

A Case of Eccrine Poroma on the Paranasal Area

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A 59-year old man presented with a 0.5×0.3 cm-sized area of, pink-colored, dome-shaped papules on the paranasal area. There was no previous history of trauma to the area. Histopathologic diagnosis was consistent with eccrine poroma.

We reported a case of eccrine poroma arising on the paranasal area, an unusual location for this condition. (*Ann Dermatol* 18(2) 73~76, 2006)

Key Words: Eccrine poroma, Paranasal area, Unusual location

INTRODUCTION

Eccrine poroma generally occurs in middle-aged people and is found most commonly on the sole or side of the foot. We report a case of eccrine poroma occurring at a rare site; the paranasal area.

CASE REPORT

A 59-year-old man presented with an asymptomatic papule on his left paranasal area. He had noted this lesion 10 years ago, and it had gradually increased in size. Examination of the skin revealed two, confluent, 0.5×0.3 cm sized, pink-colored, dome-shaped papules (Fig. 1). No systemic complaints were noted. There were no events of trauma to the area. Histologic examination of the lesion revealed a tumor arising from the lower portion of the epidermis (Fig. 2A). It emanated downwards into the dermis as tumor masses that often consisted of broad anastomosing bands of epithelial cells. The tumor cells were smaller than epidermal keratinocytes and showed a uniform cuboidal appearance with a deeply-basophilic, round nucleus (Fig. 2B).

They were connected by intercellular bridges. The tumor cells located at the periphery did not show palisading. A few ductal lumina lined by an eosinophilic cuticle were seen within the intraepithelial tumor. The tumor cells contained PAS-positive material and the ductal linings stained positive for CEA (Fig. 3A and 3B). Tumor cells also stained positive with epithelial membrane antigen (EMA) (Fig. 3C). The tumor was excised and no recurrence was noted for 6 months.

DISCUSSION

Eccrine poroma was first described in 1956 by Pinkus et al.¹ as a benign tumor originating from the epidermal sweat duct unit, and since then numerous



Fig. 1. 0.5×0.3 cm sized, dome-shaped, crusted erythematous nodule on the left lateral aspect of the nasal area.

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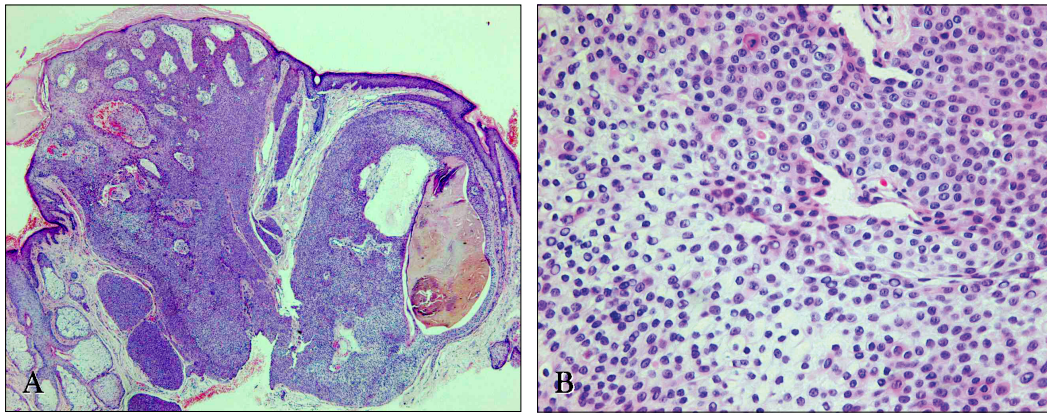


Fig. 2. (A) The tumor cells arose from the lower portion of the epidermis and emanated downwards into the dermis (H & E, $\times 40$). (B) The tumor cells were small and showed a uniform cuboidal appearance, with a deeply-basophilic, round nucleus and were connected by intercellular bridges (H & E, $\times 400$).

