

CASE REPORT

A Case of an Unusual Eccrine Poroma on the Left Forearm Area

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A 40-year-old woman presented with an asymptomatic red to brown colored walnut-sized, dome shaped, hemorrhagic, crusted nodule on the left forearm. There was no previous history of trauma to the area. The first impression of this case was a vascular tumor or malignant lesion due to the large size and bleeding tendency. However, the final diagnosis, according to histologic and immunostaining methods, was a benign eccrine poroma that occurred on the left forearm, which is an unusual area for such a lesion. The tumor was excised and no recurrence was noted when she was examined 24 months later. (*Ann Dermatol* 23(2) 250~253, 2011)

-Keywords-

Eccrine poroma, Forearm

INTRODUCTION

Eccrine poroma was first described in 1956 by Goldman et al.¹ as a benign tumor originating from the epidermal sweat duct unit. It generally occurs in middle aged people and it is most commonly found on the sole or the side of the foot. It may be also observed anywhere on the skin where eccrine glands exist. We report here on an interesting case of eccrine poroma that occurred at a rare site, the left forearm area, and it showed an infiltrative growth pattern like eccrine porocarcinoma.

Received November 17, 2009, Revised July 3, 2010, Accepted for publication July 3, 2010

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CASE REPORT

A 40-year-old woman presented with an asymptomatic red to brown colored walnut-sized, dome shaped nodule

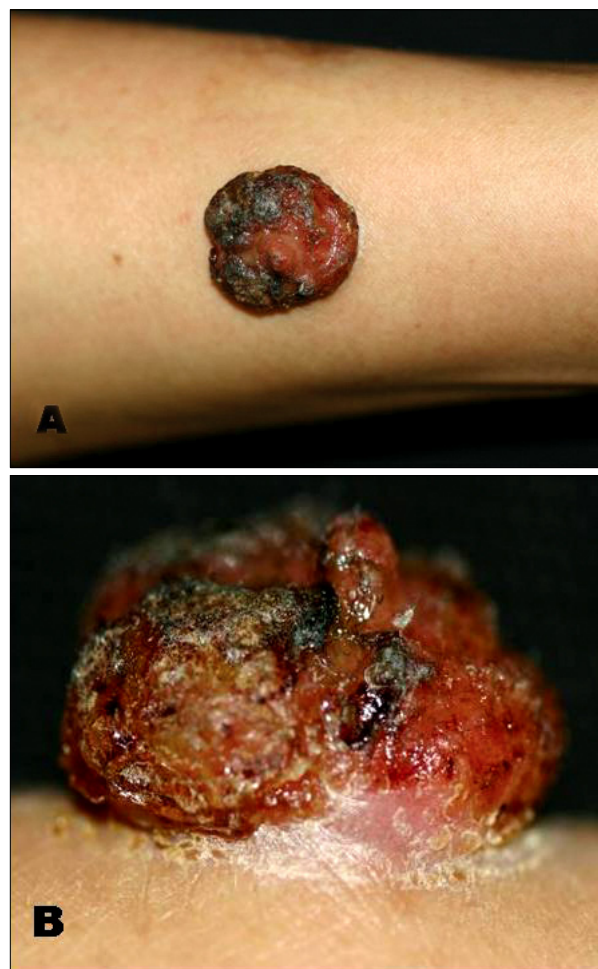


Fig. 1. (A) A solitary 2.0×2.0 cm sized red to brown-colored mass on the left forearm. (B) The mass seemed to be pedunculated and it had a rough surface that showed hemorrhagic crusts and erosions.

on the left forearm. A bean-sized papule was first noticed on the left forearm two years previously, which was gradual in onset and it had slowly progressed to its present size. Cutaneous examination showed a brown to reddish colored nodule with a rough surface, erosions and hemorrhagic crusts (Fig. 1A), and it seemed to be a pedunculated mass with a tendency to easily bleed (Fig. 1B). There were no palpable lymph nodes and she had no systemic symptoms. There was also no history suggestive of trauma to this area and no infection. Histologic examination showed a large pedunculated tumor mass with well circumscribed tumor nests within the epidermis located at the periphery (Fig. 2A), and there were vertically oriented proliferations of tumor cells, which were connected with the epidermis (Fig. 2B). There were

