DOI: 10.3315/jdcr.2009.1033

Journal of Dermatological Case Reports

Dermoscopy of eccrine poroma with calcification

Yohei Nishikawa, Takahide Kaneko, Noriko Takiyoshi, Takayuki Aizu, Koji Nakajima, Yasushi Matsuzaki, Hajime Nakano, Daisuke Sawamura

Department of Dermatology, Hirosaki University Graduate School of Medicine, Hirosaki 036-8182, Japan

Corresponding author:

Daisuke Sawamura

Department of Dermatology, Hirosaki University School of Medicine

5 Zaifu-cho, Hirosaki 036-8562, Japan

E-mail: *smartdai@cc.hirosaki-u.ac.jp*

Key words:

adnexal tumors, calcification, dermoscopy, eccrine gland, local tissue injury, Pinkus type

Abstract

Background: Eccrine poromas are relatively common slow-growing benign solitary adnexal tumors originating from the intraepidermal portion of the eccrine sweat duct (acrosyringium). Dystrophic calcification is rarely found in lesions of eccrine poroma, and only 2 cases of eccrine poroma with calcification have been reported thus far. In the present report, we describe another case of eccrine poroma with calcification occurring in the palm of the hand. Also, we show dermoscopic features of this case.

Main Observations: A 73-year-old man with hemiparesis, who had a 10-year history of tumor on his right palm, which was occasionally injured by a walking crutch, causing bleeding and ulceration. Physical examination revealed a pigmented dome-shaped tumor. Dermoscopic analysis revealed glomerular vessels, multiple pink-white structureless areas, and lacunae. Histological examination revealed that the tumor was composed of cords of tumor cells extending from the epidermis into the dermis. These were uniformly cuboidal cells with round, basophilic nuclei and dense vascular stromas with telangiectasia. The tumor showed cystic structures and calcification. The patient was diagnosed with Pinkus-type eccrine poroma on the basis of histological findings.

Conclusion: Although cutaneous neoplasms commonly associated with calcification are of follicular origin, it is known that dystrophic calcification may be triggered also in tumors of eccrine origin by multiple factors, including mechanical injury. Dermoscopy may be helpful in establishing clinical diagnosis of calcified eccrine poromas.

Introduction

Eccrine poromas are relatively common slow-growing benign solitary adnexal tumors originating from the intraepidermal portion of the eccrine sweat duct (acrosyringium). Dystrophic calcification is rarely found in lesions of eccrine poroma, and only 2 cases of eccrine poroma with calcification have been reported thus far.[1] In the present report, we describe another case of eccrine poroma with calcification occurring in the palm of the hand. Also, we show dermoscopic features of this case.

Case Report

A 73-year-old man was referred to our clinic because of a tumor on his left palm. He had right hemiparesis since he sustained intracerebral hemorrhage 6 years ago, and he had to walk with a stick that he held with his left hand. Ten years ago, he noticed a small lesion on his right palm. The head of the walking stick occasionally hit the tumor, and it caused bleeding and small ulceration. The tumor eventually enlarged, and he found it difficult to hold the walking stick. Physical examination revealed a pigmented dome-shaped tumor (size, 1.4 cm × 0.8 cm) on his palm (Fig. 1A). Dermoscopic analysis revealed glomerular vessels, multiple pink-white structureless areas, and lacunae (Fig. 1B). Laboratory findings, including serum calcium and phosphate levels, were normal.

On the basis of clinical and dermoscopic findings, we suspected the tumor to be eccrine poroma. The tumor was surgically excised. Findings of histological examination revealed that the tumor was composed of cords of

tumor cells extending from the epidermis into the dermis (Fig. 1C). The tumor cells revealed small uniformly cuboidal cells with round, basophilic nuclei and dense vascular stromas with telangiectasia. The tumor showed cystic structures and calcification (Fig. 1D). Finally, the patient was diagnosed with Pinkus-type eccrine poroma on the basis of histological findings.

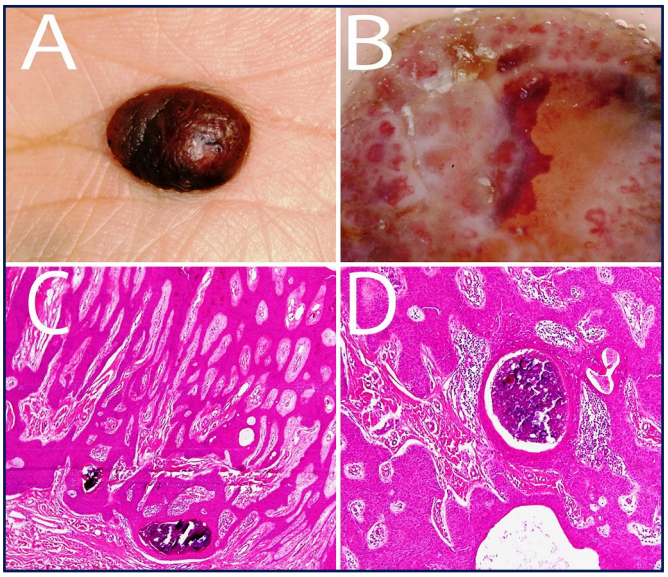

Figure 1

Clinical, dermatoscopic, and histological findings. A pigmented dome-shaped tumor on the palm (A). Glomerular vessels, multiple pink-white structureless areas, and lacunae were observed in dermoscopoy (B). The tumor was composed of cords of tumor cells extending from the epidermis into the dermis. Calcification was detected in the tumor. (C 20X, D 100X).

