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Case Report

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# CASE REPORT ON POLYDACTYLY IN A PEDIATRIC PATIENT

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## ABSTRACT

Polydactyly is perhaps one of the most common congenital hand and foot anomalies. Tetrapolydactyly is a very rare form of hand and foot anomalies. We report a case of polydactyly in a female neonate which occurred sporadically and without associated congenital abnormalities. The extra digit is usually a small piece of soft tissue. Occasionally, it may contain bone without joints; it may be a complete functioning digit. There are many surgical options available for polydactyly. Most are simple and usually have positive outcomes.Small finger duplication, which is the most common type of polydactyly, may not require treatment. If it does, this is generally for cosmetic reasons.

**KEYWORDS:** polydactyly, supernumerary digit, anatomical variant, pleiotropic developmental anomaly syndrome, genetic disorder.

## INTRODUCTION

Polydactyly is one of the most common congenital anomalies of the hands and feet consisting of super numerary fingers or toes.[1,2] The name comes from the Greek poly (many) and dactylos (finger). The extra fingers or toes are described as "supernumerary," which means "more than the normal number." For this reason, the condition is sometimes called supernumerary digit. A range of treatments is available depending on the type of polydactyly, and the cause is often genetic[4]

The extra digit is usually a small piece of soft tissue. Occasionally, it may contain bone without joints; it may be a complete functioning digit.[2] This condition can occur in one limb or can be exceptionally present in all four limbs a condition called tetrapolydactyly.[3] The extra digit is the most common on the ulnar side of the hand—post axial ray, less common on the radial side preaxial ray, and very rarely within the middle three digits—middle or central ray[2,3] It can occur sporadically, but it can also be inherited with a mainly autosomal dominant inheritance.[1] Polydactyly commonly involves only the hand or the foot. Polydactyly involving both hands and feet is rare.[4]

Polydactyly results from defective patterning of the anterior-posterior axis of the developing limb and can occur as a simple or isolated malformation or as part of a pleiotropic developmental anomaly syndrome. Polydactyly is an important manifestation in clinical medicine not only because it has cosmetic and functional implications and often necessitates surgical treatment, but because it can serve as an immediately recognizable indicator that the patient, particularly a newborn, has a multiple congenital anomaly syndrome (pleiotropic developmental anomaly syndrome). We report a case of polydactyly in a female neonate. A range of treatments is available depending on the type of polydactyly, and the cause is often genetic.[7]

## CASE REPORT

A female neonate who was delivered through spontaneous vaginal delivery. Baby was delivered at 39 weeks and weighed 3130 grammes with head circumference and body length within normal range.

There was no family history for hand and foot malformations in her other children or in her own family or that of her husband. There was no history of drug ingestion other than the routine drugs prescribed to her during antenatal care.

Examination of the newborn revealed hand and foot polydactyly with 6 fingers bilaterally and 6 toes at both feet. Other than these findings, there were no other malformations or conditions noted.

Further examination of the hands and feet did not reveal involvement of bones other than soft tissue which was confirmed by X-ray. Clinico - radiological examination revealed no other congenital anomaly. Echo was done to reveal no cardiac anomaly. Surgery was done to remove extra one digit in upper limbs.

## DISCUSSION

Polydactyly is perhaps the most common congenital hand anomaly.[2] This is also a case of isolated polydactyly in a female neonate without any other congenital anomaly and no similar occurrence in her siblings or parents. Limb development is clinically and biologically important. Polydactyly is common and caused by aberrant anterior-posterior patterning. Human disorders that include polydactyly are diverse.

In polydactyly, extra digit may be functional or nonfunctional. Extra digit usually lacks muscular connections.[5] In this case, we report a non-functional digit in both hands and feet with no tendon or muscle attached over the extra digits. They are fleshy nubbins also reported as a form of classification.[6] The majority of cases of polydactyly without bony involvement usually have the extra digits tied off at birth[7]; this was also done for this female neonate at birth.

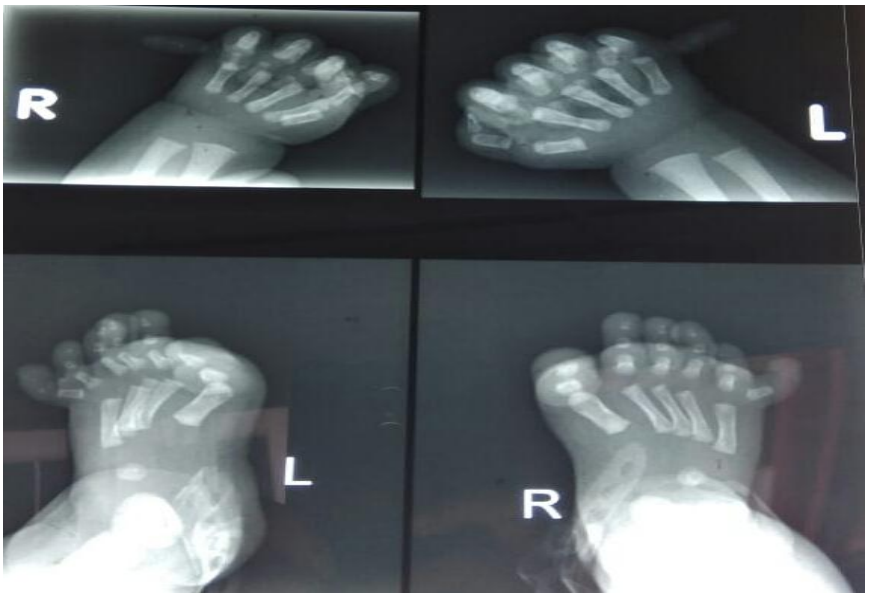


**Figure 1: Extra one digit in all four limbs.**

Polydactyly can be seen by ultrasound prenatally and by eye at birth. Removing an extra little finger (ulnar polydactyly) can be fairly simple if the extra finger is attached by a narrow "stalk" or "nub" of soft tissue. The extra finger can be removed with a minor procedure or even by tying off (ligating) the nub in the nursery.[7]

## CONFLICT OF INTEREST

None declared.

## INFORMED CONSENT

Informed consent was obtained from the legally authorized represtatives for annonymized patient information to be published in this article.

## CONCLUSION

Tetrapolydactyly still remains a rare occurrence globally, and its occurrence in a female, though without associated congenital anomalys is worth reporting. Removing an extra little finger (ulnar polydactyly) can be fairly simple if the extra finger is attached by a narrow "stalk" or "nub" of soft tissue. The extra finger can be removed with a minor procedure or even by tying off (ligating) the nub in the nursery.

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