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Letter to the Editor

Multiple pebble-like ectopic nails as a subsequent complication of phenol cauterization treatment for onychocryptosis

Haruna Fujita-Tanaka[1], Michihiro Kono[2*], Akihiro Sakakibara[1], Masashi Akiyama[2]

[1]Division of Dermatology, Anjo Kosei Hospital, 28 Higashihirokute, Anjo-cho, Anjo, 446-8602, Japan
[2]Department of Dermatology, Nagoya University Graduate School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya, 466-8550, Japan

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****Correspondence:***
Michihiro Kono, MD, PhD
Department of Dermatology, Nagoya University Graduate School of Medicine, 65 Tsurumai-cho, Showa-ku, Nagoya, Aichi 466-8550, Japan
Tel.: +81-52-744-2314; Fax: +81-52-744-2318
E-mail: miro@med.nagoya-u.ac.jp

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Main Text

Ectopic nail, also known as onychoheterotopia, is a rare condition in which nail-like tissue grows in an aberrant location beyond the normal nail unit. Forty-one acquired cases have been reported. Here we describe a case of multiple pebble-like ectopic nail that occurred more than ten years after phenol cauterization.

A 45-year-old woman complained of a subcutaneous nodule in the lateral nail fold of her left big toe that had been tender for two months. She had been treated with phenol cauterization for onychocryptosis at the site twice, 15 and 11 years earlier. A hard subcutaneous nodule of 1 cm in diameter was seen at the lateral nail fold of the toe. The nail plate was thick, turbid and narrow due to the previous treatments. X-ray revealed the lesion to have slightly low radiolucency, and magnetic resonance imaging (MRI) found the tumor to have low-intensity signals.

We totally dissected the lesional skin and recognized dozens of hard, whitish-yellow, irregular pebble-like nail plates in the lesional dermis. Histopathologically, corneous material having nucleated cell layers with granular layers or transitional zones was shown in the resected skin sample. We diagnosed the nodule as multiple subcutaneous

ectopic nails. No recurrence has been seen for the 2 years since excision.

Patients with ectopic nails usually have only one lesion, and even double lesions are unusual.[1] In almost all cases, the ectopic nails protrude from the skin surface,[1] and only one subcutaneous case has been reported.[2] The present case is novel and unique in that there were dozens of tiny ectopic nails in a nodule.

Treatments for ingrown nails changed in the decade after 1990, and phenol cauterization has become popular.[3, 4] In phenol cauterization therapy, to degenerate the nail matrix, an operator repeatedly squashes the nail matrix with a cotton swab soaked in phenol. We speculate that, in our case, these procedures might have caused the multiple traumatic inoculation of germ cells from the nail matrix, although this is just a speculation without evidence to support it.

A case of post-traumatic ectopic nail was reported to have occurred 2 years after a crush injury.[5] In our case, it took much longer for the ectopic nail to become evident. In the present case, germ cells might have been damaged considerably not only physically, but also chemically due to the exposure to phenol, and only tiny nests of germ cells might

have been inoculated by squashing. Although we do not know the exact reason why it took more than 10 years, we speculate that the delayed onset may be associated with these facts. Considering that it probably takes more than a decade after phenol cauterization for ectopic nails to develop a tumor, it may be understandable why no cases of multiple pebble-like ectopic nails have been reported previously. Nowadays, phenol cauterization is a very popular surgical treatment for onychocryptosis, and we should keep in mind multiple iatrogenic pebble-like ectopic nails in a patient with subcutaneous nodules as a complication of phenol cauterization.