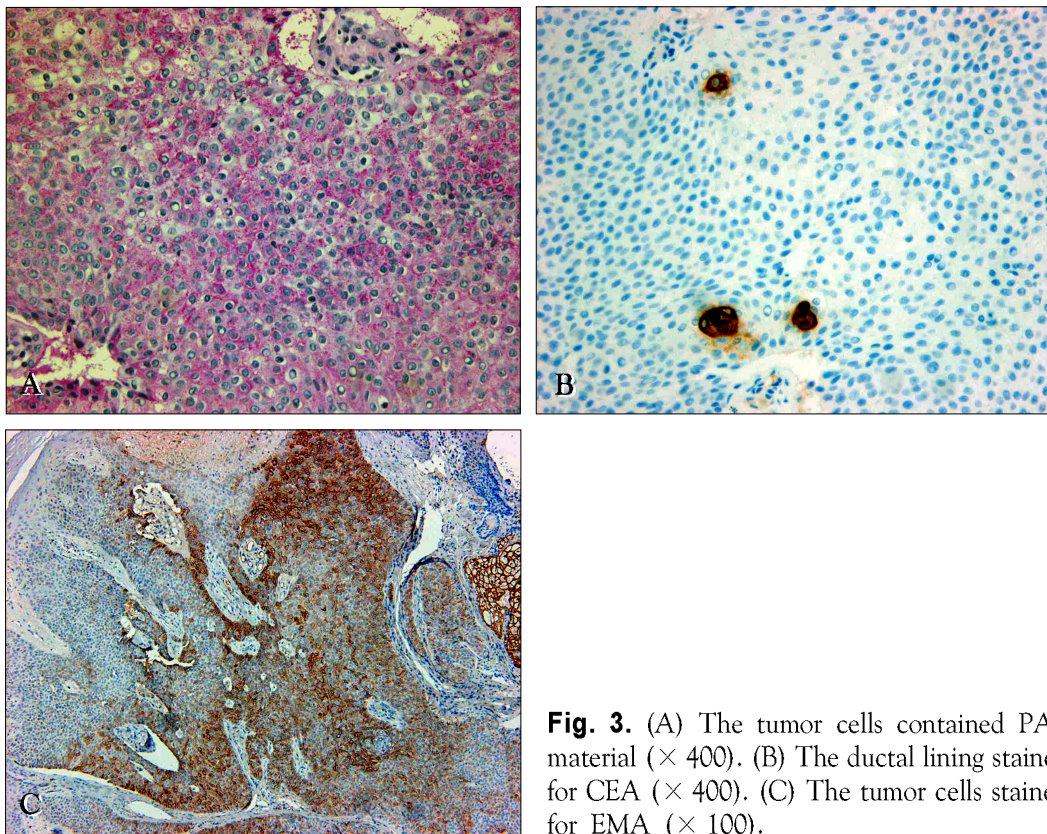


Fig. 3. (A) The tumor cells contained PAS-positive material ($\times 400$). (B) The ductal lining stained positive for CEA ($\times 400$). (C) The tumor cells stained positive for EMA ($\times 100$).

examples of the tumor as a solitary lesion on the sole or the side of the foot have been reported. It may also be observed anywhere on the skin where eccrine glands exist.

Pinkus et al.¹ reported that approximately 65% of these neoplasms arose on the sole of the foot, 10%

on the hands, and 25% on the hair-bearing regions of the body. Hyman and Brownstein² reported that among 45 new cases and 56 previous cases of eccrine poroma, the tumors occurred on the feet in 69 cases (68%), and on the calves in 2 cases (2%). They were also found on the popliteal area, knees, thighs,

buttocks, hands, shoulders, abdomen, back, scalp, ears and neck, and rarely on the chest.

Recently, Moore et al.³ compared 10 cases of poroma of the head and neck with 10 cases occurring on the extremities. They showed no major clinical difference but there was a 9 : 1 male predominance among the extremity cohort and a 1 : 1 male/female ratio in the head and neck cohort. All of the head and neck group patients had no symptoms, but three of the extremity lesions exhibited symptomatic clinical behavior, such as pain, bleeding or clear discharge, which could be related to trauma, particularly in those lesions located on the weight-bearing portion of the foot. In histologic comparison, pigment was 4 times more common in the head and neck group and horn cysts were 5 times more prevalent in lesions on the extremities.

One important point of relevance to clinicians which was revealed by Moore et al.³ is that the correct preoperative diagnosis was included in the differential diagnosis, only when lesions were located on the foot. This may reflect the inappropriate belief in the dermatological community that poromas are primarily acral lesions, despite reports to the contrary.

Smith and Coburn⁴ first described intraepidermal poroma as hidracanthoma simplex. The neoplastic cells arose by an adnexal deviation of the rete cells; the matrices which they formed represented neoplastic primordia in which, under suitable conditions, differentiation into sweat glandular structures would occur. Winkelmann and McLeod⁵ named intra-dermal tumors as dermal duct tumors which has been identified as a variant of eccrine tumors. Histologically, the tumor presented as a solid or cystic mass of basaloid cells in the dermis, intimately related to the dermal sweat duct unit. The epidermis showed occasional poroma-like involvement related to the underlying tumor masses. Histochemically, the tumor masses showed moderate amounts of glycogen and massive phosphorylase activity, indicating their relationship to the sweat duct.

Although Pinkus et al.¹ insisted that eccrine poroma originates from the epidermal sweat duct unit, there are several different theories on the origin of the tumor. Watanabe et al.⁶ suggested that the origin of eccrine poroma was the basal cells of the epidermal sweat duct. They demonstrated this using monoclonal antikeratin antibodies in their study. However, Eckert et al.⁷ investigated the distribution

of cytokeratin expressed in the tumor cells, and obtained evidence that eccrine poroma originated from the blasts of the eccrine duct in the transitional zone between the dermis and epidermis. On the other hand, Takanashi et al.⁸ suggested that eccrine poroma consisted of the outer cells of epidermal or superficial dermal sweat ducts, following results of their research on the distribution of EMA (epithelial membrane antigen). Hanau et al.⁹ and Zaim¹⁰ proposed that the folliculocentric nature of the neoplasm, along with the known embryologic relationship between follicular and apocrine structures, represented strong evidence for an apocrine rather than eccrine poroma.

While causative factors of eccrine poroma are not clearly revealed, a history of antecedent trauma and radiation are sometimes reported. However, our case showed no evidence of a traumatic effect.

Although eccrine poroma is known to be benign, variants of malignancy are seldom reported. On the basis of histological characteristics, Pylyser et al.¹¹ categorized the tumors into benign, dysplasia and malignant; where bleeding, pain and pruritus were the implications of malignancy. In addition, most of their patients were over 60 years old, with tumors commonly found at the upper or lower extremities, and on the scalp.

Eccrine poroma should be clinically differentiated from granuloma pyogenicum, nevus, warts, fibroma, hemangioma, squamous cell carcinoma, melanoma, Paget's disease, dermatofibroma, and Kaposi's sarcoma, while the histologic differential diagnosis should be made against seborrheic keratosis and basal cell carcinoma.

In this case, we have encountered a case of eccrine poroma occurring at a rare site, the paranasal area.

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