



İZMİR
KATİP CELEBİ
ÜNİVERSİTESİ



İZMİR
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ACELEMDER
ACİL EL CERRAHİSİ ve
MİKROCERRAHI DERNEĞİ



T.C. SAĞLIK BAKANLIĞI
SİNDİKALİZASYON VE
MİKROCERRAHI VE
REKONSTRÜKSİYON
VAKFI



3. INTERNATIONAL MICROSURGERY MEETING IZMIR

27-29 SEPTEMBER 2024

ABSTRACT BOOK



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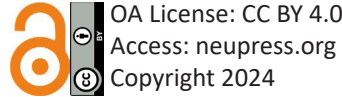
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GENERAL INFORMATION

Dear Colleagues,
International 3rd İzmir Microsurgery Congress Invitation

My dear friends and colleagues,
Plastic, Reconstructive and Aesthetic Surgery family has been a fast-growing community but faced with challenges from other specialties violating our domain. On this regard, we as the leading generation, feel the responsibility of holding on to the 'reconstructive surgery' in order to protect our field. We know that the best way to flourish in the world of reconstructive surgery is to continually innovate. Our seniors have been pioneers in the world in terms of innovation and we hope to continue this tradition. The first step toward innovation is to build a strong foundation. Maintaining standardization in plastic surgery education, attaining interest and quality in microsurgery are the main objectives in this meeting. We believe that these targets were approached with the previously organized two international microsurgery congresses in Konya. Hopefully we would be organizing the 3rd international microsurgery congress in İzmir in September 2024.

The 3rd International İzmir Microsurgery Meeting would be held on 27-29th of September 2024, with the honorary presidency of JP HONG. The meeting would be held with the partnership of İzmir Katip Çelebi University, Turkish Plastic, Reconstructive and Aesthetic Surgery Society, Emergency Hand and Microsurgery Society and Reconstructive Microsurgery Society. I am deeply honored and excited to introduce many new programs in this meeting:

1. Live surgery in microsurgery. There would be 2 live surgeries in the last day of the meeting. Attendees could be able to ask questions to the surgeon during the operation.
2. Sewing with the masters. Opportunity to suture together under a microscope with a senior surgeon would be an unforgettable experience.
3. Microsuturing Contest. Anastomosis under microsurgery would be assessed in terms of speed and quality. Participants at the final four would be assessed not only by the jury, also by the attendees of the meeting. The winner of the contest would be awarded by Prof. JP HONG.

4. Academic Achievement Awards in Microsurgery:

1) Prof. Ömer Özkan Best Poster Award: Posters in the field of microsurgery will be accepted under the condition of not been published or presented elsewhere. Winner would be awarded by Prof. Ömer ÖZKAN himself.

2) Prof. Türker Özkan Best Save Award: Posters in the field of salvage microsurgery will be accepted under the condition of not been published or presented elsewhere. Winner would be awarded by Prof. Türker ÖZKAN himself.

3) Best case award: Posters in the field of microsurgical case reports will be accepted under the condition of not been published or presented elsewhere. Winner of the Best Case would be awarded.

Finally, I want to remind everyone that this meeting is focused on supporting and helping the next generation of reconstructive surgeons. Due to the generous donations from senior plastic surgeons around the country, we will continue to have scholarships for residents as same as the previous meetings. We are grateful to the donations and this year; we will increase the scholarship (waived registration and full accommodation support) to the first 100 residents applying. On behalf of the organizers, I want to thank our generous donors again. Most of all, our community in microsurgery is small, but strong in terms of friendship. Numerous experts from Türkiye and from abroad will take part to share their expertise and their friendship. I am honored to invite all of you to this exciting and fun program. We will continue the tradition of teaching, sharing and exploring as well as to go beyond to search new ideas in Reconstructive microsurgery in the beautiful city of İzmir. Please join us on the last week of September (27-29th September).

With my best regards,

Mehmet ALTIPARMAK, MD
*3rd International İzmir Microsurgery Meeting President
Bodrum Acıbadem Hospital Plastic,
Reconstructive and Aesthetic Surgery Consultant*

PARTNERS OF ORGANIZATION



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Joon Pio Hong (South Korea)

John Pak

Jyoshid Balan (India)

Maximillian Kueckelhaus

Marco Innocenti (Italy)

Mehmet Altıparmak

Mustafa Kürşat Evrenos

Paloma Malagon Lopez

Richard Chang

Shadi Ghali

Narayanamurthy S (India)

Terrence Jose Jerome

Usama Abdelfattah (Egypt)

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Aniket Dave
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Erin Brown
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Joon Pio Hong
Jyoshid Balan
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Narayanamurthy S
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Jinne Kim Page
Mehmet Altıparmak
John Pak
Maximillian Kueckelhaus
Richard Chang
Burak Özkan
Christine Deuschman

* Bilim kurulu listesi isme göre alfabetik olarak sıralanmıştır.

