a rare case of eccrine poroma arising within NS. Although rarely documented in the literature, it should be considered as a secondary neoplasm within NS.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

FUNDING SOURCE

None.

DATA SHARING STATEMENT

Research data are not shared.

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