

Syndactyly

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SCHOLARONE™
Manuscripts

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ABSTRACT

Here we present an interesting case of simple syndactyly and provide a narrative review of its incidence, associations and management.

KEYWORDS

Syndactyly; limb deformities, congenital; hand; fingers

For Review Only

INTRODUCTION

Syndactyly is the most common congenital abnormality of the hand and is estimated to affect 1 in 2000 new-borns. (1) It is more common in males and can occur both unilaterally and bilaterally with equal incidence. (2) Syndactyly can be inherited or sporadic, when inherited it can be non-syndromic or as part of a syndrome such as Apert's syndrome. (3)

CASE REPORT

An 18-month-old child presented to the paediatric hand clinic with a fused ring and middle finger on the left hand. The child was born at term with an unremarkable past medical history and no family history of congenital abnormalities. On examination there was webbing of the ring and middle finger extending past the distal interphalangeal joint without synonychia, see Figure 1a. There was no visible shortening of the affected digits and range of motion at the metacarpophalangeal, proximal and distal interphalangeal joints was preserved. On general examination there were no syndromic features and examination of the feet and contralateral hand was unremarkable. The child was diagnosed with simple incomplete syndactyly and underwent surgical release using a modified Platt technique, where a dorsal hourglass flap, interdigitating zigzag flaps and a full thickness skin graft were used to reconstruct the webspace. (4) An excellent aesthetic outcome was obtained, see Figure 1b, and the child retains full use of the left hand without pain.

DISCUSSION

Here we present an interesting case of simple incomplete syndactyly. Syndactyly can be classified as complete or incomplete (indicated by the degree of fusion), simple (where only soft tissue is involved), complex (synostosis between adjacent phalanges) and complicated (accessory phalanges or abnormal bones involved in fusion) (5), see Figure 2. Syndactyly release is performed under general anaesthesia using a paediatric tourniquet. A multitude of techniques have been proposed for commissure reconstruction. Traditionally, skin grafts have been used to cover bare areas following web separation however these techniques are limited by web creep

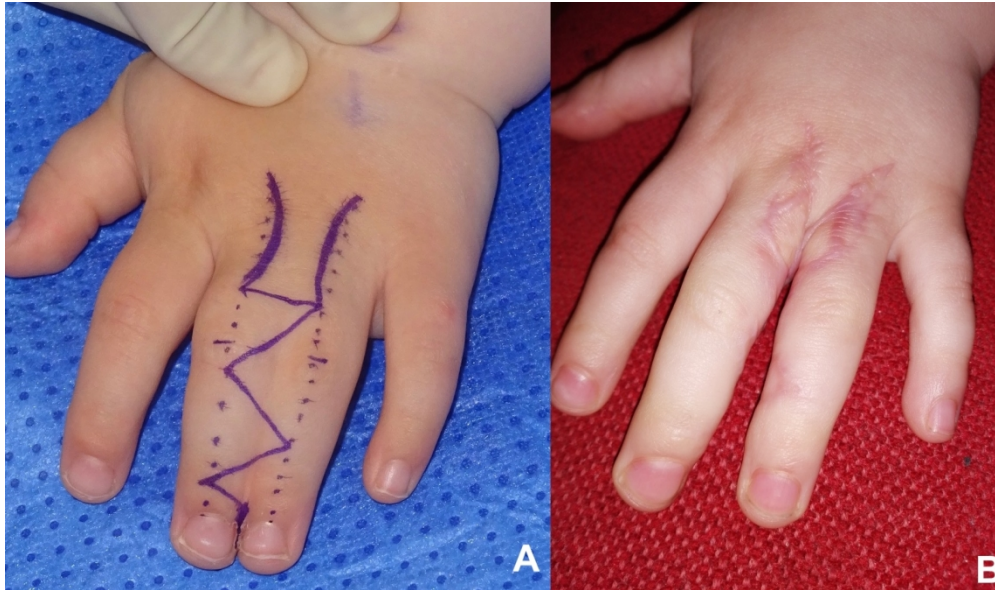
1 and donor site morbidity. Local reconstructive techniques using dorsal metacarpal advancement
2 flaps have been refined over recent years and may have lower rates of early postoperative
3 complications, web creep, contracture, hypertrophic scarring and revision surgery. (2)
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5 Interdigitating zigzag dorsal and palmar flaps may be used to minimise the tendency for formation
6 of longitudinal scars and flexion contracture whilst maximising soft tissue coverage potential (6).
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8 Here a modified Flatt technique was used which involves the use of a dorsal hourglass flap,
9 interdigitating zigzag flaps and full thickness skin grafts to provide adequate soft tissue coverage.
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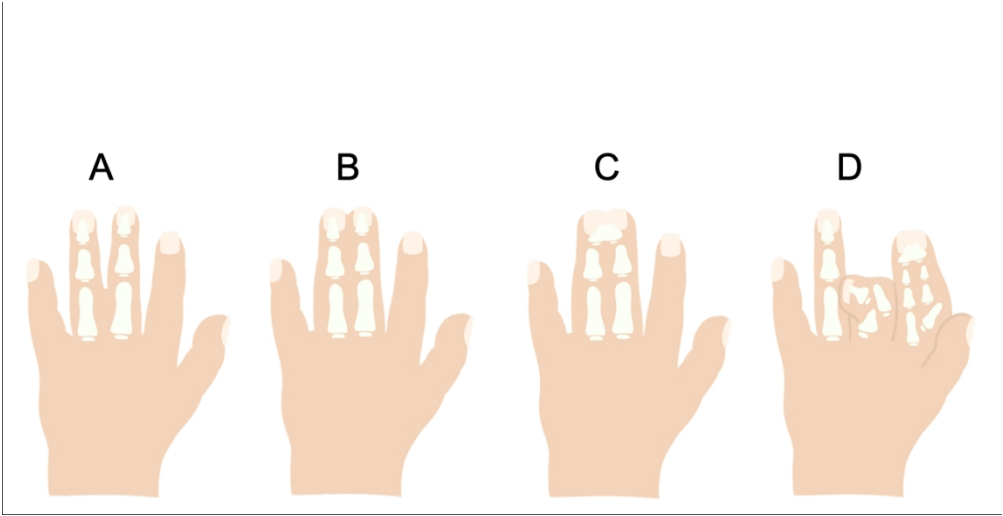
43 **FIGURE LEGENDS**

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45 **Figure 1:** (A) Simple incomplete syndactyly demonstrating fusion of the middle and ring finger (B)
46 Outcome following syndactyly release at 6 months post-operatively.
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49 **Figure 2:** Diagrammatic representation of syndactyly subtypes (A) simple, incomplete (B) simple,
50 complete (D) complex (D) complicated
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(A) Simple incomplete syndactyly demonstrating fusion of the middle and ring finger (B) Outcome following syndactyly release at 6 months post-operatively.

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Diagrammatic representation of syndactyly subtypes (A) simple, incomplete (B) simple, complete (D) complex (D) complicated