# *congenital syndactyly separation with dorsal rectangular flap in Yemen*

**Dr. Nasr H. AL-qadasi[*], Dr. Yahia A.Al-saighi[**], Dr.Basheer Othman[***], Dr. Abdulmajeed N. AL-Yafei[****]**

## ABSTRACT

***Background:*** congenital hand Syndactyly is prevalent with substantial aesthetic and functional implications, so the surgical separation of the fused fingers is essential in order to restore the hand function, enhance appearance and facilitate normal hand growth with less complications and procedures.

***Patients and Methods:*** the study is descriptive prospective study is carried on 31 webs of 18 casas underwent surgical repair of congenital syndactyly during the period from august 2021 to august 2023 of different age and sex performed in Al-gumhori Teaching Authority Hospital, Elite and police hospital.

***Results:*** the age of study population ranged between 2 - 25 years and majority of the patients belong to age group above 13 years (66.7%), (N= 12) patients with median age of study 17.92 years, most of them are female with common web involved between middle - ring fingers in (44.5%) (N=8) patients and frequently presented with simple complete syndactyly in (55.6%) (N=10), complex 22% and complicated 16.6%, the reconstructive technique is dorsal rectangular flap with

[*] Prof. Department of Surgery, Sana'a University, Sana'a City, Yemen, Senior Consultant of Plastic and Reconstructive Surgery

[**] Senior consultant of plastic and reconstructive surgery, Head department of plastic surgery, typical police hospital, Al-gamhori teaching hospital, Sana'a city, General coordinator of Yemeni board of plastic and reconstructive surgery

[***] Assist. Prof. Department of Surgery, 21 September University, Sana'a City, Yemen. Consultant of General and plastic Surgery

[****] specialist of Plastic and Reconstructive Surgery, Department of Plastic Surgery, Typical Police Hospital, Al-gamhori teaching hospital, Sana'a City

zig-zag interdigitating flaps and the remaining raw area resurfaced with full thickness skin graft. the outcomes in this technique is good results 90.4% with little complications 9.6%, the most complications related to skin graft as skin infections 2 webs, maceration of flap 1 webs, partial graft loss 2 webs.

***Conclusion:*** the dorsal rectangular flap technique preferred due to simple design and easy modify during operation with smooth mobilize the dorsal skin to achieve more natural web space which can applied in majority of syndactyl types with low complication rate, and related to its simplicity can be easily procreation by training doctors.

***Keywords:*** syndactyly, congenital hand anomalies, skin graft, web reconstruction, rectangular flap.

## INTRODUCTION:

Syndactyly is Congenital hand anomaly characterized by variable degree of fusion of the skin, soft tissue and or bone of two or more neighboring fingers,[1] and is one of the common congenital hand anomaly with incidence about 1 in 2000-3000 live births and mainly sporadic but family history seen in 10 – 20 % ,[2] the embryological causes is failure separation of developing fingers during organogenesis [2], due to improper apoptosis between digits [3]. Acquiring spontaneous genetic mutation factors associated with syndactyly including maternal smoking, exposure to teratogenic agents, lower socioeconomic, infections and diseases in the early pregnancy are postulated as possible causes.[4,5]

Ideal time for separation is from 6 to 18 months of age، [6], the bordering fingers optimally separated as early as 3 to 9 months because of size discrepancy between the adjacent fingers, syndactyly of relative equal length separation can be achieved at 12 to 24 months. [6] For all that, separation of congenital syndactyly is nearly always indicated for most cases, as the functional benefit with early separation exceed the risks of operation, [1,7] In Yemen, combinations of genetic predisposing and challenging environmental and socio-economic conditions exacerbated by ongoing conflict, factors such as poor maternal health care with malnutrition status, limited access to parental health care resources and exposure to teratogenic or pollutants, significantly increase the risk of congenital syndactyly as well as challenges to the effective management of this conditions. As a result, most born children with congenital syndactyly in Yemen do not receive the timely or adequate surgical treatment necessary for optimal functional and psychosocial outcomes. So delaying time of surgical repair may alter the grip development, hand function and deformity in fingers of unequal length with refractory to correction or unsatisfying correction in latter presentation, [8]

