Complex Complete Syndactyly in a Child

Pedro Martins Branco[1], Joana Arcângelo[2], Joana Ovídio[2], César Silva[3]

Port J Pediatr 2019;50:207-8
DOI: https://doi.org/10.25754/pjp.2019.15804

A female patient was referred to our institution due to a congenital malformation of both hands. On the right hand she had a complete syndactyly between the third and fourth fingers. On the left hand there was a partial syndactyly between the third and fourth fingers (Fig. 1). The child did not have any diagnosed disease or syndrome. Her father also had syndactyly on both hands. No other relevant diseases were known on the family. On the right-hand radiographs, the patient presented a bony connection between the base of the proximal phalanx of the third and fourth fingers (blue arrow) and a delta proximal and middle phalanx on the fourth finger (red arrows). On the left hand, a delta proximal phalanx of the fourth finger (yellow arrow) and a supernumerary proximal phalanx on the fourth finger (green arrow) were identified. The patient also presented bilateral second phalanx of fifth digit without growth plate (brown arrows) and first metacarpal with two growth plates (pink arrows) (Fig. 2).

Figs. 3 and 4 show the postoperative appearance of both hands and radiographs, respectively.

Syndactyly, a failure of separation of the digits during early gestation,[1] is most often a sporadic event,[2] but can also be a feature in several syndromes. The third and fourth web spaces are the most affected, and this condition is bilateral in half of the cases.[3]

It can be classified as complete (to fingertip) or incomplete, and simple (cutaneous) or complex (with bony union).[1] Complicated syndactyly refers to cases with polydactyly and other conditions.[4] Syndactyly in association with synostosis,[3] as reported in our case, is rarely seen.

The current mainstay of treatment and management for syndactyly is surgery.[3] Many authors noted the unique difficulties of complex syndactyly reconstructions.[5]

Keywords: Child; Infant, Newborn; Limb Deformities, Congenital

Figure 1. Congenital malformation of both hands. Right hand with complete syndactyly between the third and fourth fingers. Left hand with partial syndactyly between the third and fourth fingers.

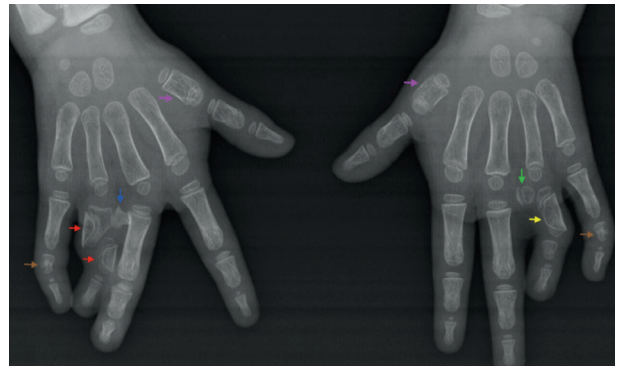

Figure 2. Both hand radiographs (anteroposterior view). On the right hand the patient presented a small isolated bony connection between the base of the proximal phalanx of the third and fourth fingers (blue arrow) and a delta proximal and middle phalanx on the fourth finger (red arrows). On the left hand, a delta proximal phalanx of the fourth finger (yellow arrow) and a supernumerary proximal phalanx on the fourth finger (green arrow) were identified. The patient also presented other bilateral anomalies like a second phalanx of fifth digit without growth plates (brown arrows) and first metacarpal with two growth plates (pink arrows).

Figure 3. Postoperative appearance of both hands.

1. Serviço de Ortopedia, Hospital Distrital de Santarém, Santarém, Portugal
2. Serviço de Ortopedia Infantil, Hospital Dona Estefânia, Centro Hospitalar Universitário de Lisboa Central, Lisboa, Portugal
3. Serviço de Ortopedia Infantil, Hospital de Santo António, Centro Hospitalar do Porto, Porto, Portugal
Corresponding Author
Pedro Martins Branco
pmartinsbranco@gmail.com
Serviço de Ortopedia, Hospital Distrital de Santarém, Avenida Bernardo Santareno, 2005-177 Santarém, Portugal
Received: 30/11/2018 | Accepted: 19/03/2019

Figure 4. Postoperative radiographs of both hands.

WHAT THIS REPORT ADDS

- Complex complete syndactyly is a rare condition that can be sporadic or seen as a feature in several syndromes.
- Syndactyly diagnosis is clinical and radiological.
- The current mainstay of treatment is surgery; syndactyly reconstructions are usually complex and highly demanding.
- Syndactyly cases should be referred to genetics and experienced surgeons in congenital hand deformities.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

Funding Sources

There were no external funding sources for the realization of this paper.

Provenance and peer review

Not commissioned; externally peer reviewed

Consent for publication

Consent for publication was obtained.

Confidentiality of data

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

References

1. Goldfarb C, Steffen J, Stutz C. Complex syndactyly: Aesthetic and objective outcomes. J Hand Surg Am 2012;37:2068-73. doi: 10.1016/j.jhsa.2012.06.033.
2. Green D, Hotchkiss R, Pederson W, Wolfe S, editors. Green's operative hand surgery. 5th ed. Philadelphia: Elsevier; 2005.
3. Jordan D, Hindocha S, Dhital M, Saleh M, Khan W. The epidemiology, genetics and future management of syndactyly. Open Orthop J 2012;6:14-27. doi: 10.2174/1874325001206010014.
4. Tachdjian M, Herring J. Tachdjian's pediatric orthopaedics. 5th ed. Philadelphia: Elsevier-Saunders; 2014.
5. Chouairi F, Mercier M, Persing J, Gabrick K, Clune J, Alperovich M. National patterns in surgical management of syndactyly: A review of 956 cases. Hand 2019: 15:1558944719828003. doi: 10.1177/1558944719828003.