sharp boundaries between the keratinocytes and tumor cells. The tumor cells showed a monomorphic cuboidal shape and the size of the tumor cells was much smaller than that of the adjacent keratinocytes, and the tumor cells were often united by conspicuous intercellular bridges (Fig. 2C). Conspicuous intracytoplasmic lumina were also seen within the tumor nests (Fig. 2D). The tumor cells contained both periodic acid-Schiff (PAS) stain and d-PAS positive materials (Fig. 2E) and the ductal linings stained slightly positive for carcinoembryogenic antigen (Fig. 3A). The tumor cells also stained positive for epithelial membrane antigen (Fig. 3B) and they stained negative for S-100 (Fig. 3C). Interestingly, some tumor cells showed an infiltrative growth pattern with slightly increased mitotic figures. To check the proliferating rates of the tumor cells

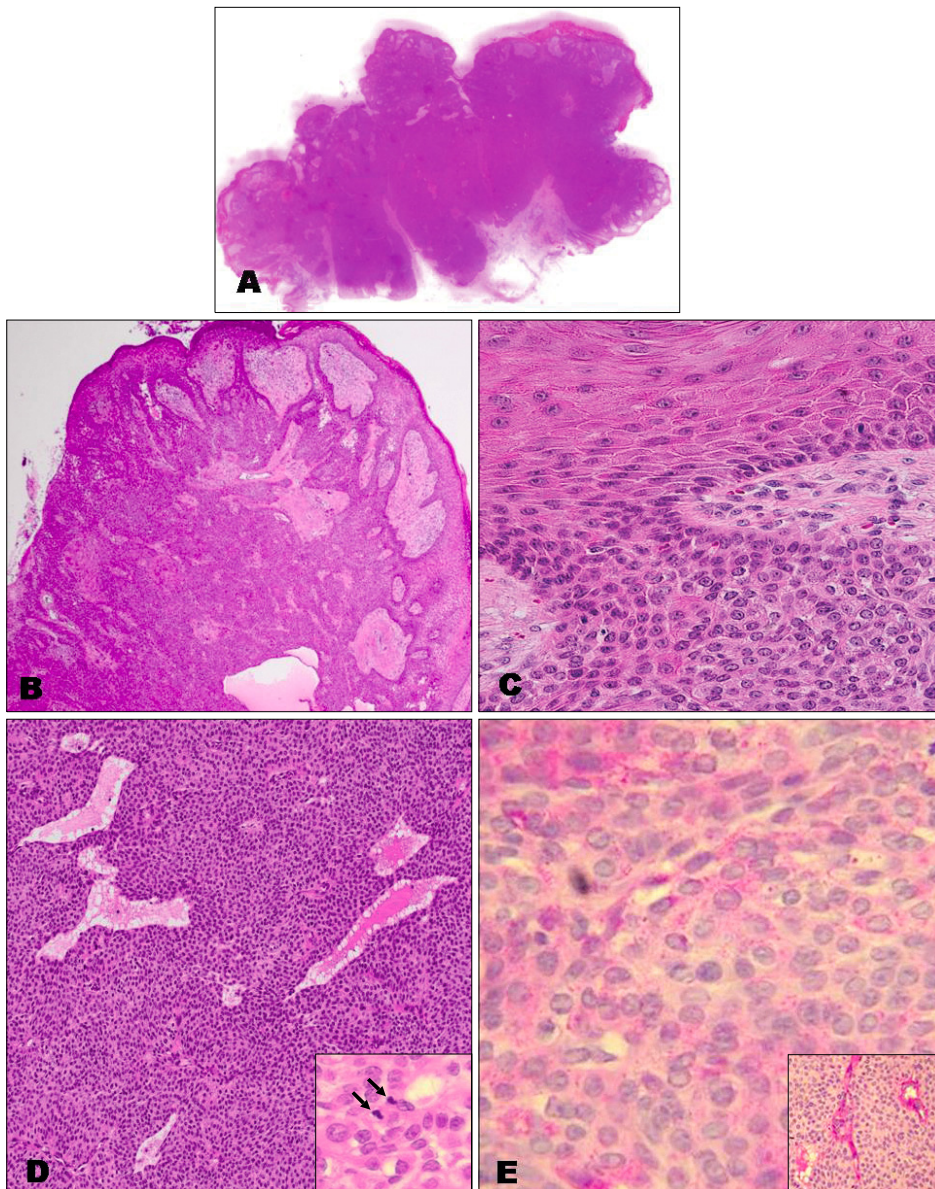


Fig. 2. (A) A single pedunculated large tumor mass and well-circumscribed tumor nests within the epidermis and these nests were located at the periphery of the mass (H&E, 1:1 direct view). (B) This scanning view showed the interconnected epithelial downward growth with multiple foci of attachment to the epidermis (H&E, $\times 40$). (C) The tumor cells were small and they showed a uniform cuboidal appearance with basophilic, round nuclei and the tumor cells were connected by intercellular bridges (H&E, $\times 400$). (D) There were conspicuous intracytoplasmic lumina (H&E, $\times 100$). The tumor cells showed slightly increased mitotic figures (inset). (E) The tumor cells contained periodic acid-Schiff (PAS)-positive materials (H&E, $\times 200$) and d-PAS positive materials (inset).

and to differentiate this lesion from eccrine porocarcinoma, we performed Ki-67 and p53 staining. Each of the stains were positive in less than 10% (Fig. 3D) and 15%, of the tumor cells, respectively (Fig. 3E). Although the tumor cells showed an infiltrative growth pattern like

eccrine porocarcinoma, the majority of the tumor cells showed little nuclear and cytoplasmic pleomorphism, nuclear hyperchromatism, mitotic activity or extensive necrosis of the tumor nests, and the positivity for Ki-67 and p53 stain was weak. So, we diagnosed it as a benign

