

Various hypotheses proposed about the genesis of ectopic nail include the presence of stray germinal cells, persistence of a rudimentary nail after polydactyly regression, traumatic inoculation of onychocytes, and the role of onychodermis in nail plate formation<sup>1-4</sup>. Most of the reported posttraumatic cases showed dorsal finger predominance<sup>3</sup>. Their clinical manifestations and the history of trauma verify the idea of inoculation of nail matrix in fingernails. Our case is consistent with the acquired forms reported in the English literature (12 cases). Among them, seven cases were declared posttraumatic, and all involved the dorsal aspect of the fingers and toes. Although the remaining five cases were not associated with trauma, analysis of their location suggested a probable traumatic etiology. However, traumatic inoculation is insufficient to explain the congenital, and some acquired, cases. Regardless of type (congenital or acquired), the treatment for ectopic nail is total excision including the matrix. Incomplete excisions can result in recurrences<sup>1,2,5</sup>. Our case demonstrates the inoculation of nail matrix in the dorsal finger. In traumatic forms affecting the fingertips, the detached matrix is generally transferred to dorsal areas

closely related to the main matrix. During surgery for such cases, the proximity of both main and detached matrix is important to prevent recurrence and the disfigurement of the main nail. Another potential complication related to the dorsal location is disruption of extensor tendon insertion. In conclusion, adequate exposure of the surgical area is crucial, and oblique incisions made at the corners of the PNF are appropriate for traumatic ectopic nails.

## REFERENCES

1. Riaz F, Rashid RM, Khachemoune A. Onychoheterotopia: pathogenesis, presentation, and management of ectopic nail. *J Am Acad Dermatol* 2011;64:161-166.
2. Rajashekar M, Bhandary S, Shenoy M, Sali AR. Post traumatic ectopic nail. *J Postgrad Med* 2006;52:218.
3. Sasmaz S, Coban YK, Gumusalan Y, Boran C. Posttraumatic ectopic nail. *J Am Acad Dermatol* 2004;50:323-324.
4. Park JH, Kim JH, Lee JH, Lee DY, Jang KT, Lew BL, et al. Onychodermis (specialized nail mesenchyme) is present in ectopic nails. *J Cutan Pathol* 2013;40:600-602.
5. Ena P, Mazzarello V, Dessy LA. Ectopic plantar nail: a report of two cases. *Br J Dermatol* 2003;149:1071-1074.

<http://dx.doi.org/10.5021/ad.2014.26.6.769>

# Hyperkeratotic Hand Eczema due to Use of Rubber Gloves While Driving

Yoon Seok Yang, Yun Sun Byun, Jin Hye Kim, Chun Wook Park, Hye One Kim

*Department of Dermatology, Hallym University Kangnam Sacred Heart Hospital, Seoul, Korea*

Dear Editor:

Hyperkeratotic hand eczema (HHE) is defined as a lesion of hand dermatitis that shows thick hyperkeratotic plaques

with or without deep fissures. This diagnosis was established in 2%~5% of patients with hand dermatitis<sup>1,2</sup>. HHE is considered to have multiple causes, such as

Received November 6, 2013, Revised November 27, 2013, Accepted for publication November 28, 2013

**Corresponding author:** Hye One Kim, Department of Dermatology, Hallym University Kangnam Sacred Heart Hospital, 1 Singil-ro, Yeongdeungpo-gu, Seoul 150-950, Korea. Tel: 82-2-829-5221, Fax: 82-2-832-3237, E-mail: hyeonekim@gmail.com