SCIENTIFIC PROGRAMME

September 27, 2024 Main Hall		
08.30-09.15	Register	
09.15-09.30	Opening Ceremony	
	Panel, Basics in Microsurgery	Chair
09.30-09.45	Tips & Tricks for Microsurgical Anastomosis	Paloma Malagon Lopez
09.45-10.00	The missing links of a successful anastomosis	Narayanamurthy S.
10.00-10.15	Role of Plastic Surgeon in Oncology	Can Cediti
10.15-10.45	Coffee Break	
	Panel, Use of Ultrasound in Microsurgery	Chair
10.45-11.00	Patient Specific Plastic Surgery (Use of Ultrasound in Flap Design)	Erin Brown
11.00-11.15	Preoperative planning using ultrasound. How to make microsurgery easy?	Paloma Malagon Lopez
11.15-11.30	Mobile/Pocket Ultrasound in Microsurgery	Ben Moodie
	Panel - Pediatric Reconstruction	Chair
11.30-12.00	Birth Brachial Plexus Injury-Recent Trends Free Tissue Transfer in Pediatric Population	Jyoshid Balan
12.00-13.00	Lunch	
	Panel - Reconstruction of Complex Injuries	Chair
13.00-13.15	Delayed soft tissue and bone reconstruction in war injuries	Usama Abdelfattah
13.15-13.30	Use of the ALT flap, thinned simultaneously with ultrasound-assisted liposuction, in large defects	Bilsev Ince
13.30-13.45	Evolution of Diabetic Foot Reconstruction	JP Hong
	Panel - Experiences in Microsurgery in Private Practice	Chair
13.45-14.00	Building a Private Practice Microsurgery Practice	Jinne Kim Page
14.00-14.15	Recipient vessel selection in Head and Neck reconstruction	Aniket Dave
14.15-14.30	Microsurgery Experience in a Private Hospital Without Assistants or Team	Mehmet Altıparmak
14.30-14.45	Microsurgery in private practice	Ben Moodie

September 28, 2024 - Main Hall		
	Panel - Hand Reconstruction	Chair
09.00-09.15	Microsurgical reconstruction of the Scleroderma hand	Erin Brown
09.15-09.30	CLIFFs (Cute Little Free Flaps) that I would like to conquer	Narayanamurthy S.
09.30-09.45	Unusual reconstruction with vascularized bone	Marco Innocenti
09.45-10.00	Thumb reconstruction using transfer of the ring finger	Bilsev İnce
	Panel - Lymphedema Treatment	Chair
10.00-10.30	Preoperative ultrasound evaluation for lymphaticovenous anastomosis surgery in advanced breast cancer-related lymphedema. LVA Improved Uncompensated Phlebolymphe'dema and Ameliorated Wound Healing in Chronic Venous Ulcer	Richard Chang
10.30-10.45	Algorithm for genital lymphedema	Usama Abdelfattah
10.45-11.15	Coffee Break	
	Panel - Trunk Reconstruction	Chair
11.15-11.30	Local perforator flaps in complex posterior trunk reconstruction	Marco Innocenti
11.30-11.45	Perspectives in Microsurgical Abdominal Wall Reconstruction	Can Cediti
11.45-12.00	Reconstruction Strategies of Extensive Posterior Trunk Defects	Burak Özkan
12.00-13.00	Lunch	
	Panel - Head and Neck Reconstruction	Chair
13.00-13.30	Microsurgery: the present and the future	JP Hong
13.30-13.45	Robotic Platform for microsurgery the next step in evolution	Marco Innocenti
13.45-14.00	Functional and aesthetic considerations in Head and Neck reconstruction	Aniket Dave
14.00-14.30	Head and Neck Reconstruction (Pharunx and Toung'e) Superthin Back Flaps for Neck Burns Reconstruction	Ben Moodie
	Panel, Breast reconstruction	Chair
14.30-14.45	Breast Reconstruction - the oncologic point of view	Christine Deuschman

14.45-15.15	Aesthetic Considerations in DIEP Flap Breast and Abdomen Reconstruction Troubleshooting Intraoperative Challenges in DIEP Flap Reconstruction	Jinnie Kim Page
15.15-15.30	Limitations and Possibilities in Microsurgical Breast Reconstruction	Can Cediti
15.30-16.40	Oral Presentation Session 1	
	A Rare Case Report of Frequent Recurrence of Calvarium in an Adult Patient: Hemangioendothelioma and Scalp Reconstruction	Erkan YANIKOĞLU, Can EKINCI, Furkan ÖZDOĞAN, Gülşen ÖZŞAHİN, Ahmet BARAN GÜNAYDIN, Aydan AYŞE KÖSE
	Amputation versus reconstruction for a patient with Rothmund Thompson Syndrome	Hüseyin Emre ULUKAYA, Sabri ÖZTÜRK, Alper TAŞAN, Mehmet Fatih ÇAMLI, Egehan GÜNGÖRMEZ, Kamuran Zeynep SEVİM
	Re-Revascularization Of The Thumb Which Was Replanted After Traumatic Amputation 10 Years Ago	Buket DURSUN ÇOBAN, Emrah Kağan YAŞAR, Halil IŞIK, Murat Şahin ALAGÖZ
	Functional Breast Reconstruction in Supernumerary Breast and Ectopic Breast Tissue in Poland's Syndrome	Hüseyin Emre ULUKAYA, Egehan GÜNGÖRMEZ, Murat Doğuş ÇERİKAN, Sabri ÖZTÜRK, Mehmet Fatih ÇAMLI, Kamuran Zeynep SEVİM
	Our clinical experience in distal end amputations	Mahmut Can KARATOPRAK, Serkan ERBATUR, Tuba AVCI, Servan DAĞ, Baran İŞLİYEN
	A Case Report of Vertical Rectus Abdominis Free Muscle Flap in The Treatment of Recurrent Left Temporal Scc Burak Topalhasan, Ege Genç, Çağla Çiçek, Gaye Filinte	Burak TOPALHASAN, Ege GENÇ, Çağla ÇİÇEK, Gaye Taylan FILİNTE