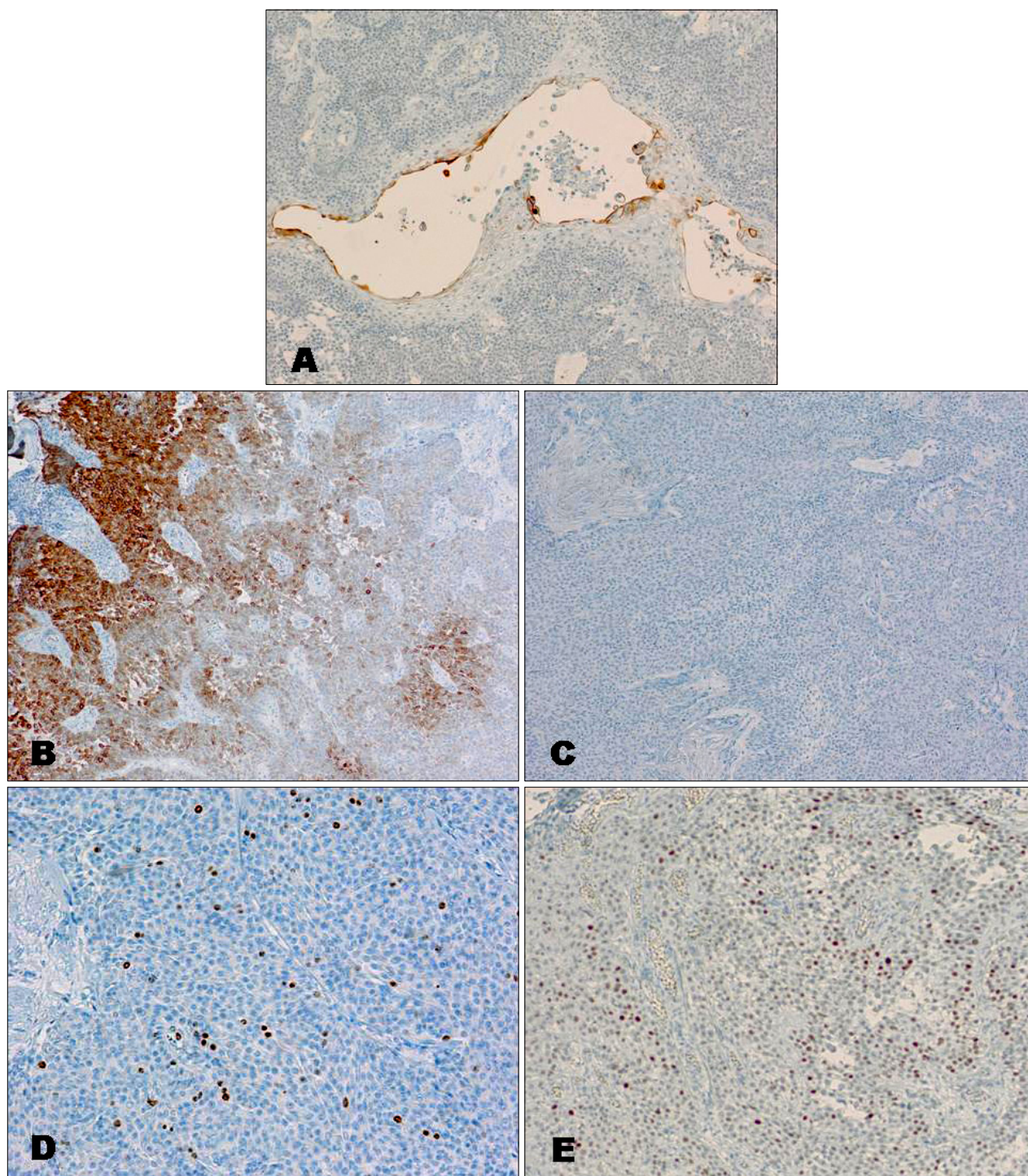


Fig. 3. (A) The ductal lining stained positive for carcinoembryogenic antigen (H&E, ×100). The tumor cells stained positive for epithelial membrane antigen (B: H&E, ×100), negative for S-100 (C: H&E, ×100), and less than 10% of the tumor cells were positive for Ki-67 (D: H&E, ×200) and p53 (E: H&E, ×200).

eccrine poroma. Under local anesthesia, the lesion was completely excised. She's had no recurrence after 24 months of follow up.

DISCUSSION

Eccrine poroma is common, benign, slow growing solitary adnexal tumor originating from the intraepidermal portion of the eccrine sweat gland. Subsequently, many cases have been reported with approximately two thirds of the cases occurring on the sole or on the side of the foot, which is an area with a high concentration of eccrine sweat glands. Other common sites are the hand and finger, with sporadic occurrences on the neck, chest, forehead, nose and scalp²⁻⁵. However, eccrine poroma has been rarely reported on the forearm.

The pathogenesis is unknown, but actinic damage, radiation, trauma and the human papilloma virus have been implicated⁵⁻⁸.

Clinically, eccrine poroma is usually under 2 cm in diameter. In this case, we observed a walnut sized (2.0×2.0 cm), hemorrhagic crusted nodule on the left forearm. An eccrine poroma is a superficial tumor confined to the acanthotic epidermis. Upon microscopic examination, the tumor cells are located within the epidermis and they are composed of solid masses of monomorphic basaloid cells, which may extend into the underlying cystic or ductal structures. In this case, we found some mitotic figures in the tumor cells, but the detected immunostaining for Ki-67 and p53 was lower than 10% and 15%, respectively, implying that the tumor may not have been in a high proliferation state.