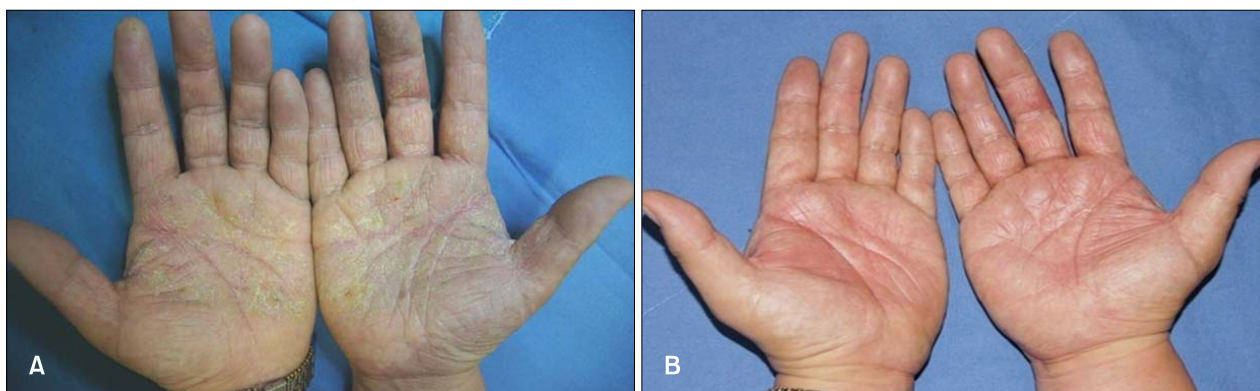
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

exposure to repetitive irritation, atopy, contact allergy, and friction<sup>3</sup>. Previous studies have revealed that contact sensitization is less common in HHE<sup>2</sup>. Here, we report a case of chronic HHE associated with contact sensitization to black rubber mix and thiuram mix.

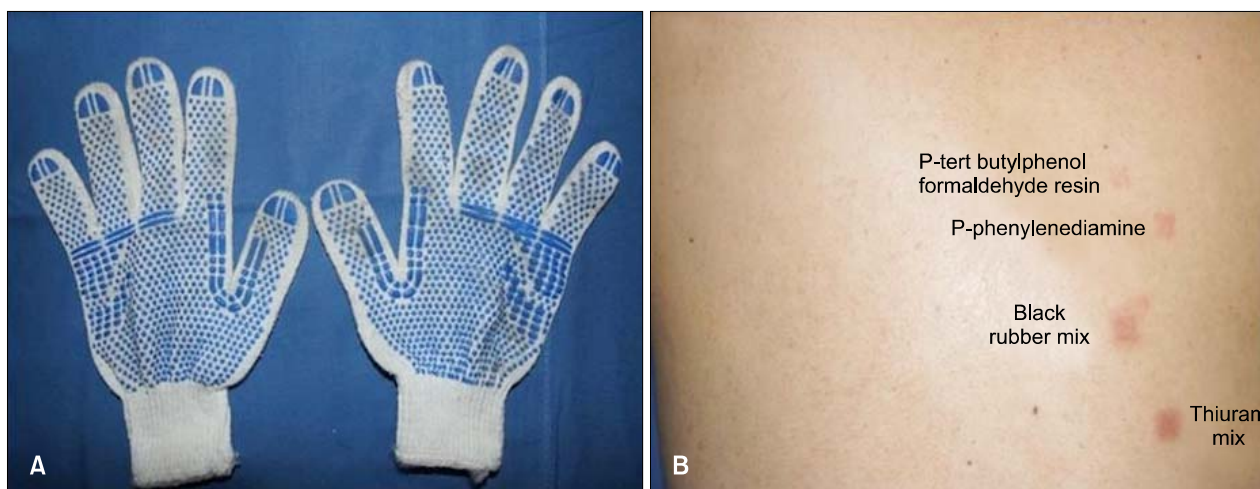
A 50-year-old nonatopic male patient presented with chronic HHE that had been refractory to previous treatments for the last 2 years. Physical examination revealed relatively well-demarcated erythematous scaly plaques on the palmar sides of both hands (Fig. 1A). He was a salesman who had always driven a car to his meetings. For 3 years, he had been wearing his work gloves, which had rubber on the palmar side, to prevent his hand from sliding off the steering wheel while driving because of his palmar hyperhidrosis (Fig. 2A). He had received eczema treatment with potent topical corticosteroid creams and moisturizer at local clinics; however, his symptoms did

not improve. Then, he was referred to our hospital. We performed patch tests with a thin-layer rapid use epicutaneous (TRUE) test kit (Mekos Laboratories AS, Hillerod, Denmark). There were positive reactions to thiuram mix(++ ) and black rubber mix(++ ) at 48 h, and additional positive reactions to *p*-tertbutylphenol formaldehyde resin(+) and *p*-phenylenediamine(+) at 96 h (Fig. 2B). He was advised to apply a topical steroid with medium potency and to drive without wearing gloves, and his symptoms improved 2 weeks later (Fig. 1B). Thereafter, he underwent use tests with the work gloves, which worsened his symptoms.