	Tamai Zone 2 Only Artery Replantation	Anil Uğur ŞAHİN
September 29, 2024 - Main Hall		
09.00-10.00	Live Surgery	
10.00-11.00	Oral Presentation Session 2	
	Removing Foreign Bodies During Microsurgery And Non-Microsurgery Procedures From Hand And Upper Extremity By Using Neodymium Magnet: Surgical Technique And Usability	Okyar ALTAŞ , Kemal ZENCİRLİ, Kağan ÇEVLIK, Doğan KIRAL , Alperen KORUCU, Alperen ELİBOL
	Demographic Characteristics and Etiological Factors of Hand Injuries: A Retrospective Study	Fatma Ezgi YORGANCILAR
	Our Experience with Reconstruction Using Free Flap in Head and Neck Tumors	Yasin CANBAZ, Agit SULHAN, Kadir Barış TIRYAKI, Yalçın AKBULUT, Mehmet ALBAYRAK, Tungahan DENİZ, Perçin KARAKOL
	Reverse Homodigital Island Flap in Fingertip Reconstructions	Yasin CANBAZ, Yalçın AKBULUT, Okyar ALTAŞ, Kadir Barış TIRYAKI, Ramazan Melih PARLAK, Perçin KARAKOL
	Contribution of check rein ligament release to treatment efficacy in pip joint contractures due to dupuytren contracture	Ömer BUHŞEM
	Reconstruction Of Scapular Region With Pedicled Latissimus Dorsi Muscle Flap Caused By Different Etiologies	Azmi Can OFLUOĞLU, Alperen PALA, Çağla ÇİÇEK, Gaye FILİNTE
	Timing of Radial Club Surgery Impact on Functional Outcomes: Prospective Follow-up Case Studies (2000-2020)	İsmail Bülent ÖZÇELİK, Okyar ALTAŞ , Yücel AĞIRDIL, Muath AL-CHALABI

	Our Experiences With Free Flap In Patients With Composite Defects In The Head And Neck Region After Tumor Resection	Menekşe KASTAMONI, Süleyman ÇEÇEN, Güzin Yeşim ÖZGENEL
	A Practical, Portable and Low Cost Education Model for Basic Microsurgery Training	Emrah İŞİKTEKİN, Yusuf Furkan KIRIŞ, Betül GÖZEL
	Long-term outcomes of free fibular flap in pediatric patients	Rana KAPUKAYA, Barış SARI
	Q&A	
11.00-11.10	Break	
11.10-12.10	Oral Presenttion Session 3	
	Thoracic Reconstruction with Contralateral Free Flap Following Pedicled Flap Complication and Postoperative Complications: A Case Report	Bora Edim AKALIN
	Debulking After Flap Reconstruction – How Soon is Too Soon	Alper TAŞAN, Mehmet Fatih ÇAMLI, Burak Tunahan EKİNCİKLİ, Rüçhan OKUTAN, Kamuran Zeynep SEVİM
	Vascular Anomalies Of Lower Extremity	Mehmet Uğur OKAN, Furkan Altar DENİZ, Süleyman ÇEÇEN, Güzin Yeşim ÖZGENEL, Selçuk AKIN
	Planning and Use of 3D Printers in Head and Neck Reconstruction Operations Using Only Reconstruction Plates	Enes YILMAZ, Abdullah DEMİREL, Süleyman ÇEÇEN, Selçuk AKIN, Güzin Yeşim ÖZGENEL
	Approach to Perineal Reconstruction - Our Single Center Experience and Review of Literature	Murat SEVEN, Mehmet Fatih ÇAMLI, Doğu PAPATYA, Rüçhan OKUTAN, Larasu YILDIRAN, Ömer Faruk DİLEK

