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Acquired Dermal Melanocytosis of the Dorsum in a Middle-Aged Asian Woman

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Dear Editor:

Here, we describe a case of acquired dermal melanocytosis involving the dorsum in an Asian woman. A 45-year-old Korean woman presented with a 3-year history of a relatively well-demarcated, pale, blue-grayish, asymptomatic round patch on her interscapular back area (Fig. 1). Hypertrichosis was not observed within the lesion. Physical examination revealed no other similar lesions elsewhere. The patient denied any history of preceding inflammatory changes, trauma, bruises, tattoos, or metal contact on her back. She also denied taking heavy metals or any medicines that may result in hyperpigmentation and had no family history of similar skin lesions. Histopathologic examination revealed multiple spindle-shaped brown pigment-containing cells scattered among collagen fibers in the dermis (Fig. 2A, B). Immunohistochemical staining demonstrated these cells were positive for S100 protein (Fig. 2C) and negative for HMB-45 (data not shown). In addition, the brown pigment stained positive with Fontana-Masson stain, which is indicative of melanin (Fig. 2D), but not with Perls Prussian blue stain for hemosiderin (data not shown). Furthermore, immunohistochemistry revealed CD68-positive cells scattered in the dermis (Fig. 2E). Therefore, the patient was diagnosed with acquired dermal melanocytosis of the back, but no treatment was administered in accordance with the patient's wishes.

Dermal melanocytosis is defined by the presence of melanin-containing dendritic melanocytes in the dermis and can be differentiated on the basis of lesion onset and location[1]. Congenital forms of dermal melanocytosis include Mongolian spot, nevus of Ota, and nevus of Ito. Acquired forms of dermal melanocytosis include nevus of Hori and nevus of Sun, which involve the bilateral and unilateral malar areas, respectively. Acquired dermal melanocytosis located in areas besides the face is very rare; previously

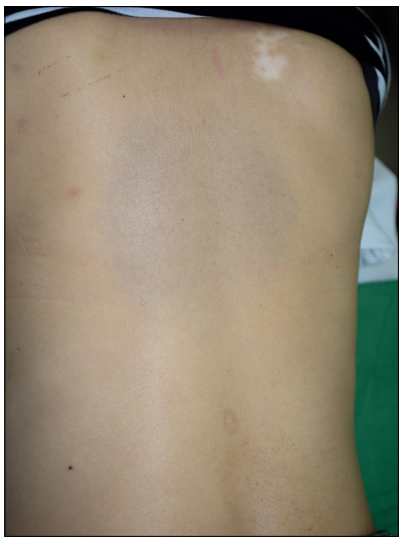

Fig. 1. A relatively well-demarcated pale blue-grayish round patch on the interscapular area.

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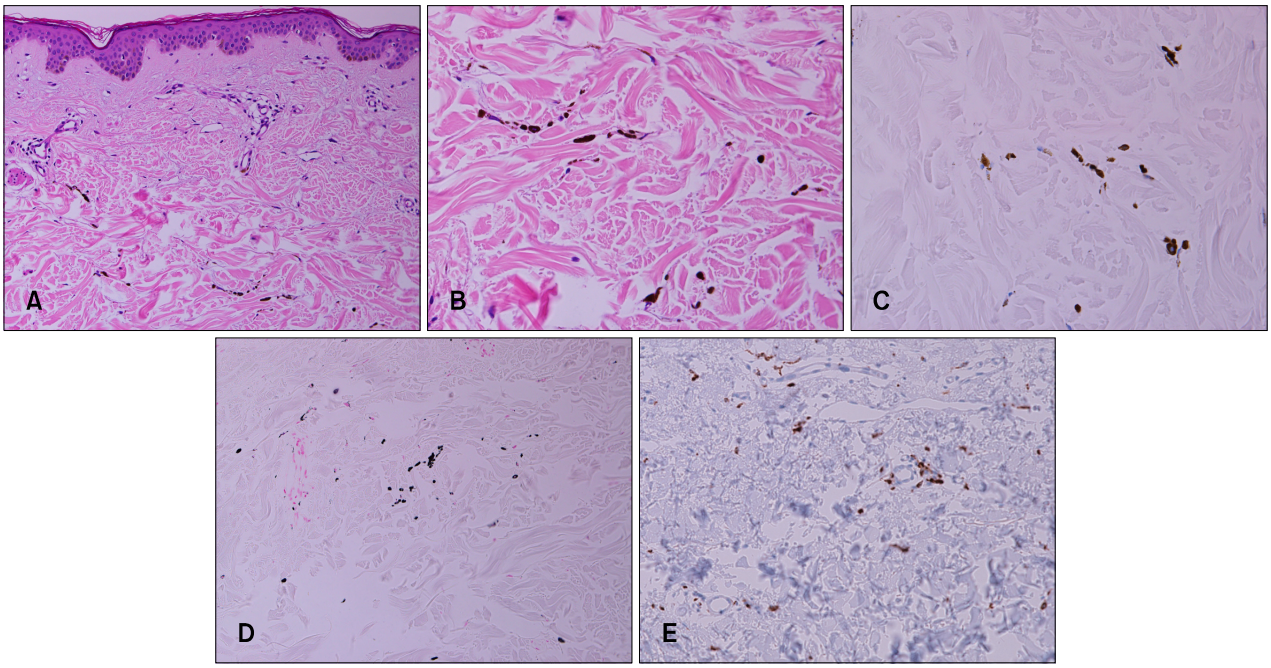

Fig. 2. Histopathologic examinations and immunohistochemistry. (A, B) Multiple spindle-shaped brown pigment-containing cells scattered among collagen fibers in the dermis (H&E; A: ×100, B: ×200). (C) Immunohistochemical staining showed the cells were positive for S100 protein (×200). (D) The brown pigment was stained with Fontana-Masson stain (×200). (E) Immunohistochemistry also revealed CD68-positive cells scattered in the dermis (×200).

reported non-facial sites include the extremities and back[1,2]. Some of these reported cases were associated with malignancies including melanoma, physical trauma, oral estrogen, and eczema[2].

Although the pathogenesis of acquired dermal melanocytosis is unclear, one possibility is that dermal melanocytes may pre-exist in an immature state; they subsequently become activated by various stimuli including ultraviolet exposure, sex hormones, and inflammation[3,4]. This is supported by the observation that dermal melanocytes are also found in the normal-appearing skin neighboring the lesions of acquired dermal melanocytosis[5]. Nevertheless, the origin of the pre-existing dermal immature melanocytes is not fully understood. They may descend from the basal layer of the epidermis, migrate from hair bulbs, or improperly migrate during the embryonic period[4].

Acquired dermal melanocytosis does not usually fade; the pigment persists in contrast with Mongolian spots. This persistence may be associated with the extracellular sheath encircling dermal melanocytes, which has been observed in ultrastructural studies[4]. The extracellular sheaths of Mongolian spots usually fade over time, whereas those of nevus of Ota gradually thicken over time. Extracellular sheaths are also observed in acquired dermal melanocytosis and presumably play a role in protecting dermal melanocytes[4].

In conclusion, we report a case of acquired dermal melanocytosis with an unusual location that has not been described previously.

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