

EXPERIENCE IN THE TREATMENT OF CONGENITAL SYNDACTYLY IN THE TVER REGIONAL CHILDREN'S HOSPITAL

**V.M. Krestyashin, L.V. Rasskazov, Yu.N. Ivanov,
N.S. Marasanov, V.V. Murga**

Tver State Medical University, Tver, Russia

Pirogov Russian National Research Medical University, Moscow, Russia

Children's Regional Clinical Hospital, Tver, Russia

Syndactyly is a congenital malformation, consisting in the fusion of two or more fingers, accompanied by a cosmetic defect and dysfunction of the limb. According to various authors, syndactyly accounts for more than 50% of all congenital anomalies of the hand. The frequency of occurrence is 1: 2000–1: 4000. Treatment of congenital syndactyly is most effective in the first two years of life [1,2].

Syndactyly is classified according to the degree of fusion to total and subtotal (Fig. 1, 2); by type of adhesion on soft tissue and bone forms; as the affected fingers are simple and complex. Depending on this, one or another method of correction of this defect can be chosen.

15 children with congenital syndactyly aged 1 to 15 years were operated in the trauma-orthopedic department of the Tver Children's Regional Clinical Hospital from 2016 to 2018 (8 male and 7 female). It was performed 19 operations on the separation of the fingers with the recreating the web space. 11 surgical interventions were performed on the total form of syndactyly (2 of them had bone fusion); 8 operations on the subtotal form.

In 18 cases, the operation was performed using local tissues; in one case, a free skin flap taken from the front surface of the forearm was used. In the treatment of an incomplete form of syndactyly, we used the procedure described by Yamashita et al. [3]. (Fig. 3).

In the case of the complete form of syndactyly, we used various treatment methods described by Juan Liu et al. [4] (Fig. 4), Feng Ni et al. [5] (Fig 5.), and P. Samson, B. Salazard [1].

Skin sutures were removed for 14–21 days. We did not observe complications in the form of necrosis of the skin graft or inflammation of wounds. In all cases, a good functional result was obtained.



Fig. 1. Simple subtotal form of syndactyly



Fig. 2. Simple total form of syndactyly

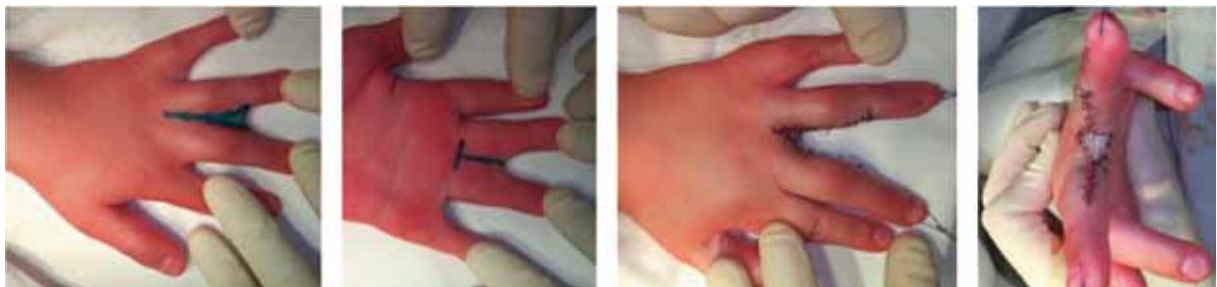


Fig. 3. Using V-Y flap for release of subtotal congenital syndactyly



Fig. 4. Using dorsal plane-shaped advancement flap for the reconstruction of web space



Fig. 5. Using hourglass dorsal advancement flap for the reconstruction of web space



Fig. 6. Using squaredorsal advancement flap for the reconstruction of web space

CONCLUSION

Syndactyly is a complex defect of the hand, which requires a differentiated approach in the choice of surgical correction methods. The most effective are operations that allow the formation of web spaces without using skin grafts. Given this, the task of the orthopedic surgeon is to select the optimal technique that will be the least traumatic and more cosmetically beneficial.

REFERENCES

1. KEMPTON, S. J., MICHELOTTI, B. F., SALYAPONGSE, A. N., & BENTZ, M. L. (2019). Syndactyly Reconstruction. *Global Reconstructive Surgery*, 307–311.
2. SAMSON, P., & SALAZARD, B. (2008). Syndactylies. *Chirurgie de La Main*, 27, S100–S114.
3. YAMASHITA, K., YOTSUYANAGI, T., YAMAUCHI, M., SUGAI, A., GONDA, A., KATO, S., & KITA, A. (2016). Subcutaneous pedicle V–Y flap for release of incomplete congenital syndactyly. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 69(8), e186–e191.
4. LIU, J., ZHENG, H., CHEN, Z., DAI, X., SCHILLING, A. F., & MACHENS, H.-G. (2015). Dorsal plane-shaped advancement flap for the reconstruction of web space in syndactyly without skin grafting: A preliminary report. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 68(11), e167–e173.
5. NI, F., MAO, H., YANG, X., ZHOU, S., JIANG, Y., & WANG, B. (2015). The Use of an Hourglass Dorsal Advancement Flap Without Skin Graft for Congenital Syndactyly. *The Journal of Hand Surgery*, 40(9), 1748–1754.e1.