	Head And Neck Reconstruction With Microsurgery In Geriatric Patients	Ahmet Özgür ALKAN, Umut DALGIÇ, Süleyman ÇEÇEN, Selçuk AKIN, Güzin Yeşim ÖZGENEL
	Mandibular Reconstruction with Free Fibula Flap, Our Clinical Experience	Erkan YANIKOĞLU, Can EKİNCİ, Ahmet COŞAR, Mert YAVUZ, Aydan AYŞE KÖSE
	Our Clinical Experience in Regenerative Medicine Applications and Cellular Therapies in Plastic Surgery	Fatma Bilgen BEKERECİOĞLU
	Free Differential Thickness ALT Flap for Severe Hemifacial Atrophy in a Child: A Case Study	Manoj ANANTHAPPAN, Narayanmurthy SUNDARAMURTHY, Surya Rao RAO VENKATA MAHIPATHY, Praveen Ganesh NATARAJAN
	Our clinical experience in hand amputations	Mahmut Can KARATOPRAK, Serkan ERBATUR, Yusuf İnan NAKİPOĞLU, Servan DAĞ, Volkan ÖZEL, Baran İŞLİYEN
	Management of Complications Developing After the Repair with Free Vascularized Peroneal Flap in Pediatric Patients.	Rana KAPUKAYA, Barış SARI
	Q&A	

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ABSTRACT BOOK

FUNCTIONAL BREAST RECONSTRUCTION IN SUPERNUMERARY BREAST AND ECTOPIC BREAST TISSUE IN POLAND'S SYNDROME

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Introduction

Poland's syndrome is a sporadic congenital syndrome characterized by congenital malformation of the anterior chest wall, accompanied by ipsilateral upper extremity deformity (1)(2). The treatment options for this syndrome require rare and challenging combinations (3). This study aims to improve functional breast reconstruction options in congenital breast anomaly patients.

Case Report

A 20-year-old female patient with Poland's syndrome presented to our outpatient clinic with the complaint of supernumerary nipples on the left side and breast asymmetry. The patient had two nipples and accessory breast tissue approximately 6 cm apart on the left midclavicular line. The total absence of fourth, fifth and sixth costal cartilages in our patient and the soft tissue on the syndromic side limited our reconstruction options. The atypically located accessory breast was excised through the planned incisions. The more developed gland tissue was lowered inferiorly as a centrally based dermaglandular flap. Nearly 300cc fat grafting was performed to the syndromic side to obtain a symmetrical image.

Conclusion

Poland syndrome is a congenital syndrome characterized by agenesis of the pectoralis major muscle, absence or hypoplasia of the pectoralis minor muscle, variable number of rib defects, breast and nipple anomalies, lack of subcutaneous tissue. Breast deformities in women with Poland syndrome can range from mild hypoplasia to aplasia (4).

Reconstruction options should be planned patient-based in syndromic patients. Age, the patient's requests and limitations should be evaluated in detail. After the reconstruction which was performed in this case, the patient stated that her social life was positively affected due to a more

symmetrical breast silhouette.

Keywords: Breast reconstruction, Poland's syndrome, supernumerary breast

Reference

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REMOVING FOREIGN BODIES DURING MICROSURGERY AND NON-MICROSURGERY PROCEDURES FROM HAND AND UPPER EXTREMITY BY USING NEODYMIUM MAGNET: SURGICAL TECHNIQUE AND USABILITY

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Removal of multiple ferromagnetic foreign bodies from the upper extremities can be challenging, often requiring extensive incisions and repeated radiographic imaging. This study aimed to evaluate the effectiveness of neodymium magnets in facilitating the removal of ferromagnetic foreign bodies while performing microsurgical procedures, such as work accidents or the other side minimizing incision size and radiation exposure. Fifteen patients with suspected ferromagnetic foreign bodies in the upper extremities were included in this study. The presence of ferromagnetic objects was confirmed using neodymium magnets prior to the surgery. In the operating room, the magnets were sterilized and used to locate and remove foreign bodies. The surgical process involved the use of two different sizes of neodymium magnets to locate the foreign bodies, followed by meticulous dissection and removal. All foreign bodies were successfully removed, with an average of 0.8 radiographic images per case. In addition to its advantages for health professionals and patients, this magnet, which has a very low cost, can be accessed from anywhere. To date, no postoperative infections have been reported. The use of neodymium magnets allows for smaller incisions and reduced radiation exposure compared to traditional techniques. This study highlights the potential of neodymium magnets as a valuable tool for the management of ferromagnetic foreign bodies in the upper extremities, offering improved patient outcomes and reduced surgical morbidity.

Keywords: Neodymium magnets, foreign bodies, upper extremity

DEMOGRAPHIC CHARACTERISTICS AND ETIOLOGICAL FACTORS OF HAND INJURIES: A RETROSPECTIVE STUDY

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Introduction

Incidence rates of traumatic hand injuries for Emergency Department applications reported in the literature range from 6.6% to 28.6% in the literature (Angermann ve Lohmann, 1993; De Putter ve ark., 2012; Hill ve ark., 1998; Rosberg ve Dahlin, 2004). Among the different upper extremity injuries, including injuries to the finger, wrist, lower and upper arm, elbow, and shoulder, finger injuries are by far the most common injuries. The consequences of hand trauma can be serious and recovery takes a long time and treatment process. Self-assessed hand function, satisfaction with daily tasks, perceived health and quality of life improve within a few months (Cederlund ve ark., 2010). More intense pain, symptoms of post-traumatic stress disorder, and work-related injuries may result in a delayed return to work.

