



## Post-Axial Polydactyly of Both Feet: An Unusual Case

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### Abstract

Polydactyly means the presence of more than the normal number of fingers or toes. It can vary from unnoticeable rudimentary finger or toe to fully develop extra digit, which occur as an isolated congenital anomaly or as one aspect of multi-symptom disease or syndrome. Several syndromes were reported to be associated with polydactyly and geneticist often play roles in examination of children with this deformity for other congenital anomalies.

**Keywords:** Post-axial; Feet; Malformation; Surgery; Motion

### Introduction

The presentation of polydactyly can be informed of thumb polydactyly [1-3]. Macroductyly of the left second toe with duplication of the nail beds, postaxial duplication of the fifth digit, preaxial duplication of the great toe, Post-axial polydactyly in both hands which is very rare, an extra digit within the hand and not along its borders and along with one foot is even rarer [4-9].

Extra digit is a common congenital anomaly in our environment which usually affect the hands and occasionally the feet but very rarely both. A five months old male infant presented with accessory digits of the both feet, with two extra digits on the left foot and one on the right foot. The extra digits were well developed, with normal range of motion, good capillary refill and intact sensation. General examination revealed an otherwise healthy child with no associated congenital malformations. The treatment modality used was surgical removal of the extra digits and reconstruction of any associated anomalies in the remaining ray such as longitudinal epiphyseal bracket. After the surgery the patients is no longer experience difficulty with fitting shoes as well as discrimination among peer groups in his future life.

Studies across different population indicate variation in frequency of polydactyly, with 75% seen as Hand post axial, 15% as foot post axial polydactyly which is less often found with other anomalies (7% versus 15%) and 10% as bilateral hand and foot post axial polydactyly [5]. The incidence was reported to be 2.3 per 1000 in white males, 0.6 per 1000 in white females and 13.5 in black males and 11.1 in black females [6].

Here we report a very rare case of polydactyly with two extra digits on the left foot and one on the right foot. The extra digits were well developed, with normal range of motion, good capillary refill and intact sensation.

### Case Report

The patient is a five months old male infant who presented with accessory digits of the both feet since Birth, with two additional digits on the left foot and one extra digit on the right foot and on the left foot (Figure 1).

Patient is a product of full term gestation, index pregnancy was booked at three months and there was no history of radiation exposure or use of unprescribed medications, no history of maternal febrile illness during pregnancy. Delivery was uneventful *via* spontaneous vertex delivery. A radiograph on the left foot and the right foot demonstrated a post-axial polydactyly on both feet (Figure 2).

The patient's mother is Para 4+0, alive there is no family history of extra digits or other congenital anomalies.

The patient has no other congenital malformations [4].

A general examination revealed an otherwise healthy child and a musculoskeletal system examination showed that he had two additional digits on the left foot and right foot (Figure 1). The

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Figure 1: Right leg and left leg.



Figure 2: A radiograph of post-axial polydactyly on both feet.

extra digits were well developed, with normal range of movement, with good capillary refill and intact sensation. There were no other anomalies detected.

An assessment of polydactyly of both feet was made. The patient had two stage excisions of the extra digits in another hospital, with excision of the extra digits of both feet at the first stage and second stage respectively and there were no post-operative complications.

## Discussion

The management of polydactyly may appear simple, but careful consideration before and during surgical correction are needed [8]. Several presentations were reported in the literature [3-9]. The close presentation of case of polydactyly in relation to our case report documented in the literature were functional extra digit in both feet, six digits in each limb with non functional extra digit in the hands, bilateral postaxial (one extra digit on each limb) functional polydactyly of both feet [10,11]. Polydactyly was also demonstrated as one of the presentation of autosomal recessive and dominant condition such as Acrocallosal syndrome, post axial polydactyly-progressive myopia syndrome, cleft lip and cleft palate, Variability in genetic expression [12-16]. Other associated anomaly of bilateral polydactyly of hands and feet associated was supernumerary renal vessels in right kidney [17]. Abnormalities involving polydactyly are usually bilateral, although, few studies revealed unilateral involvement being more common than bilateral involvement [10,18]. In our case report the rarest form of presentation was seen in which two additional digits on the left and right feet was observed, and normal range of motion, good capillary refill and intact sensation was observed in the extra digit (Figure 1 and 2). A general examination of patient revealed an otherwise healthy child with no associated congenital anomalies.

The treatment modality of polydactyly in our patient involved surgical removal of the extra digits in another hospital and reconstruction of any associated anomalies in the remaining ray such as longitudinal epiphyseal bracket. This in agreement with the basic

goal for surgical management of patients with polydactyly which is removal of the most medial or most lateral digit so as to gain the normal contour of the foot as well as maintaining the maximum functional and cosmetic outcome [19-25].

Generally, it is desirable to treat polydactyly of the toes because untreated patients experience difficulty with fitting shoes with discrimination among peer groups. These reasons probably explain why the parents of our index patient opted for surgical excision of the digits in another hospital.

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