



The Polyonychia and Distal Phalangeal Bone Underdevelopment on Right Second Toe

Dong Hyuk Eun, Jun Hong Park, Han Jin Jung, Yong Hyun Jang, Seok-Jong Lee, Do Won Kim, Weon Ju Lee

Department of Dermatology, Kyungpook National University School of Medicine, Daegu, Korea

Dear Editor:

When the distal phalanges are deformed, the nails are often affected. We describe a case of polyonychia on the deformed distal second toe of the right foot. A 3-year-old boy presented with polyonychia on the deformed distal second toe of the right foot at birth (Fig. 1A). He had no family history of the deformity and other associated anomalies. The second toe contained two small nail plates (micronychia). In addition, bony depletion probably due to delayed ossification in the distal second toe was observed on radiological examination (Fig. 2). Surgical restoration was performed to attain a good cosmesis (Fig. 1B). Several disorders are accompanied by nail deformities and underlying distal phalangeal anomalies. In particular, congenital onychodysplasia of the index fingers is termed Kikuchi syndrome. It is characterized by various nail deformities such as micronychia, anonychia, hemionychogryphosis,

and simple malalignment, and by bony abnormalities such as a Y-shaped bifurcation of the distal phalanx^{1,2}. Polyonychia is also one of nail deformities in Kikuchi syndrome. This case may be Kikuchi syndrome presenting with polyonychia and bony defect of the right second toe. Recently, Kikuchi syndrome has been reported to include anomalies of the great toe³. However, cases of Kikuchi syndrome with polyonychia of the second toe are difficult to find. Polydactyly is classified into three broad groups, namely preaxial, postaxial, and central polydactyly, according to anatomic differences in bony structure⁴. This case should also be considered as a central polydactyly of the right second toe (especially, normal metatarsal with distal phalanx duplication according to Venn-Watson classification). Patients with central polydactyly usually have duplications of the second toe, commonly with unilateral involvement. They can have phalangeal bone depletion due to delayed

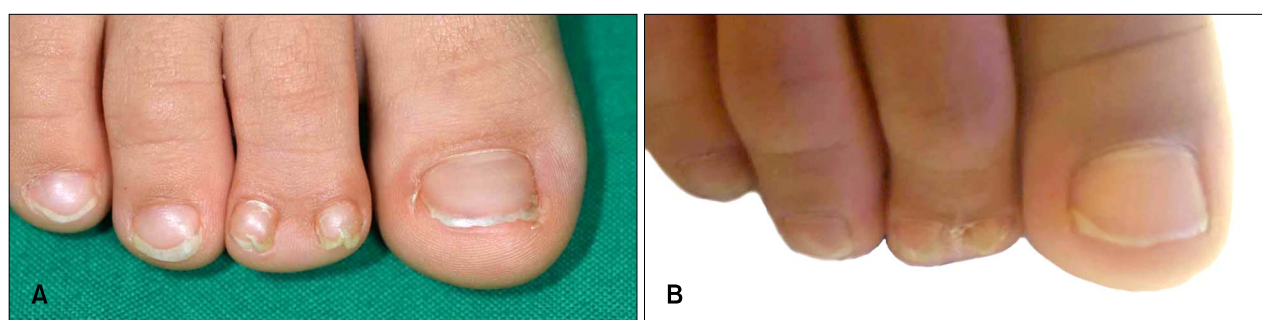


Fig. 1. (A) Polyonychia on the deformed distal phalanx of the right second toe. (B) One year after the operation.

Received September 19, 2016, Revised December 26, 2016, Accepted for publication January 18, 2017

Corresponding author: Weon Ju Lee, Department of Dermatology, Kyungpook National University Hospital, 130 Dongdeok-ro, Jung-gu, Daegu 41944, Korea. Tel: 82-53-420-5838, Fax: 82-53-426-0770, E-mail: weonju@knu.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/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Copyright © The Korean Dermatological Association and The Korean Society for Investigative Dermatology

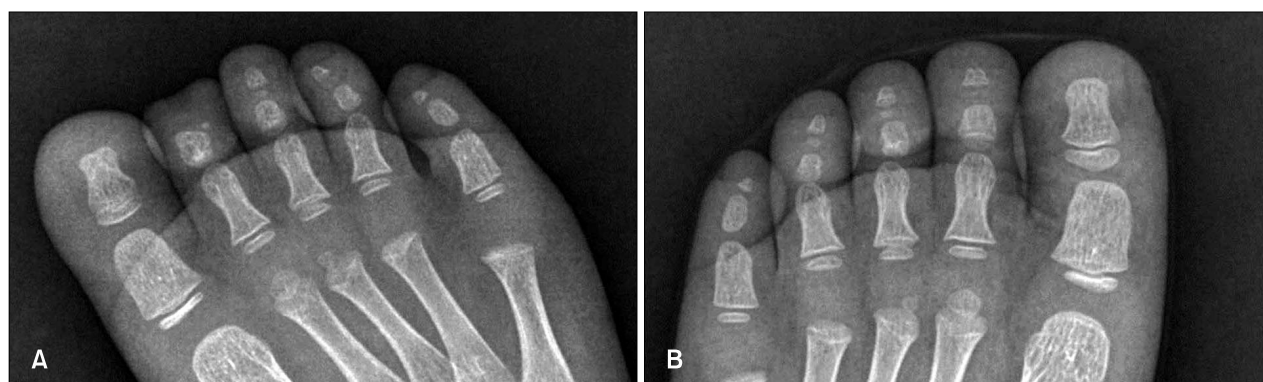


Fig. 2. Underdevelopment of ossification area of the right second toe (A) compared with the left second toe (B) on radiological examination.

ossification. However, central polydactyly with normal metatarsal with distal phalanx duplication is not easy to find. The nail deformity of the present patient was restored through surgical correction by removing the central portion of the distal digit and leaving a midline scar⁵. This surgical technique may be less satisfactory because of scarring and nail separation. We think this is a rare case of a polyonychia and distal phalangeal bony depletion on the right second toe.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

REFERENCES

1. Baran R. Iso Kikuchi syndrome (C.O.I.F. syndrome). A report on 2 cases and a review of 44 cases in the literature (author's transl). *Ann Dermatol Venereol* 1980;107:431-435.
2. Baran R, Stroud JD. Congenital onychodysplasia of the index fingers. Iso and Kikuchi syndrome. *Arch Dermatol* 1984; 120:243-244.
3. Koizumi H, Tomoyori T, Ohkawara A. Congenital onychodysplasia of the index fingers with anomaly of the great toe. *Acta Derm Venereol* 1998;78:478-479.
4. Watanabe H, Fujita S, Oka I. Polydactyly of the foot: an analysis of 265 cases and a morphological classification. *Plast Reconstr Surg* 1992;89:856-877.
5. Nam HM, Kim UK, Park SD, Kim JH, Park K. Correction of pincer nail deformity using dermal grafting. *Ann Dermatol* 2011;23(Suppl 3):S299-S302.