Patients who sustain acute hand injuries experience loss of hand function temporary or permanently. Therefore, hand and wrist injuries result in significant costs to the public and private sectors. Most of these costs arise from lost productivity rather than healthcare costs. In particular, work-related hand injuries result in higher health care costs and societal burdens than injuries occurring during leisure and personal activities (Rosberg ve ark., 2013).

Knowing and evaluating the demographic and etiological factors of hand traumas will first provide regional data and then data for our country. According to our literature review, we could not find any data for our region.

Aim

The aim of our study was to evaluate patients with hand injuries who applied to our clinic in order to shed light on the epidemiology of hand injuries, which are frequently encountered in the emergency department and constitute a significant workload; and which cause serious loss of labor and function if not diagnosed and treated correctly in a timely manner.

Material And Methods

In our study, the records of 163 patients who applied to our hospital

emergency department with hand injuries and were treated between January 1, 2014 and September 1, 2024 were evaluated retrospectively. Age, gender, etiological cause, and injury severity were determined and data distribution was analyzed.

Results

In our study, it was found that the mean age of the patients was 34.25 ± 16.96 ; 79% were male, 21% were female; 9.8% had primary school, 25.1% had secondary school, 43.5% had high school, 6.1% had undergraduate and postgraduate education; 9.8% lived in the village, 31.3% in the district, and 52.9% in the city center (Table 1).

In our study, it was found that 16.7% of the patients had work accidents, 44.3% had trauma, 3% had gunshot wounds, 1.3% had compression, 34.6% had stab-cutting tool injuries; 62.6% had tendon injuries, 0.6% had nerve injuries, 23.3% had vein injuries, 11% had amputation injuries, and 2.5% had bone fracture injuries (Table 2). When we look at the injured fingers, right hand 1st finger 7.3%, 2nd finger 8.6%, 3rd finger 3.7%, 4th finger 3.1%, 5th finger 6.1%; left hand 1st finger 6.1%, 2nd finger 9.2%, 3rd finger 3.1%, 4th finger 4.9%, 5th finger 3.1% were injured (Table 2).

Conclusion

As a result, it was seen that the average age of our patients was 34, the vast majority of them were male, high school graduates and lived in the city center. It was determined that the majority of hand injuries occurring in our city were due to trauma and work accidents; these injuries were more severe injuries that caused the most tendon damage and the second finger of the left hand was damaged most frequently. Although our patient series cannot provide a general perspective of hand injuries in our country's conditions, it does give an idea about the characteristics of patients who applied to the emergency services with hand injuries in our city and its surroundings. For prevention, the education of families, society and individuals, increasing protective measures against accidents, and increasing treatment and rehabilitation opportunities for those injured are the most important factors to prevent injuries.

Keywords: Hand injuries, trauma, tendon injuries, epidemiology, work-related accidents

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OUR EXPERIENCE WITH RECONSTRUCTION USING FREE FLAP IN HEAD AND NECK TUMORS

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Introduction

Head and neck tumors pose a significant problem due to their location and recurrence frequency. Reconstruction in this area, especially when involving osseous defects like the mandible, is challenging. Free flap reconstruction is frequently used in our practice for large defects secondary to tumor excision and requires surgical expertise. This study aims to share our experience with free flap reconstruction in head and neck tumors.

Materials and Methods

This study evaluates 10 patients with head and neck tumors who underwent free flap reconstruction between February 2023 and August 2024. Five were male and five were female, with an average age of 52.5 years (range 22-74). The average body mass index was 27.2. Seven cases had squamous cell carcinoma, two had ameloblastoma, and one had an aneurysmal cyst. Free fibula flap reconstruction was performed in all patients, with one also receiving a radial forearm flap. All cases involved end-to-end anastomosis, with one case requiring a vein graft. Bilateral neck dissection was performed in one patient, and unilateral dissection in three. The fibula was used for mandibular reconstruction, and preoperative imaging, including CT angiography and Doppler ultrasound, was used in patients with lower extremity trauma. Postoperative complications included one case requiring revision for arterial insufficiency and two cases of minor detachment treated with secondary suturing. No flap loss occurred, and there were no long-term complications or tumor recurrence.

Discussion

Reconstruction in the head and neck region is a major challenge in reconstructive surgery. The fibula osteoseptocutaneous flap is our preferred option for osseous defects like the mandible. It offers advantages such as easy shaping, a long pedicle, minimal donor site morbidity, and suitability for dental implantation. However, it requires surgical expertise and is technically demanding.

Conclusion

Free flap reconstruction remains an essential option for head and neck tumors, offering effective solutions for complex defects.

Keywords: Free flap, head and neck tumor, microsurgery

OUR CLINICAL EXPERIENCE IN DISTAL END AMPUTATIONS

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Introduction

Digital and hand replantation has progressed since the first replantation of a completely amputated digit by Japanese orthopedic surgeons, Tamai and Komatsu, in 1965, which was reported in 1968. With the advancement of microsurgery techniques and instrumentation, replantation is effective in treating digital and hand amputations. Successful digital and hand replantation can provide excellent aesthetic outcomes by maintaining the number and length of the digits. However, replantation should not be done routinely without considering postoperative functional outcomes. Achieving best outcomes after replantation is not solely related to the success of microvascular anastomosis but also to the adequacy of bone fixation, tendon and nerve repair, and soft-tissue coverage. The vascular anatomy of the digits is well described. The thumb, index, and long fingers have a dominant ulnar digital artery; in the ring and small fingers it is the radial digital artery.