This case showed several unusual features of eccrine poroma. It was located on the left forearm, the tumor size was large and the surface was rough with a bleeding tendency. Thus, it clinically looked like a malignant tumor or vascular tumor. Although eccrine poroma is known to be benign, the variants of eccrine poroma seem to frequently have malignant features. Pylyser et al.⁷ reported that almost 50% of eccrine poromas exhibited malignant biological behaviors, and Robson et al.⁹ reported that coexistence between benign eccrine poroma and eccrine porocarcinoma is encountered in up to 11% of the cases. Importantly, the bleeding tendency without pain or itching has not been recognized as the hall marker of malignant transformation. Shaw et al.¹⁰ reported that the lesions, which clinically presented as verrucous plaques or polypoid growths, were frequently ulcerated and occasionally bled upon trauma. Furthermore, Pinkus and Mehregan¹¹ reported the transformation of a long standing benign eccrine poroma that exhibited eccrine porocarcinoma. For

the cases of eccrine porocarcinoma, most of their patients were over 60 years old with the tumors commonly found at the upper or lower extremities and on the scalp. Thus, this case seems to be an eccrine poroma which may have easily progressed into eccrine porocarcinoma due to a critical event.

The definite treatment of an eccrine poroma is excisional biopsy. Witkowski et al.¹² reported that the lesion should be excised completely as recurrence tended to be common after partial removal. Pylyser et al.⁷ found that with total excision, the benign lesion was fully cured and the prognosis was good for the malignant variant when making a timely diagnosis and performing wide excision of the lesion.

In this study, we reported on an unusual benign eccrine poroma that showed some malignant features and an infiltrative growth pattern like eccrine porocarcinoma, and this tumor occurred at a rare site, the left forearm.

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