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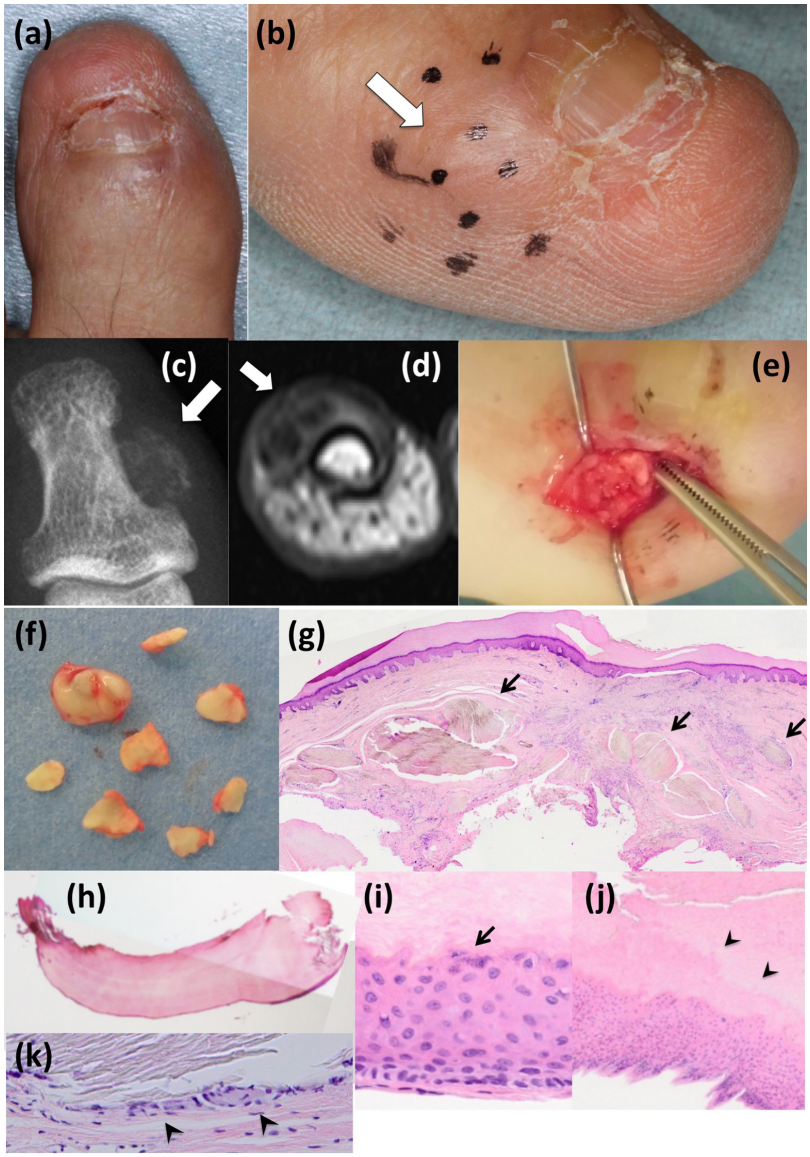
FIGURE LEGENDS

Figure 1. Clinical features, diagnostic images and histopathological macro- and micro-photographs of the lesion. (a) The nail plate of the left big toe is thick, turbid and narrow. (b) A hard, subcutaneous nodule of 1cm in diameter is seen at the right lateral nail fold of the left big toe (arrow). The nail plate is thick, turbid and narrow. (c) X-ray reveals the mass to have slightly low radiolucency adjacent to the distal phalanx of the left big toe (arrow). (d) T1-weighted MRI images show the tumor to have low-intensity signals next to the distal phalanx of the left big toe (arrows). (e) The dissection operation of the subcutaneous ectopic nails. (f) Multiple hard, irregular, whitish-yellow corneous materials resembling nail plates were dug out from the subcutaneous tumor. (g) Several nail plate-like corneous materials (arrows) were buried in the tumor. (h) One of the dissected ectopic nails. (i, j) At the edge of an ectopic nail, multiple layers of epithelial cells are seen, and they include a granular layer (arrow) (i) and transitional layers (arrowheads) (j). (k) Granulomatous reaction (arrowheads) was observed around the ectopic nail.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