Dermatology Practical & Conceptual

Large Congenital Melanocytic Nevus With Halo Phenomenon

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Introduction

Congenital melanocytic nevus (CMN) is a pigmented lesion present at birth or appearing in the first few weeks of life, with an incidence of 0.6%-1.6% among newborns. It develops from neural crest-derived melanocytes and usually enlarges throughout childhood. A CMN may remain unchanged or present a dynamic course [1,2]. Halo nevus or leukoderma acquisitum centrifugum can be defined by the presence of circular depigmentation around an acquired or congenital nevus; a halo can also develop around a melanoma. Herein, we report a male adolescent with halo phenomenon around a large CMN, an uncommon finding.

Case Presentation

A 14-year-old boy was admitted to our department due to complaint of enlargement and color change of a nevus on his right shin. The lesion had been present since birth and has grown over the years; during the past year, whitening of the skin was noted to develop around it. On physical examination, there was a 12 cm × 5.5 cm ellipsoid pigmented patch containing irregularly mottled hypopigmentation and few depigmented terminal hairs, surrounded by a 0.5-cm wide depigmented halo-like patch (Figure 1A). Dermoscopy showed regular network and globules, suggesting that the pigmented patch was melanocytic in origin (Figure 1B). The lesion was biopsied and histopathology revealed hypermelanosis at the basal cell layer, nests of nevomelanocytes in the dermis and periadnexial lymphocytic infiltration; in the areas corresponding to the depigmented part of the lesion, epidermal melanin and dermal nevus cells were notably absent (Figure 2, A-D). Based on the clinical and histopathological findings, the diagnosis was a large CMN with a halo phenomenon.

Conclusions

A halo phenomenon around a nevus has been suggested to be due to immunologic responses against melanocytes mediated

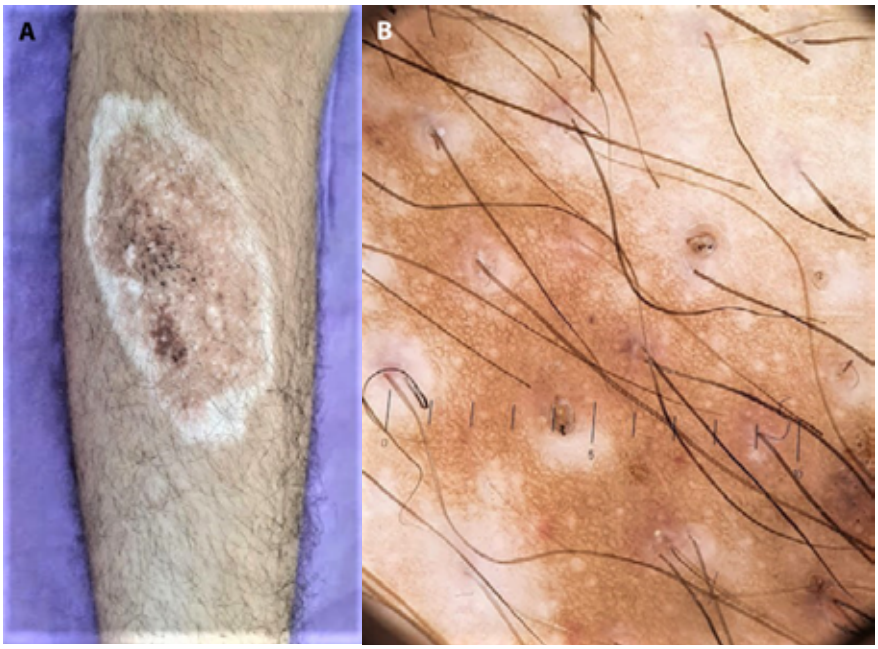

Figure 1. (A) Melanocytic patch with irregularly mottled hypopigmentation, depigmented terminal hairs, and a depigmented halo. (B) Regular network, a few pigmented globules, and depigmented areas on dermoscopy.