For all aforementioned reasons we decided to introduce and study the technique of congenital syndactyly separation with dorsal rectangular flap along with interdigitating (zig-zag) incisions for separate the fingers and the remaining raw area resurfaced by full thickness skin graft, [8] Improving surgical outcomes and healthcare quality for affected patients is the goal of congenital syndactyly separation research in Yemen. to improving hand function, self-confidence, and interpersonal interactions are the main areas of concentration. the study can add the knowledge on successful approaches of congenital syndactyly management which potentially leading to procreation the surgical techniques in the Yemeni context and can help in develop best practice guidelines with guiding efforts to train plastic and reconstructive surgeons in Yemen by revealing gaps in the country's healthcare system and personnel, increased public awareness regarding congenital syndactyly and optimal surgery timing can lead to improved public health outcomes through earlier intervention. Research like this helps fill a gap in our understanding of congenital syndactyly and how to treat it, which in turn improves surgical techniques and recovery time. Well-managed organizations can lead to increased economic productivity and lower healthcare costs in the long term.

The congenital syndactyly representing significantly challenges to the affected individuals worldwide as the result of exact management proportion to the range of deformity and it is important to identified clearly and definitely the range of deformity before reconstruction, where syndactyly complete or in complete and simple or complex as simple when only fusion of skin and soft tissue or as complex when associated with bone or cartilage union[8.9] and complicated when skeletal deformity associated with accessory digits, abnormal tendon, muscles or nerves, and mainly with syndrome,[10,8] as the technique is same for separation but in complex and complicated there are more complications and multi stages surgery or even reoperation with accepted or unsatisfactory outcome in compare to simple syndactyly .

## PATIENTS AND METHOD

The study design incorporates both descriptive and prescriptive methodologies. The research was carried out in the plastic and reconstructive surgery departments of many hospitals in Sana'a city, Yemen, encompassing regular police hospitals, special force hospitals, elite hospitals, and Al Gumhori Teaching Hospital. We conducted the study between August 2021 and August 2023. The study sample comprised individuals of all ages and genders who had congenital syndactyly. There are 18 patients undergoing surgery to repair congenital syndactyly. We exclude patients with severe and complicated syndactyly, as well as those suffering from traumatic or burn-related syndactyly. In order to uncover any more abnormal associations, we perform a thorough clinical examination to evaluate the entire affected upper limb, as well as the opposite hand, chest, and feet. We use hand x-rays to confirm skeletal anomalies and accurately pinpoint any hidden supernumerary digits or joint deformities. In cases with intricate syndactyly, we can employ magnetic resonance imaging or ultrasound to assess the flexor tendon and vascular anatomy. It is advisable to get photography for all occurrences, both pri and post-surgical repair. [(2)] The researcher collected data by administering a questionnaire that she had developed. The questionnaire consisted of two sections: Population statistics: This section contained demographic data, including age and gender. Medical history and surgical outcome: This section included comprehensive information about the hand side, website, degree of deformity, previous surgical history, technique, repair stages, and potential complications. The hands' functionality and appearance, as well as the patient's satisfaction determine the procedure's outcome.

After preoperative preparation of the patient, the procedure was done under general anesthesia, supine position, aseptic technique of the affected hand and side of lower abdomen, with preferred uses of loupe magnify and tourniquet, start marking design of dorsal rectangular flap from the tip of adjacent metacarpal

heads to the beginning of last third of proximal phalanx, The interdigital dorsal zigzag incision continuous from the tips of rectangular flap to the midst crease of the proximal joint of the adjacent finger. Then it cross to the midst of the middle phalanx, and back across the midst of the distal joint crease, the palmar zigzag marking incision is mirror to dorsal incision, end by straight incision between the adjacent proximal phalanx to the level proximal skin crease with transfers extension incision to allow insetting of the flap,[11] (Fig.1).