Case

Nowadays, it is recognized that successful fingertip replantation is superior to any other reconstructive choice.²⁵ Fingertip replantation is more demanding than proximal digital replantation because veins are small and sometimes difficult to find. If a suitable vein cannot be found, artery repair-only fingertip replantation is a good treatment option; however, venous congestion is an inevitable phenomenon. Venous congestion of the replanted segment can be managed by pin-prick every 3 to 6 hours for 5 to 7 days. Several methods have been described to prevent venous congestion until internal circulation is established: removal of the nail bed, use of medical leeches, and a heparin-soaked gauze dressing. A 50-year-old male patient was admitted to our hospital with total amputation of the thumb of the left hand due to entrapment with a rope. Amputate crush and dirty traced. The patient was operated urgently under local anaesthesia. Dorsal vein could not be repaired due to dorsal nail bed amputation. Volar veins could not be repaired due to the severity of the injury. The finger was regularly bled for venous congestion.

Discussion-Conclusion

Indications and contraindications for replantation are generally agreed on, but they continue to evolve as excellent outcomes are achieved at centers with experience and expertise. Form and function can be restored with avulsion injuries and distal amputations, with good results and high patient satisfaction.

Keywords: replantation, finger, amputation, distal

REVERSE HOMODIGITAL ISLAND FLAP IN FINGERTIP RECONSTRUCTIONS

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Introduction

The homodigital pedicled digital artery island flap is a useful option for soft tissue reconstruction in the fingertip and pulp, and holds an important place in our practice. This study aims to present our experiences with the reverse homodigital island flap in patients with fingertip and pulp defects.

Materials And Methods

Patients with fingertip and pulp defects who underwent reverse homodigital island flap surgery between February 2023 and August 2024 were evaluated. Six cases were included, with a mean age of 48.5 (range 28-75), all male. All defects were secondary to trauma, and flap surgery was performed in the acute period. Diabetes was the most common comorbidity, seen in 33% of patients. In all cases, the flap pedicle was proximally ligated and raised by dissecting from the digital nerve. The donor site was covered with a full-thickness skin graft (FTSG) in 4 patients, and primary closure in 2. The mean hospital stay was 6.3 days (range 3-9). Venous congestion occurred in 2 patients but resolved without further intervention. No other complications were observed, and long-term evaluation showed normal distal interphalangeal joint (DIP) motion and no contractures.

Discussion

The hand is a unique functional limb. The reverse homodigital island flap provides adequate pulp tissue and is a safe, well-vascularized option for soft tissue defects without osseous or neurovascular injury. The flap is designed from the lateral aspect of the proximal phalanx, preserving the arc of the digital artery at the DIP joint. It is raised by separating it from the digital nerve and ligating the digital artery for reverse flow, then adapted to the defect. The donor site is closed with either FTSG or primarily. This single-stage procedure offers good cosmetic outcomes and pulp tissue, but requires surgical expertise and has minimal donor site morbidity.

Conclusion

Managing distal phalanx pulp amputations, especially with exposed bone, is difficult. When replantation is not possible, the island flap is a classical method that preserves finger length. Although its use has decreased recently, we emphasize its continued relevance by highlighting these cases in our practice.

Keywords: Reverse Homodigital Island Flap, fingertip defect.

DEBULKING AFTER FLAP RECONSTRUCTION – HOW SOON IS TOO SOON

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Introduction

In reconstructive surgery, the primary goal of using flaps is to cover tissue defects and protect exposed vital structures. Once the viability of the flap is ensured, thinning the flap is often necessary for aesthetic and functional purposes. This study aims to contribute to the literature by analyzing flap thinning procedures performed in our clinic in terms of technique and timing.

Results

This study included 20 patients operated between 2014 and 2024 at Şişli Hamidiye Etfal Training and Research Hospital. The types of flaps used were as follows: 4 free fasciocutaneous ALT flaps, 2 free radial forearm flaps, 7 inguinal flaps, 1 bilateral myomucosal lower lip advancement flap, 1 nasolabial flap, 1 free vastus lateralis muscle flap, 1 cross-leg flap, 1 serratus anterior muscle flap, and 1 paramedian forehead flap. Flaps were applied in 8 patients in the upper extremity, 7 patients in the lower extremity, and 5 patients in the facial area. The average age of the patients was 36 years (youngest 19 – oldest 72). Flap thinning was performed an average of 33 months (ranging from 3 months to 15 years) after the initial operation. Thinning methods included excision in 17 patients (85%) and liposuction in 3 patients (15%) (1 patient with vaser liposuction). No cases of complete flap loss were observed.

