

## A Case of Melanoacanthoma

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Melanoacanthoma is a variant of seborrheic keratosis which was first introduced by Mishima and Pinkus in 1960. This is a very rare and benign, epidermal tumor. Clinically, it is usually manifested in a pigmented, verrucous, round or oval plaque and nodular lesion. This is characterized histologically by nonpigmented keratinocytes and numerous large, richly dendritic melanocytes. We describe a 68-year-old man who suffered from a black-colored plaque on his right shin for 5 years. Melanoacanthoma was diagnosed by characteristic histopathologic findings.

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### INTRODUCTION

Melanoacanthoma is a term first introduced by Mishima and Pinkus<sup>1</sup> in 1960. This is a rare benign tumor of both melanocytes and keratinocytes. Clinical manifestation is usually a slow-growing, painless, pigmented plaque with verrucous surface with a diameter ranging from a few millimeters to 10 cm<sup>2</sup>. It is characterized histologically by nonpigmented keratinocytes and numerous large, richly dendritic melanocytes<sup>3</sup>. It tends to develop in the middle-aged, with an equal sex incidence and the lesion usually presents on the head, trunk, and especially the lip<sup>2</sup>. Nevertheless melanoacanthoma is not a rare disorder, yet only one case of melanoacanthoma has been reported in Korean dermatologic articles<sup>4</sup>.

We herein report a 68-year-old man who had suffered from a black-colored plaque on his right shin for 5 years. Melanoacanthoma was diagnosed by characteristic histopathologic findings.

### CASE REPORT

A 68-year-old man presented with an asymptomatic pigmented plaque on his right shin of 5 years' duration. The size of the pigmented lesion had slowly increased during the last year. Physical examination revealed a single, oval shaped, verrucous, dark-brown to black pigmented plaque measuring 2 × 2 cm on the right shin (Fig. 1). The border was well defined.



**Fig. 1.** Clinical feature. single, dark brown colored verrucous plaque on the right shin.

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An excisional biopsy was completed. On histopathologic examination, the hematoxylin-eosin stained sections showed hyperkeratosis, acanthosis, papillomatosis, and numerous large dendritic melanocytes with abundant granules among the basaloid cells, throughout the epidermis (Fig. 2). These large dendritic melanocytic cells were stained with S-100 protein, Fontana-Masson and monoclonal antibody HMB-45 (DAKO, Carpinteria, CA) (Fig. 3). A diagnosis of cutaneous melanoacanthoma was made.

Blood profiles and urinalysis were normal. After excisional biopsy, there was no recurrence during the follow-up period of 16 months.

## DISCUSSION

Seborrheic keratosis is a benign cutaneous tumor, which is more common in those aged over 40 years. It has been known to originate from the proliferation of epidermal keratinocytes. It is very common in white races, and both sexes are equally affected. The patient with seborrheic keratosis is often unconcerned by his/her disease believing it to be an harmless and inevitable consequence of aging. This tumor is generally classified into 6 types: acanthotic, hyperkeratotic, adenoid, clonal, irritated and melanoacanthoma<sup>5</sup>.

Melanoacanthoma is a rare benign variant of seborrheic keratosis. Bloch<sup>6</sup> first described melanoepithelioma in 1926, and the term, "melanoacanthoma" was first introduced by Mishima and Pinkus<sup>1</sup> in 1960. Pinkus, Mehregan<sup>7</sup> and Lever<sup>8</sup> considered melanoacanthoma to be an unique and rare disease. Furthermore, Prince et al.<sup>2</sup> described it in only five cases among 500,000 consecutive skin biopsies.

Melanoacanthoma has no predilection for sex or race, the average age of onset being over 55 years and the average duration being 8-10 years<sup>2</sup>. The patient in this case was 68-year-old man, and the duration of the skin lesion was 5 years.