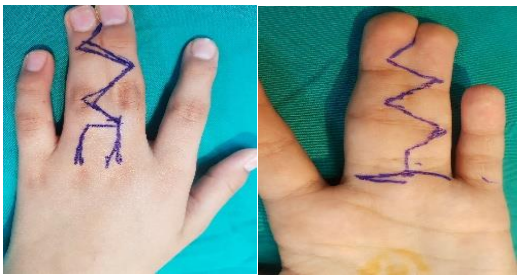

Figure (1) preoperative marking

the tourniquet is inflated and starts to elevate the dorsal interdigital flaps, changes to raise the volar flaps, then separate the fingers from distal to proximal, and attention to identified and preserve the neurovascular bundles during separation, and our limitation of dissection is the digital artery bifurcation, and finally elevate the dorsal rectangular flap (Fig.2 ).

Figure (2) complete separation of the fingers

After bleeding controlled, irrigation of the wound the flaps are fixed in place with 4–0 vicryl suture and the remaining raw area resurface with FTSG from lower abdomen side over the ASIS, the donor site is closed primarily. (Fig.3 ).

Figure (3) inset the flaps and the raw area resurface with FTSG

Proper dressing utilization following surgery is critical for achieving optimal outcomes, both compression and immobilization are important along grafted area and between the separated fingers, for graft take and to avoid flap folding in the newly formed web space, covered with fussidin gauzes, supported with amounts of soft gauzes and lightly wrapped with pandding. In a young patient, the dressing may need to be reinforced with plaster of Paris extend to the elbow and flexed with 90 degrees to reduce the digits' motility. The dressing well remains on for 1 to 3 weeks, the removal depending on the healing and after dressing removal, gentle washing, wound care, light dressing and encourage normal hand use[11,8]. the early and late outcome (fig.4). The majority of patients who underwent the procedure had a follow-up time ranging from three to twelve months.

**Figure (4) the early and late outcome.**

## STATISTICAL ANALYSIS

The data was analyzed using SPSS version 26. Descriptive statistics were employed to summarize the patient demographics, intraoperative details, and postoperative outcomes. p-value less than 0.05 was considered statistically significant.

## RESULTS

The present study prospectively analyzed 31webs operated in 18 patients with congenital hand syndactyly who were treated in the Plastic Surgery department, the youngest patient was treated is 2 years and the oldest patient was 25 years, majority of patients was above 13 years, With median age of study 17.92y. twelve patients (66.67%) where female while six patients (33,33%) are male the ratio of female to male 2:1. six patients (33%) presented with bilateral syndactyly, twelve patients (67%) presented unilateral. eight (44.4%) patients presented with syndactyly on third web space, five (27.7%) presented with syndactyly on second, third and fourth webs-pace, two (11.25%) presented with syndactyly on fourth web space, one (5.55%) presented with syndactyly on first, second and third web space, one (5.55%) presented with syndactyly on second web space and one patients (5.55%) presented with syndactyly on second and third web space, and ten (55%) patients have simple complete syndactyly, four (22.24%)patients have complex syndactyly, one (5.55%) patients have simple incomplete syndactyly and three (16%) patients have complicated syndactyl.

## DISCUSSION:

The proper positioning and depth of the web space are essential for the normal functioning of the fingers, therefore the goals of operation are to create normal web space and enhance aesthetic appearance of the implicated fingers by establishing finger separation and web space reconstruction, we have clarified various ways in achieve this goal, and to ensure long-term stability in the newly created web space is best obtained when it is reconstructed by using a flap, and most articles on syndactyly repair describe the normal skin in the web space as