Discussion

Many cases of eccrine poroma have been reported, and approximately two-thirds of these occur on the sole or the side of the foot where there is a high density of eccrine sweat glands. Eccrine poroma is benign, but malignant degeneration may occur in long-standing solitary lesions. A characteristic feature of this tumor was dystrophic calcification. Only 2 cases of eccrine poroma with calcification have been reported thus far.[1] Eccrine poroma is histologically divided into 3 types, namely, Pinkus type, Winkelmann-MacLeod type, and Smith-Coburn type. Interestingly, the 2 previous cases showed histological features of Winkelmann-MacLeod-type eccrine poroma, in which the tumor is located largely or mainly within the dermis.[1] However, the present case clearly showed histological features of the most common Pinkus type; this finding suggests that dystrophic calcification of eccrine poroma is not always associated with Winkelmann-MacLeod-type of eccrine poroma.

Dermoscopy is a noninvasive diagnostic technique that permits the visualization of morphologic features that are not visible to the naked eye. It is currently widely used for examination of pigmented skin lesions and early detection of cutaneous melanoma.[2,3] Kuo and Ohara were first reported the dermoscopic findings in pigmented eccrine poroma, which mimicked features of basal cell carcinoma, such as blue-gray ovoid nests, blue-gray dots and arborizing teleangiectasias.[4] Afterwards, Nicolino *et al*. mentioned that teleangiectasias seen as hairpin or glomerular vessels that clear differed from the arborizing vessels.[5] Recent several reports showed similar dermoscopic features of eccrine poroma including glomerular and hairpin vessels, multiple pink-white structureless areas and red lacunes.[5,6] Our case also demonstrated common dermoscopic patterns of eccrine poroma even though calcification was seen histologically in the tumor.

Dystrophic calcification occurs in various inflammatory and neoplastic skin conditions. Many inflammatory skin disorders are related to dystrophic calcification, including scleroderma and dermatomyositis. Pilomatricomas and trichilemmal cysts are 2 cutaneous neoplasms commonly associated with calcification. The pathogenesis or significance of dystrophic calcification occurring in tumors is poorly understood, but it is likely that one of the important factors of calcium deposition is local tissue injury.[7] In the present case, frequent physical stimulation to the tumor site by the head of the walking stick may have caused dystrophic calcification. Furthermore, it was suggested that calcium deposition originated from eccrine glands.[8,9] Although cutaneous neoplasms commonly associated with calcification are of follicular origin, it is known that dystrophic calcification may be triggered in tumors of eccrine origin by certain factors, including mechanical injury.

References

1. Yamamoto T, Irifune A, Katayama I, Nishioka K. Calcification of eccrine poroma. *J Dermatol*. 1994; 21: 979-981.
2. Malvehy J, Puig S, Argenziano G, Marghoob AA, Soyer HP. International Dermoscopy Society Board members. Dermoscopy report: proposal for standardization. Results of a consensus meeting of the International Dermoscopy Society. *J Am Acad Dermatol*. 2007; 57: 84-95.
3. Olszewska M, Banka A, Gorska R, Warszawik O. Dermoscopy of pigmented oral lesions. *J Dermatol Case Rep*. 2008; 2: 43-48.
4. Kuo HW, Ohara K. Pigmented eccrine poroma: a report of two cases and study with dermatoscopy. *Dermatol Surg*. 2003; 29: 1076-1079.
5. Nicolino R, Zalaudek I, Ferrara G, Annese P, Giorgio CM, Moscarella E, Sgambato A, Argenziano G. Dermoscopy of eccrine poroma. *Dermatology*. 2007; 215: 160-163.
6. Ferrari A, Buccini P, Silipo V, De Simone P, Mariani G, Marenda S, Hagman JH, Amantea A, Panetta C, Catricalà C. Eccrine poroma: a clinical-dermoscopic study of seven cases. *Acta Derm Venereol*. 2009; 89: 160-164.
7. Walsh JS, Fairley JA. Calcifying disorders of the skin. *J Am Acad Dermatol*. 1995; 33: 693-709.

8. Ito A, Sakamoto F, Ito M. Dystrophic scrotal calcinosis originating from benign eccrine epithelial cysts. *Br J Dermatol*. 2001; 144: 146-50.

9. Houtappel M, Leguit R, Sigurdsson V. Milia-like idiopathic calcinosis cutis in an adult without Down's syndrome. *J Dermatol Case Rep*. 2007; 1: 16-19.