The pathogenesis remains obscure. Histopathological examination indicated an apparent lack of melanin transfer from melanocytes to epithelial cells, and sparse melanin granules in epithelial cells<sup>3</sup>. Lund and Kraus<sup>9</sup> revealed an increase in melanin pigmentation secondary to trauma and block in transfer of melanin from melanocytes to keratinocytes. However, the nature of the block in melanin transfer

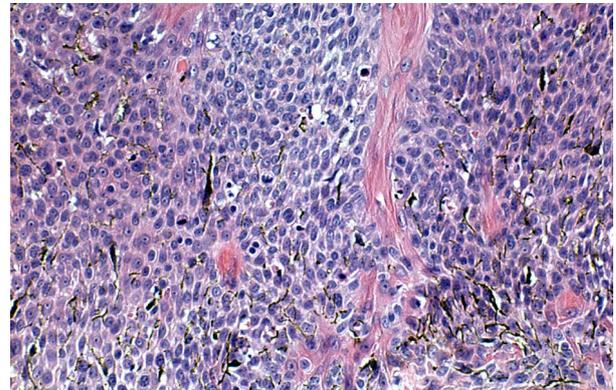


Fig. 2. Histopathologic features. numerous large, richly dendritic melanocytes are observed throughout the epidermis (H & E,  $\times 100$ ).

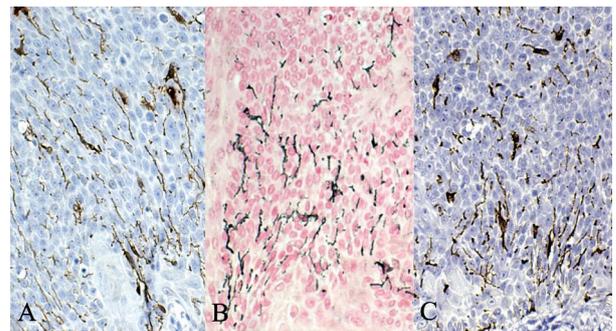


Fig. 3. Immunohistochemical features. dendritic cells are positive for (A) S-100 protein ( $\times 200$ ), (B) fontana-masson ( $\times 200$ ) and (C) HMB-45 ( $\times 200$ ), respectively.

is not clear.

Clinical features of melanoacanthoma are non-specific and unhelpful for the diagnosis compared with histopathological findings<sup>2</sup>. The skin lesion is asymptomatic single, pigmented, verrucous, round or oval plaque, usually found on the head, trunk, and especially the lip<sup>2,10</sup>.

Melanoacanthoma's histopathologic appearance is very helpful in diagnosis, and is characterized by a hyperplastic epidermis, large dendritic melanocytes and nonpigmented keratinocytes. Numerous large dendritic melanin-laden melanocytes were spread throughout the tumor at all levels of spinous layer<sup>7,8</sup>. This case also showed these histopathologic features, and positive staining with S-100 protein, HMB-45 and Fontana-Masson.

Differential diagnoses include pigmented seborrheic keratosis, pigmented nevus, and melanoma<sup>11,12</sup>.

Especially, the presence of large dendritic melanocytes in the superficial portions of the epithelium results in a histologic resemblance to malignant melanoma. But, in malignant melanoma, atypical pigmented dendritic melanocytes exist along the basal layer and may display a dense subepithelial lymphocytic infiltration. While on the other, in melanoacanthoma, diffuse or clonal proliferation of pigmented dendritic melanocyte are seen in the epithelium. Also, other features of malignancy like pleomorphism, the formation of tumour cells with hyperchromatic nuclei and scanty cytoplasm, and atypical mitotic figures, are absent in melanoacanthoma<sup>11</sup>. Immunohistochemistry for cytokeratin and HMB-45 are good diagnostic tools for differentiating the epithelium-derived tumor from the melanocyte-derived tumor<sup>13</sup>. In our case, there was immunoreactivity to HMB-45 which is usually demonstrated in melanoma. So HMB-45 appears not to be a useful diagnostic tool when attempting to differentiate from malignant melanoma.

Melanoacanthoma is not a malignant tumor. Treatment should be directed to remove the involved epithelium. Cryotherapy is effective and curettage is also used. Excision is rarely used, unless there is a clinical suspicion of melanoma<sup>14</sup>. In our case, excision was performed because the lesion was confused with melanoma.

We report a rare case of melanoacanthoma which occurred on the shin of 68-year-old Korean man.

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