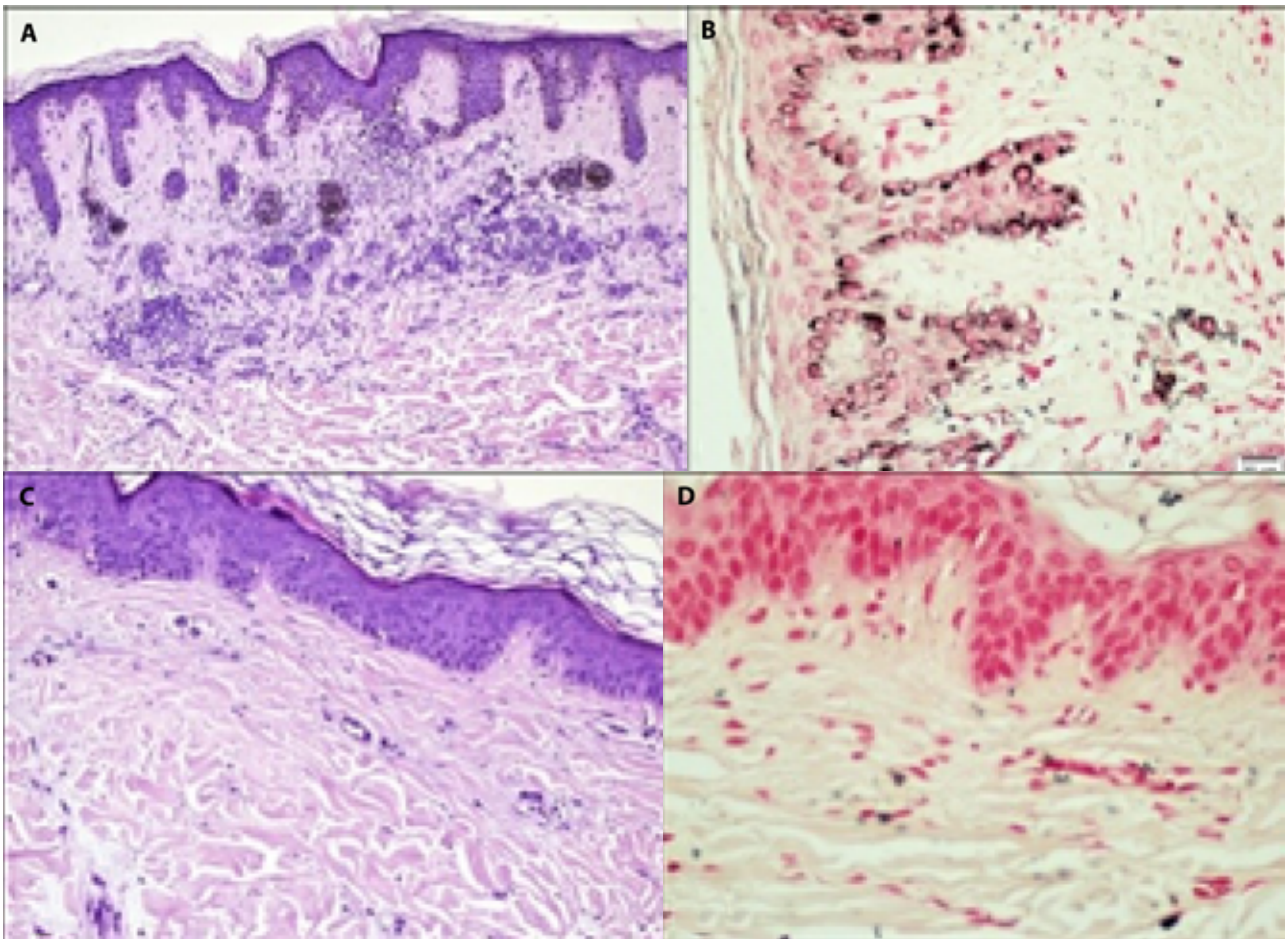

Figure 2. Histopathology of the lesion. (A) Intradermal nevoid nests consistent with congenital melanocytic nevus. (B) Hypermelanosis in the epidermal basal cell layer corresponding to the hyperpigmented area. (C) Loss of epidermal melanin and dermal nevomelanocytes corresponding to the depigmented part of the lesion (H&E, ×200). (D) Loss of melanin in the basal cell layer (Masson-Fontana, ×400).

by cytotoxic T-cells or immunoglobulin M autoantibodies [2]. Unlike acquired nevi, the development of halo around a large congenital nevus is less common. Halo around CMN may also be accompanied by vitiligo. A CMN with a halo may eventuate in partial or complete regression of the pigmented lesion with progressive depigmentation, remain stable, or undergo repigmentation. Spontaneous involution of a CMN is uncommon [1,2]. Halo phenomenon around a CMN usually causes anxiety and may result in unnecessary surgical procedures. However, it is usually a benign condition and CMN patients with halo phenomenon should be followed up periodically, just as those with CMN without a halo phenomenon. It is suggested that a conservative approach and dermoscopic follow-up are safe for children with a CMN. Development of depigmentation around or within the CMN may be confused with pigmentary regression and conversion to malignant melanoma, and thus it is important to be aware of this phenomenon to avoid premature surgery, especially in children.

Informed consent: Informed consent for publication of clinical details and clinical images was obtained from the patient.

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