A Case of Vitiligo Associated with Paraffin Injection

Seo Wan Kim, Tae Young Han, June Hyunkyung Lee, Sook-Ja Son, Mi Sun Kim

Department of Dermatology, Eulji General Hospital, Eulji University College of Medicine, Seoul, Korea

Dear Editor:

Vitiligo is an acquired depigmentation disorder characterized by a progressive loss of melanocytes. The exact pathologic mechanism has not been clarified yet; however, the autoimmune hypothesis is the most widely accepted explanation. In some case reports, vitiligo was induced by trauma such as tattooing, eyebrow plucking, and intense pulse light treatment¹⁻³.

A 51-year-old woman presented with a 5-month history of multiple depigmented patches on both hands and the right foot. Importantly, she had received a paraffin injection on the dorsum of both hands, which had been performed by an unlicensed person 2 years ago. This was complicated by foreign body reaction accompanied by painful swelling of the injection sites, 1 month after the procedure. She had undergone partial removal of the granulomatous lesions and had been treated with oral corticosteroid

intermittently for episodes of recurrent painful swelling. Five months ago, she began to notice numerous depigmented patches on both hands, including the paraffin injection sites, which were followed by new depigmented patches on the dorsum of the right foot, a month later. There was no personal or family history of vitiligo.

Physical examination revealed multiple well-demarcated depigmented patches on the dorsum of both hands and on the dorsum of the right foot (Fig. 1A, B). Histopathological examination of the lesion showed aggregations of multiple clear vacuoles and lipophages in deep dermis (Fig. 2A, B). Additionally, Fontana-Masson and Melan-A staining demonstrated the loss of melanin pigments and melanocytes (Fig. 2C, D). Given the patient's history, clinical characteristics, and histopathologic findings, we diagnosed this case as vitiligo associated with paraffin injection.

Our patient presented with hypopigmentation on the

Fig. 1. Multiple well-demarcated depigmented patches on the dorsum of both hands (A) and of the right foot (B).

Received February 28, 2013, Revised October 16, 2013, Accepted for publication December 5, 2013

Corresponding author: Mi Sun Kim, Department of Dermatology, Eulji General Hospital, 68 Hangeulbiseok-ro, Nowon-gu, Seoul 139-711, Korea. Tel: 82-2-970-8580, Fax: 82-2-974-1577, E-mail: beretaya@naver.com

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Fig. 2. Biopsy specimen from the dorsum of the hand. (A, B) In the deep dermis, there is aggregation of multiple clear vacuoles and lipophages (H&E; A: $\times 40$, B: $\times 400$). (C) Absence of melanin pigments in the basal layer (Fontana-Masson, $\times 200$). (D) Absence of melanocytes in the basal layer (Melan-A, $\times 200$).

same locations of the paraffin injection sites, which began to develop 2 years after the injection. However, the lesions were also detected on the fingers and foot dorsum, which are frequently occurring sites of vitiligo. There have been case reports on the concurrence of vitiligo and chronic inflammatory disease such as psoriasis. For each associated diseases, several hypotheses have been suggested to explain a common pathogenesis, such as autoimmunity, Koebner phenomenon, involvement of neuropeptides, or decreased melanocytes and melanin⁴. In our case, the role of paraffin injection in the induction of vitiligo remains uncertain; however, the prolonged inflammation against paraffin had most likely damaged the melanocytes at the injection sites. To the best of our knowledge, this is the first report of vitiligo associated with paraffin injection.

Although the foot lesion is remote from the injection site, we suggest that it is also possibly associated with the paraffin injection. The patient might have a vitiligo dia-

thesis; thus, prolonged inflammation induced vitiligo, and then the autoimmunity caused the depigmentation on the foot. However, we cannot rule out that the vitiligo in this case is just a coincidence of paraffin injection.

In conclusion, we report a rare case of vitiligo associated with paraffin injection. It is important that clinicians are aware of the potential pigmentary changes after paraffin injection.

REFERENCES

1. Pan H, Song W, Xu A. A case of vitiligo induced by tattooing eyebrow. *Int J Dermatol* 2011;50:607-608.
2. Shin JU, Roh MR, Lee JH. Vitiligo following intense pulsed light treatment. *J Dermatol* 2010;37:674-676.
3. Verma SB. Vitiligo koebnerized by eyebrow plucking by threading. *J Cosmet Dermatol* 2002;1:214-215.
4. Bakar-Dertlioğlu S, Uçak H, Çiçek D, Bitiren M. Coexistence of vitiligo and psoriasis: three case reports. *Turk J Pediatr* 2012;54:77-79.