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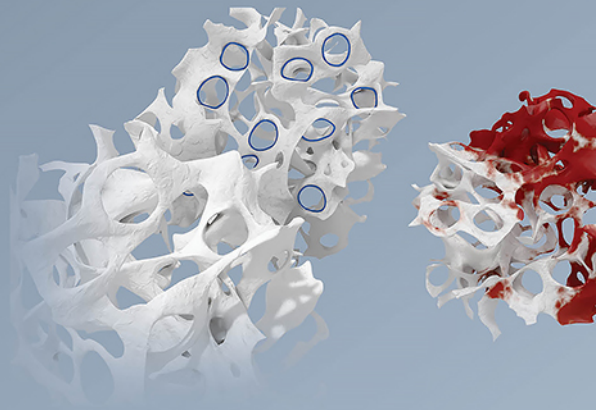
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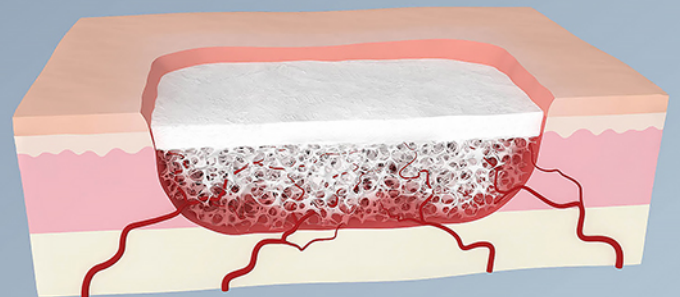
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## ORIGINAL ARTICLE

## An unusual presentation of postaxial polydactyly of the foot

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**Key words**

Congenital foot deformity; Postaxial polydactyly; Toe phalanges

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**Abstract**

A 6-month-old Caucasian baby is described with a postaxial polydactyly of the left foot. Radiographic examination revealed the accessory digit was composed of soft tissue, some with a tiny osseous element, originated from around the metatarsophalangeal joint, defined by floating type (FT). The parents had consistent difficulty putting shoes. We encountered an exceedingly rare presentation of FT, to our inspection, had neither been previously related in published studies. To the best of our knowledge, this represents the unusual case of congenital deformity lesion on the left foot to be reported in the medical literature.

**Introduction**

Polydactyly is a rare entity of the foot (1,2). Postaxial polydactyly refers to as an extra digit or a part of digit on the fibular side foot (3,4) and can be encountered into five types: middle phalangeal, proximal phalangeal, floating, fifth metatarsal and fourth metatarsal type. Also, it is further subdivided into three categories: type A is a fully developed digit with duplication of soft tissue and osseous structures; type B is a duplication of soft tissue structures only and is referred to as rudimentary and type M is a combination of types A and B (5).

The presentation of floating type (FT) is defined as a pedunculated non-articulated accessory digit, similar to a rudimentary soft-tissue tag, originating around the metatarsophalangeal joint (6). The clinical presentation will vary and can include pain, difficulty putting shoes, inhibition of function, potential of fracture and cosmetic reasons (7–9). The decision as to its proper therapy is often very difficult and the surgical excision of FT with reconstruction allows excellent results (10–12).

This article reports the case of a 6-year-old Caucasian girl with an isolated left foot postaxial polydactyly presented with FT M (FTM). The atypical radiographic findings that we do not believe have been previously reported. A review of the published data related to pedal polydactyly has also been presented.

**Case report**

A 6-month-old Caucasian baby girl from Spain (skin type II–III) presented to our clinic, with an extra digit and increasing

**Key Messages**

- we have evaluated the unusual case a Caucasian baby girl with a postaxial polydactyly of the left foot
- surgical correction is satisfying – the final scars are minimal, functional and cosmetic results are very good
- knowledge of this entity can help to prevent general health problems and foot disorders

pain on the lateral ray of the left foot (Figure 1). Her medical history was unremarkable, and she neither had the family history of foot deformity nor suffered any birth or postnatal trauma to the affected toe.

Physical examination revealed a healthy well-nourished female infant with complete postaxial polysyndactyly of the left foot with mild swelling. The extra digit was well developed, with normal range of movement, with good capillary refill and intact sensation. Anteroposterior and medial oblique radiographs revealed an FTM polydactyly without a metatarsal head, but accessory digit was composed of soft tissue, some with a tiny osseous element (Figure 2).

The remainder of the upper and lower extremity examination, including the neurological examination, was normal. There were no other orthopaedic or systemic anomalies.

After discussions with the parents all risks and complications, such as risk for developing metatarsophalangeal joint subluxation or angular deformity and residual deformities of



**Figure 1** Floating type M. Preoperative photograph showing the pedunculated accessory digit.



**Figure 2** Anteroposterior and medial oblique radiographs of FTM.

the metatarsal head, incomplete excision of elements that were not yet ossified may also lead to future problems or deformity, the informed consent was obtained. The surgical procedure involved an incision extended proximally to the midshaft level of the fifth metatarsal, and disarticulation was performed at the level of the metatarsophalangeal joint and the sixth digit was removed, with complete restoration of function and no recurrence of deformity lesion to date (Figure 3). A soft dressing was used and allowed the baby to be active and at the same time protected the surgical incision, and parents were instructed that baby must be monitored and evaluated for residual or future deformity.

## Discussion

Postaxial polydactyly is a congenital malformation involving the lateral or fibular aspect of the foot, has different forms, with or without duplication of the corresponding metatarsals or phalanges (5), a finding that supports the diagnosis of this deformity lesion. Our case is an unusual presentation of a Caucasian girl with an FTM on the left foot reported in the little indexed medical literature, without associated genetic syndromes. Only, Lee *et al.* (6) evaluated five patients who had

surgery for the treatment of FTM between 1998 and 2002 but without information about sociodemographics characteristics.

Regarding treatment, meticulous clinical and radiologic evaluation before surgical repair has been recommended (13). Our result suggests that FTM may be an underreported extra digit with characteristics distinctive from deformity lesion. Although this case report demonstrates that surgical excision appears to provide long-term resolution, further studies are necessary.

## Conclusions

The prognosis for the Caucasian baby girl seems to be good. Surgical correction is satisfactory, the final scars are minimal and functional and cosmetical results are very good. A case of FTM was presented with a review of classification, aetiology and treatment.

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## Author contribution

All authors were involved in the concept, design, analyses, interpretation of data, drafting of manuscript or revising it critically for important intellectual content.

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