dorsal in origin, and that supported the dorsal flap technique for reconstructing the web space, [12]as the dorsal flap is believed by some surgeons to best match the dorsal to palmar slop of about 45–50o from dorsal to palmar and covers half of the length of the proximal phalanx in the web commissure reconstruction. many flaps techniques have been described to achieve this goal. Started by **Cronin 1956** used dorsal and palmar flaps [(13)], **Foucher 1990** used dorsal quadri lateral and two volar laterally based flaps [(12)], **Abolwafa 2008** used hourglass dorsal metacarpal island flaps [(14)], **Petra M et al 2020** used hexagonal dorsal flap [(15)]. Our design of the dorsal rectangular, proximally-based flap as most common effective technique for reconstruction the web space, due to simple flap design, ability to modification during surgery, easier to mobilization, obtain more natural slope and the wideness of flap tips decrease flap tip necrosis, add to significant advantage of the technique is simplicity and easily procreation by training doctors with low complication rate.[(12)]

In the **early 1800** syndactyly fingers were separated by knife in the nursery leading to make raw area on the both inner digital sides healed by secondary intension and eventually flexion contracture. [(16)]chronological review of several procedures for separation the syndactylous fingers, the first was done by **Rudtorffer in 1808** particular on web reconstruction by creating epitheliazed tunnel at the base of the future web, **Zeiler in 1810** used a pedicled flap in web reconstruction, **Didot in1849** developed two flaps to be wrapped around into the defects along the length of the syndactylous fingers. **Lennander 1891** used straight line and covered the remaining defects with split thickness skin grafts. **Davis and German1930** emphasized the importance reconstruction of the web and the fact that different treatments required for different syndactylies. **Cronin in1943–1956** introduced of the zigzag-incisions for fingers separation.[(13)]

In our study the congenital syndactyly presented in all age groups, first, second and third decades of life's, the youngest patient at the time of operation is 2-years old and the oldest patient was 25 years, the average age is 17.5 years. majority of

patients belong to age group above 13 years (12) patients, 3-5 years (4) patients, 6-12years (1) patients. **tuma** at al reported that 37 web space repair on 30 patients with age ranged at the time of operation from 8 months to 21 years old with median of 4.8years, and more female affect than males, compatible to our study in female dominant. [(17)] **Dong et** al reported the distributions of the age in their study conducted on 24 patients with 35 web repairs the youngest patient is of 5 months of age and the oldest patients of 35 months of age with mean age 16.7 months' presentation [(18).] **jose et** al reported on 102 patients with 221web spaces, was operated and the age of patients at time of operation ranged from 6 months to 13 years old with average of 2.7 years. [19)]

So the reason for the age variety distribution and mean age different to other studies depend on various factors like the socioeconomic state, ignobility of the proper time for separation, deformity acceptance or under society look to female as most cases in our study are female and presented lateen rigged. Also in this study out of 18 patients the majority of patient have simple complete syndactyly ten patients (55%) and the second most common are complex complete four patients (22%) , Complicated syndactyly three patients (16.6%) and the latest are simple incomplete syndactyly 1 patient (5,5%), **tauma et al** in their study reported that were 8 patients (36%) presented with simple syndactyly 14 patients (63.6%) present with complex syndactyly 6 patients (27.3) presented with complete and 2 patients (9.1%) presented with partial syndactyly [17]. **dong et al** in their study, all patients presented with simple syndactyly, 23 patients presented with complete syndactyly and 12patients presented with incomplete syndactyly [(18)]. **jose et al** in their study, 15 patients presented with simple incomplete syndactyly, 39 patients with simple complete syndactyly and complicated syndactyly presented in 25 patients [(19)].