Discussion

Conventional methods for flap thinning include direct excision, liposuction, tangential excision, and skin grafting (1)(2). Additionally, alternative techniques described in the literature include ultrasound-guided debulking procedures (3) and harvesting the skin from the flap as a graft (4). In our clinic, we wait at least 3 months considering the safety of flap circulation, the progression of the patient's healing process, and especially the potential for flap contraction in denervated muscle flaps.

Conclusion

In regions with anatomically thin subcutaneous fat, determining the technique and timing for thinning thick flaps should consider the type of tissues within the flap, its innervation, the patient's overall condition, and the treatment process. These factors are essential for the successful execution of flap thinning.

Keywords: reconstruction, debulking, liposuction

VASCULAR ANOMALIES OF LOWER EXTREMITY

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Abstract

Defects frequently seen due to malignancy surgeries, especially large ones that cannot be reconstructed with local flaps, are primarily addressed using free flaps. The lower extremity is a common donor site for many free flaps. This study evaluates the vascular variations encountered during the use of these flaps by considering the vascular anatomy of the lower extremity. We assessed the vascularization according to the branching variations of the popliteal artery using the Kim Lippert classification to determine the appropriate reconstruction option.

Introduction

In treating head and neck cancers, our hospital collaborates with the ENT department, and free flaps are generally used for repairing these defects. The lower extremity is often the first donor site considered for free flaps. When considering an osseocutaneous flap, the cruris can be a donor site, and attention should be paid to anatomical variations. Hypertrophy in observed arteries can be compensatory due to variations in other arteries. Angio-CT examination is useful for planning in patients scheduled for free fibula.

We routinely request angio-CT examinations for all patients for whom free flap reconstruction is planned. This helps increase flap success rates and reduce donor site morbidity by avoiding complications from anatomical variations.

Materials And Methods

Between June 2021 and August 2024, we performed 65 lower extremity free flaps for reconstructing defects, mostly due to malignancy, in the head and neck region. Eleven of these were Free Fibula Flaps. We classified patients according to the Kim Lippert classification based on angio-CT scans.

Results

Sixty-five patients planned for reconstruction with free flaps were evaluated with preoperative angio-CT imaging. In 12 cases, free fibula flap

reconstruction was considered due to anticipated mandibular bone defects. No anatomical variation was found in 11 patients, but one patient had a Kim Lippert type IIIC (Arteria peronea Magna) variation, and reconstruction was achieved with a Free ALT flap.

Conclusion And Discussion

In cases with PAM vascular variation, even if a free fibula flap was initially planned, encountering this variation required changing the reconstruction plan. This reduced donor site morbidity risk. In patients reconstructed with a free fibula flap, the peroneal artery is sacrificed, which can lead to catastrophic results in cases with PAM variation.

Keywords: Free Fibula Flap, Peroneal artery, Popliteal Artery, Kim Lippert's Classification

PLANNING AND USE OF 3D PRINTERS IN HEAD AND NECK RECONSTRUCTION OPERATIONS USING ONLY RECONSTRUCTION PLATES

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Introduction

Head and neck reconstruction involves complex surgical interventions performed for various reasons such as resection of malignant tumors, post-traumatic deformities or correction of congenital anomalies. In such operations, correct placement of reconstruction plates is of great importance to achieve successful results in terms of aesthetics and functionality (1). However, complex anatomical structures in the head and neck region can make it difficult to place the plates correctly. Since traditional methods largely depend on the surgeon's experience, errors may occur during surgery. This may lead to asymmetries, malpositions and post-operative corrective interventions.

In recent years, the use of 3D printing technologies in medicine has increased. 3D printers have the potential to improve surgical planning and guide the patient during the operation by producing anatomical models specific to the patient (2)(3). In this study, the use of models created with 3D printers and negative molds developed on these models in operations performed using reconstruction plates in head and neck reconstruction surgery performed in our clinic was investigated.

Purpose

The purpose of this study is to evaluate the effects of models created with 3D printers and negative molds developed on these models on surgical planning and practice in the placement of reconstruction plates used in head and neck reconstruction surgery. In particular, the potential benefits of these methods on shortening the operation time, reducing intraoperative errors and improving postoperative outcomes will be investigated.

Method

In this study, preoperative digital computerized tomography (CT) images were obtained from patients scheduled for head and neck reconstruction surgery. These CT data were processed using special software to create 3D models reflecting the patient's exact anatomy. The obtained 3D models

were printed from plastic material with high-resolution 3D printers. These models were used in surgical planning and simulation. In addition, negative molds were developed on these models to ensure correct placement of reconstruction plates during the operation. Negative molds were produced with 3D printers and used as guides during the operation. Plates were shaped and placed in accordance with the patient's anatomy with the help of these molds.

Findings

This study includes patients who underwent head and neck reconstruction surgery in our clinic. Individual anatomical models and negative molds created with 3D printers were used in all patients before the operation. During surgery, negative molds were used to ensure the correct positioning of the plates and confirmed intraoperatively. The use of negative molds provided reliability during the surgical process and minimized potential errors in correct plate placement.

The results of the study showed a significant decrease in operative times and decreased intraoperative complication rates. In addition, the aesthetic and functional results were found to be satisfactory in most patients in the postoperative period. Reconstruction surgery performed with this method helped optimize the planning and implementation processes.