A hyperkeratotic morphology is known to be less frequently associated with contact sensitization, irritant exposure, and atopic dermatitis<sup>1</sup>. Thus, strongly positive reactions to more than two materials during the patch test have clinical implications. We made a diagnosis of HHE



**Fig. 1.** (A) Localized scaly yellowish plaques on the palmar sides of both hands. (B) Two weeks after avoiding exposure to the offending allergen.



**Fig. 2.** (A) Blue rubber dotted work gloves. (B) Positive patch test reactions to thiuram mix(++), black rubber mix(++), *p*-tertbutylphenol formaldehyde resin(+), and *p*-phenylenediamine(+) at 96 h.

due to repetitive use of the work gloves on the basis of the patient's history, patch tests, and use tests.

Thiurams are accelerants that are commonly used to manufacture natural rubber latex products. These mixes are present in natural or synthetic rubber products making up materials that are used either at work or at home<sup>4</sup>. Many tire workers are sensitized to black rubber mix. Concerning nonoccupational exposure, it has been shown that black rubber footwear and the rubber tips of walking sticks can also cause contact dermatitis<sup>5</sup>. Positive reaction to *p*-tertbutylphenol formaldehyde resin is related to contact with waterproof glue, bonded leather, and construction materials, whereas that to *p*-phenylenediamine is related to contact with permanent or semipermanent hair dyes, dyed textiles, and cosmetics; however, these are less relevant compared with our case. In conclusion, this report suggests that patients with HHE should be comprehensively evaluated through history taking and correctly treated by avoiding the suspicious material.

## ACKNOWLEDGMENT

This research was supported by the Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (No. 2011-0013003 and 2012R1A1B3002196).

## REFERENCES

1. Diepgen TL, Andersen KE, Brandao FM, Bruze M, Bruynzeel DP, Frosch P, et al; European Environmental and Contact Dermatitis Research Group. Hand eczema classification: a cross-sectional, multicentre study of the aetiology and morphology of hand eczema. *Br J Dermatol* 2009;160:353-358.
2. Warsaw EM. Therapeutic options for chronic hand dermatitis. *Dermatol Ther* 2004;17:240-250.
3. Li L, Wang J. Contact hypersensitivity in hand dermatitis. *Contact Dermatitis* 2002;47:206-209.
4. Shah D, Chowdhury MM. Rubber allergy. *Clin Dermatol* 2011;29:278-286.
5. Ozkaya E, Elinç-Aslan MS. Black rubber sensitization by bicycle handgrips in a child with palmar hyperhidrosis. *Dermatitis* 2011;22:E10-E12.

<http://dx.doi.org/10.5021/ad.2014.26.6.771>

# Sacroccocygeal Nodule in a Young Male Patient

Hyo Sang Song, Hee Young Kang

*Department of Dermatology, Ajou University School of Medicine, Suwon, Korea*

Dear Editor:

A 22-year-old male patient was referred to our dermatologic clinic, from the department of orthopedic surgery of our hospital, for the evaluation of a cutaneous mass-like lesion on the sacroccocygeal area. The patient noticed the skin lesion 3 months previously, without any subjective

symptoms. Physical examination revealed a solitary skin-colored, slightly hard nodule with scales on the coccygeal area (Fig. 1A). Radiographic examination showed no definite abnormality on the pelvis. Skin biopsy was performed, and the findings showed mild hyperkeratosis and thickening of collagen bundle in the dermis (Fig. 1B, C).

Received November 6, 2013, Revised November 28, 2013, Accepted for publication November 29, 2013

**Corresponding author:** Hee Young Kang, Department of Dermatology, Ajou University School of Medicine, 164 World Cup-ro, Yeongtong-gu, Suwon 443-380, Korea. Tel: 82-31-219-5190, Fax: 82-31-219-5189, E-mail: [hykang@ajou.ac.kr](mailto:hykang@ajou.ac.kr)

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.