So syndactyly is heterogeneous in presentation and there is wide different in presentation of syndactyly, our study joining others as the most presentation is simple complete syndactyly and different in our study increase present of

complex and complicated syndactyly may related to improper or no treated on the early child age and coming late for repair which need multi stages to final unsatisfied results. Of 18 patients treated in this study 6 patients (33%) presented with bilateral syndactyly 12 patients (67%) presented unilateral 6 Rt and 6 Lt hand and the most affected web spaces finding of 8 patients (44,4%) presented with syndactyly on third web space, 5 patients (28%) on second, third, and fourth web space, 2 patients (11%) on fourth web space, the least presentation one patient (5.5%) of first, second, and third web space, one patient (5.5%) on second and third web space and one patient (5.5%)with second web space syndactyly, in our results the unilateral syndactyly is the most common and the most affected web between middle and ring finger , may explain other causes of late presentation due to minimal function and aesthetic implication and the our results are similar to **jose** and **tuma** et al in common web space syndactyly. of 18 patients in this study there are 31 webs are operated with dorsal rectangular flap, the outcomes in this technique is good results in 90.4% with little complications rate 9.6% , the most complications related to skin graft as skin infections 2 webs, maceration of flap 1 webs, partial graft loss 2 webs, The complications in my study related to improper follow-up, dressing outside the center by unqualified health worker, remove dressing before the time or due to the difficulties in contact and follow- up of the patients, as the patients leave after discharge from hospital and back with complications and loss the contact with other patients. The complications simply corrected with dressing and local wound care. no partial flap loss or any flap got necrosis, the overall results are reasonable good in most of the simple types cases that are operated in this study while accepted or unsatisfied in complex types which need multiple correction stages.

**Percival and Sykes** state that the major preoperative factors that effect on operative outcome are the complexity of the syndactyly. [(20)] Tuma **et al** in their study reported skin graft loss in 2 web spaces 9.1%, recurrence in 1 web space

4.5% with overall good results in 19 web spaces (87%)[17] Of 18 patients 10 patients' follow-up to 3 months and 5 patients follow up to 12 months. **Dong et al** in their study reported that the average follows up period was ranged from 6 months to 5 yearse,[(18)] There were no complications, only one of the 35 webs developed web creep overall incidence of 3%. **Jose et al** reported that the follow up period ranged from 6 months to 4 years with a mean follow up of 2 years, creep was noted in 12 web spaces 5%[(19)]**Deunk et al** evaluated 27 patients with an average follow-up of 21 years. [(21)] **Keret** et al in their study reported disappropriate or unsecure post-surgical dressing with inadequate follow up is the major factor for poor result.[(22)]As that the surgery for congenital syndactyly is effective process with few post-operative complications, but it should be followed up by doctors and wound care by patient and relatives to assure folly recovered hands. the limitation of our study is short period of follow-up due to loss contact with patient or relatives, lack of attention or not respond to follow-up and participation, the cost for follow-up as most patient from outside the Sanaa capital. And the patients did not respond to our invitation.

## CONCLUSION:

Due to its simplicity in flap design and ease of modification, the dorsal rectangular flap technique is the best choice for web space reconstruction, it is ideal for all types of syndactyly as the dorsal skin easily mobilizes to provide more natural web space slop. This technique also has a low complication rate, as its broad size decrease tip necrosis. generally, simple syndactyly yields a good functional outcome with less complications whereas complex and complicated syndactyly gives accepted or unsatisfied outcome and the need for multiple correction stages, related to the extent of deformity and occurrence of wound complications. Careful planning and meticulous surgical techniques can minimize potential errors and allow satisfactory separation of syndactyly.

## References:


1- 1-Kay SP. Syndactyly. In: Green DP,Hotchkiss RM, Pederson WC, Wolfe SW (Eds.) Green's operative hand surgery. 5th edn. Philadelphia, Elsevier Churchill Livingstone, 2005, Vol. 2: 1381–91.

2- Green DP, Hotchkiss RM, Pederson WC, et al, editors. Green's operative hand surgery, 5th ed. Philadelphia, PA: Elsevier Churchill Livingstone. 2005; 1381-1391.

