Congenital Malalignment of the Fourth Toenail with Congenital Curved Nail of the Contralateral Fourth Toe

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Dear Editor:

A 3-month-old boy was presented with nail deformity on both of his fourth toenails. His left fourth toenail was not parallel to the distal phalanx, and right one had a curved shape (Fig. 1A, B). Both had been observed since birth. He had no family history or suspicious past history, such as trauma. Accompanied abnormalities were not observed. Radiologic examination of both feet revealed an absence of bone deformity or soft tissue defect (Fig. 2). We diagnosed his left fourth toenail as congenital malalignment, and the right one as congenital curved nail. Regular follow-up has been planned to prevent permanent deformity and complications.

Congenital malalignment is defined as a condition of horizontal nail matrix deviation, compared with the longitudinal axis of the distal phalanx¹. There are some

etiologic hypotheses. Genetic factors, hereditary and embryological abnormalities and environmental factors such as intrauterine pressure on nails of the fetus have been thought as possible etiologic factors². Congenital malalignment usually involves great toe nails; however, it may rarely involve other toenails and fingernails as well². Although half of all patients have shown spontaneous improvement, the remainders suffer from severe complications, such as ingrown nail, onychogryphosis and persistent nail bed dystrophy³. Therefore, we decided to conduct regular follow-up of the patient until 2 years old. If his nail disorder persists, surgical intervention will be needed as a definite treatment. Baran and Haneke² invented a surgical method, consisting of periungual wedge resection and rotation of the wedge-resected flap parallel to the distal phalanx. A modified surgical method

Fig. 1. (A) Laterally deviated left fourth toenail without any complication. (B) The nail of the right fourth toe curves plantarly.

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Fig. 2. Radiologic examination does not reveal any bony or soft tissue abnormalities.

has recently been tested to reduce proximal nail fold damage.

Congenital curved nail of the fourth toe is characterized by a plantarly curved nail plate, which is parallel to the longitudinal axis of the distal phalanx. Actually, it is secondary nail deformity caused by congenital hypoplasia or loss of the distal phalanx⁴. However, similar to our case, some cases without underlying bony or soft tissue defect have been reported⁵. There have been no published case reports of congenital curved nail, which has involved other than the fourth toenail. Therefore, it is called congenital curved nail of the fourth toe. However, recently we experienced a case with congenital curved nail involving the bilateral second, third and fourth toenails; although it has not been published yet. It is thought that congenital curved nail can also be developed

in other toenails except for the fourth nail. On the other hand, other disorders of fingernails and toenails are not accompanied with congenital curved nail, because it is thought to be a mesodermal defect, not an ectodermal defect⁴. Because of the underlying defects of the bone or soft tissue, definite treatment is very difficult. Therefore, conservative treatments such as avoiding trauma are recommended for the alleviation of onycholysis and further nail dystrophy.

Due to low prevalence of congenital malalignment of the toenail and congenital curved nail of the fourth toenail, this report is meaningful. In addition, it presents the first case that combines these two nail disorders concurrently in one patient.

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