

# Bilateral postaxial polydactyly type a with syndactyly in an adult female managed with excision and syndactyly release using full-thickness skin graft from the supernumerary digit

## Abstract

**Background:** Polydactyly is one of the most common congenital anomalies of the hand with an incidence of approximately 1 in 500–1,000 live births.<sup>1,2</sup> Bilateral postaxial polydactyly with syndactyly presenting in adulthood is rare.

**Case presentation:** A 19-year-old female presented with bilateral postaxial polydactyly type A with syndactyly between ring and little fingers of both hands since birth.

**Management and outcome:** Excision of supernumerary digits with Z-plasty syndactyly release and full-thickness skin grafting from the excised digit was performed with excellent functional and cosmetic outcome.

**Conclusion:** A rare adult presentation successfully managed using tissue from the supernumerary digit itself.

**Keywords:** postaxial polydactyly, syndactyly, congenital hand anomaly, z-plasty, full-thickness skin graft

Volume 18 Issue 1 - 2026

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**Received:** January 31, 2026 | **Published:** February 24, 2026

## Introduction

Congenital anomalies of the hand significantly affect function and cosmesis. Polydactyly is among the most common anomalies with an incidence of 1 in 500–1000 live births.<sup>1,2</sup> It is classified into preaxial, central, and postaxial types.<sup>3</sup> Postaxial polydactyly involves ulnar-side duplication and is subdivided into type A (well-formed digit) and type B (rudimentary).<sup>3</sup> Syndactyly is fusion of adjacent digits and frequently coexists, increasing surgical complexity.<sup>4</sup> These deformities are usually corrected in early childhood. Adult presentation is rare and presents reconstructive challenges due to established anatomy and contractures.<sup>5</sup>

## Case presentation

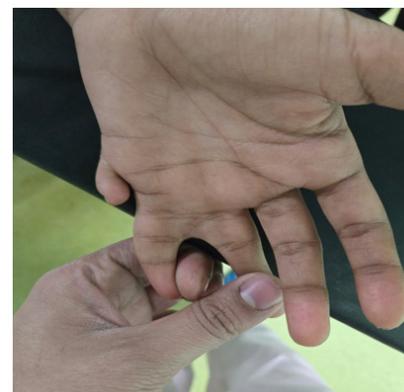
A 19-year-old female presented with bilateral congenital deformity of both hands characterized by extra little fingers and fusion between ring and little fingers since birth. She had difficulty with fine motor activities and cosmetic concerns. Clinical examination revealed well-formed supernumerary digits on the ulnar side of both hands consistent with postaxial polydactyly type A with associated soft tissue syndactyly (Figure 1 & 2). Sensation and vascularity were intact. Radiographs confirmed well-developed duplicated digits without other skeletal anomalies (Figure 3 & 4).

## Surgical technique

Informed and written consent was taken as per guidelines from the patient. Single-stage correction was planned. Under anesthesia, excision of the supernumerary little finger was performed. Syndactyly release between ring and little fingers was achieved using Z-plasty to prevent web space contracture.<sup>6,7</sup> A full-thickness skin graft harvested from the excised digit was used to resurface raw areas, providing optimal color and texture match without additional donor morbidity (Figures 5-7).<sup>8</sup>



**Figure 1** Preoperative clinical photograph of left hand showing postaxial polydactyly with syndactyly.



**Figure 2** Preoperative clinical photograph of right hand showing postaxial polydactyly with syndactyly.



**Figure 3** Preoperative bilateral hand radiograph showing postaxial polydactyly type A.



**Figure 4** Preoperative oblique radiograph confirming well-formed supernumerary digits.



**Figure 5** Intraoperative photograph after excision of supernumerary digit.



**Figure 6** Intraoperative photograph showing Z-plasty syndactyly release.



**Figure 7** Web space reconstruction using full-thickness skin graft.

### Outcome

Postoperative recovery was uneventful. X ray done attached (Figure 8). The grafts were well taken with satisfactory web space formation. The patient achieved good range of motion and improved cosmetic appearance.



**Figure 8** Postoperative radiograph showing satisfactory alignment after excision.

## Discussion

Bilateral postaxial polydactyly type A with syndactyly presenting in adulthood is rare.<sup>5</sup> Z-plasty remains a reliable method to prevent recurrent contracture.<sup>6,7</sup> Using skin graft from the excised digit provides excellent tissue match and avoids donor-site morbidity.<sup>8</sup>

## Conclusion

Excision of supernumerary digits combined with Z-plasty syndactyly release and full-thickness grafting from the excised digit provides excellent functional and cosmetic outcomes even in late-presenting cases.

## Conflicts of interest

The authors declare no conflict of interest.

## Funding

No funding source to be declared.

## Compliance with ethical guidelines

Informed written consent was obtained from the patient for being included in the study

## Declaration

The authors confirm that they have been involved in the study as per the ICJME guidelines for authorship.

We confirm that:

The manuscript, including related data, figures and tables has not been previously published and is not under consideration elsewhere

No data have been fabricated or manipulated (including images) to support your conclusions

This submission does not represent a part of single study that has been split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (e.g. “salami-publishing”)

We confirm that the work submitted is original and does not transgress the plagiarism policy of the journal.

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