3- Zou H, Niswander L. Requirement for BMP signalling in interdigital apoptosis and scale formation. Science 1996; 272: 738-

4- Man L X, Chang B. Maternal cigarette article smoking during pregnancy increases the risk of having a child with a congenital digital anomaly. PlasReconstr Surg. 2006;117(1):301–08. [PubMed] [Google Scholar]

5- Luo J Y, Fu C H, Yao K B, Hu R S, Du Q Y, Liu Z Y. [A case-control study on genetic and environmental factors regarding polydactyly and syndactyly] Zhonghua Liu Xing Bing Xue Za Zhi. 2009;30(9):903–906. [PubMed] [Google Scholar]

6- 6- Dao K D, Shin A Y, Billings A, Oberg K C, Wood V E. Surgical treatment of congenital syndactyly of the hand. J Am Acad Orthop Surg. 2004;12(1):39–48. [PubMed] [Google Scholar]

7- Oda T, Pushman A G, Chung K C. Treatment of common congenital hand conditions. Plast Reconstr Surg. 2010;126(3):121e–133e. [PMC free article] [PubMed] [Google Scholar]

8- Upton J. Management of disorders of seperation - Syndactyly. In: Mathes Plastic Surgey, Mathes SJ, Hentz VR (eds). Saunders Elsevier, Philadelphia, 2006: 156, 163

9- Goldfarb C A. Congenital hand differences. J Hand Surg Am. 2009;34(7):1351–1356. [PubMed] [Google Scholar]

10- Lumenta D B, Kitzinger H B, Beck H, Frey M. Long-term outcomes of web creep, scar quality, and function after simple syndactyly surgical treatment. J Hand Surg Am. 2010;35(8):1323–1329. [PubMed] [Google Scholar]

11- Kozin S H, Zlotolow D A. Common pediatric congenital conditions of the hand. Plast Reconstr Surg. 2015;136(2):241e–257e. [PubMed] [Google Scholar]

12- Moss AL, Foucher G. Syndactyly: can web creep be avoided?. J Hand Surg Br. 1990, 15: 193–200

13- Cronin T D. Syndactylism: results of zig-zag incision to prevent postoperative contracture. Plast Reconstr Surg (1946) 1956;18(6):460–468. [PubMed] [Google Scholar]
14- Wafa AM. Hourglass dorsal metacarpal island flap: a new design for syndactylized web reconstruction. J Hand Surg Am 2008;33:905-908
15- Petra M. Grahn, MD* Noora N. Nietosvaara MD*† Antti J. Sommarhem MD, PhD* Yrjana A. Nietosvaara MD, PhD*, New Simple Technique for Syndactyly Release, Published online 14 May 2020.)
16- Netscher D T, Baumholtz M A. Treatment of congenital upper extremity problems. Plast Reconstr Surg. 2007;119(5):101e–129e. [PubMed] [Google Scholar]
17- Tuma P, Arrunategui G, Wada A, Friedhofer H, Ferreira MC. Rectangular flaps technique for treatment of congenital hand syndactyly. Rev Hosp Clin Fac Med Sao Paulo. 1999;54(4):107-10
18- - Dong Y, Wang Y. The use of a dorsal double-wing flap without skin grafts for congenital syndactyly treatment A STROBE compliant study Medicine (Baltimore). 2017;96(30):e7639.
19- Jose R M, Timoney N, Vidyadharan R, Lester R. Syndactyly correction: an aesthetic reconstruction. J Hand Surg Eur Vol. 2010;35(6):446–450. [PubMed] [Google Scholar]
20- Percival NJ, Sykes PJ. Syndactyly: a review of the factors which influence surgical treatment. J Hand Surg. 1989;14B:196–200.
21- 21- Deunk J, Nicolai J P, Hamburg S M Long-term results of syndactyly correction: full-thickness hand syndactyly. Rev Hosp Clin Fac Med Sao Paulo. 1999;54(4):107-10
22- 22- Keret D, Ger E. Evaluation of a uniform operativ technique to treat syndactyly. J Hand Surg Am.1987;12:727–729.

# ارتفاق الأصابع الخلقي وترميمه بواسطة سديله موضعية من ظهر الاصابع في اليمن

د. نصر القدسي [*]، د. يحيى السياغي [**]، د. بشير عثمان [***]، د. عبد المجيد اليافعي [****]

الملخص:

**التمهيد:** يعتبر ارتفاق الأصابع او الأصابع الملتصقة من أكثر التشوهات الخلقية التي تصيب اليد وتتميز بدرجات متفاوتة من الالتحام اما بالجلد، الانسجة تحت الجلد بدون او مع التحام العظام لأصبعين متجاورتين او أكثر، مما يترتب على ذلك من اثار جمالية ووظيفية كبيرة، لذلك فان الفصل الجراحي للأصابع ضروريا لاستعادة وظيفة اليد، تحسين المظهر وتيسير النمو الطبيعي لليد مع تقليل التعقيدات والإجراءات.

**المنهجية:** الدراسة وصفية مستقبلية اجريت على 18 مريض ومريضة خضعوا لفصل 31 إصبع ملتصقة تليها الترميم الجراحي لإصلاح التشوهات الخلقية في هيئة المستشفى الجمهوري ومستشفى النخبة ومستشفى الشرطة النموذجي خلال الفترة الممتدة من شهر أغسطس 2021 الى شهر أغسطس 2023 على مختلف الاعمار ذكور واناث.

**النتائج:** شملت الدراسة مرضى تتراوح أعمارهم بين سنتين و 25 سنة وأغلبية المرضى الذين ينتمون إلى فئة البالغين والشباب اللذين اعمارهم تزيد عن 13 سنة (66.7 %)، متوسط المشاركين في الدراسة 17.92 سنة، ومعظمهم من الإناث اللاتي لديهن التصاق اصبعين ما بين الاصبع الوسطى والخنصر (44.5 %)، ودائما ما تكون بسيطة ومكتملة الى اطراف الأصابع وبدون التصاق العظم (55.6 %)، و 22 % ذات تركيبة مركبة و16.6 %معقدة التركيب، و تم اجراء تقنية إعادة ترميم للارتفاق

[*] أستاذ الجراحة العامة والتجميل جامعة صنعاء، استشاري اول في الجراحة التجميلية والترميم مستشفى الجمهوري التعليمي.

[**] استشاري اول في الجراحة التجميلية والترميم، رئيس قسم الجراحة التجميلية في مستشفى الشرطة النموذجي ومستشفى الجمهوري التعليمي المنسق العام للبورد اليمني للجراحة التجميلية والترميم.

[***] استشاري في الجراحة التجميلية والترميم في مستشفى القوات الخاصة

[****] أخصائي الجراحة التجميلية والترميم في مستشفى الجمهوري التعليمي.

بواسطه سديله موضعية مأخوذة من ظهر الاصابع مع سدائل تداخلية متعرجة المسار وبقية المنطقة تم تغطيتها بزراعة جلد كامل وكانت نسبة نجاح التقنية جيدة 90.4٪ مع حدوث بعض المضاعفات بنسبة 9.6 ٪، جلها ذات صلة بالجلد المزروع مثل التهابات الجلد في غشاء ما بين الأصابع لعدد (2) و انحلال الجلد لعدد(1) وتنخر الجلد الجزئي لعدد (2).

**الاستنتاجات**: تمتاز تقنية ترميم ارتفاق الأصابع بواسطة سديله موضعية مأخوذة من ظهر الأصابع بكونها ذات تصميم بسيط وقابلية عالية للتعديل بسهولة أثناء العملية مع تحقيق تغطية أكثر للجلد مع إمكانية تطبيقه في غالبية أنواع ارتفاق الاصابع بسبب انخفاض معدل المضاعفات المتعلقة، وبساطه تطبيقها بواسطة أطباء جراحة التجميل المتدربون.

**الكلمات المفتاحية**:ارتفاق الأصابع ، التشوهات الخلقية لليد ، زراعة الجلد، إعادة بناء غشاء ما بين الأصابع ، سديله موضعيه .