Keywords: 3D printer, head and neck surgery, plate

APPROACH TO PERINEAL RECONSTRUCTION - OUR SINGLE CENTER EXPERIENCE AND REVIEW OF LITERATURE

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Introduction

Perineal defects are among the most challenging to repair and manage postoperatively due to their anatomical location. These defects usually result from oncological conditions such as penile, anorectal, and vulvar carcinomas, as well as trauma or infection. In this study, perineal defect reconstructions performed in our clinic over the past 10 years were analyzed and various approaches were discussed with respect to literature.

Patients Methods

43 patients operated for perineal defect reconstruction between 2014-2024 in Sisli Hamidiye Etfal Training and Research Hospital were included in the study. Patients treated nonoperatively with wound care were not included.

Results

Of the 43 patients included in the study, 4 were female and 39 were male, with an average age of 52. Twenty-eight (65%) of the defects were caused by infectious reasons (Fournier's gangrene, necrotizing fasciitis), and 15 (35%) developed secondary to trauma or tumors. Among the patients, 26 were smokers, 23 had diabetes, 17 had hypertension, and 6 had chronic kidney disease.

The tissue defects that resulted from serial debridements were reconstructed using various techniques: 3 with a medial circumflex femoral artery perforator flap, 7 with V-Y fasciocutaneous advancement flap, 4 with various random pattern local flaps, 14 with a split-thickness skin graft (STSG), 2 with a full-thickness skin graft (FTSG), 4 with a VRAM (vertical rectus abdominis myocutaneous) flap, 6 with a pudendal artery perforator flap, and 3 with a pedicled anterolateral thigh (ALT) flap. Of the 6 pudendal artery perforator flaps, 2 developed total necrosis, and of the 3 pedicled ALT flaps, 1 developed partial necrosis, all of which were subsequently reconstructed using STSG. Remaining patients healed normally.

Conclusion

Perineal reconstruction requires a multi-faceted surgical planning approach and is associated with high complication rates. The most suitable reconstruction method should be determined based on the reconstructive elevator principle for each patient.

Keywords: Perineal Defect, Fournier's Gangrene, Flep Reconstruction

HEAD AND NECK RECONSTRUCTION WITH MICROSURGERY IN GERIATRIC PATIENTS

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Abstract

Head and neck defects in geriatric patients are mostly caused by malignancies, infection or trauma. For defects frequently seen due to malignancy surgeries, especially large defects that cannot be reconstructed with local flaps, the first reconstruction option that comes to mind is free flaps. The survival of free flaps to be made in geriatric patients may vary depending on the comorbidities present in the patients. In this study, the reconstruction of defects in the head and neck of patients over the age of 65 with appropriate free flaps was evaluated.

Objective

The safety of reconstructive microsurgery in elderly patients is still a matter of debate. There is no definitive evidence providing indication and risk assessment in elderly patients. In this study, the use and safety of free flaps in the repair of head and neck defects in geriatric patients were evaluated.

Method

In this study, free flaps applied in the patient group who were operated by UÜTF Plastic, Reconstructive and Aesthetic Surgery Clinic in 2022-2023 and developed defects in the head and neck region were evaluated. Data were obtained from the hospital's digital system. Age, gender, comorbidities, defect location and flap used were examined.

Findings

14 patients between the ages of 65-72 who had head and neck defects secondary to malignancy surgery were examined. 4 of the 14 patients were female and 10 were male. Free fibula flap was planned for 3 patients, ALT for 6 patients, LD for 1 patient, SCIP for 1 patient, and radial forearm flap for 3 patients. The flaps were adapted to the defect area with appropriate microvascular anastomosis. Flaps were closely monitored for 3 weeks. Flap loss occurred in one of the 14 patients.

Results

The need for head and neck reconstruction is increasing in the elderly

population Paul I. Heidekrueger et al. in a study conducted by, similar to our results, acceptable results were obtained in microsurgical reconstruction of head and neck defects in geriatric patients despite the patients' comorbidities. The difficulties and complications encountered in free tissue transplants performed in our clinic were similar in the geriatric patient group to the young patient group.

Keywords: Free flap, geriatric patients, head and neck

A CASE REPORT OF VERTICAL RECTUS ABDOMINIS FREE MUSCLE FLAP IN THE TREATMENT OF RECURRENT LEFT TEMPORAL SCC

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Introduction

(1) Moving up the reconstruction ladder allows us to obtain more effective results. In this case, many steps of the reconstruction ladder were tried, but the most positive result was obtained with the free muscle flap made using microsurgical techniques.

Case

VK is a 34-year-old male patient. As a result of the incisional biopsy taken from the 5x5 cm mass on the lateral side of the left eyebrow, it was reported as poorly differentiated SCC. Therefore, mass excision was performed and reexcision and radial forearm surgery were performed. Due to flap necrosis, flap debridement and repair with supratrochlear artery-based myocutaneous flap. A right vertical rectus abdominis free flap was adapted to the hemifacial defect and reconstruction was achieved.

Discussion

Although the reconstruction ladder is a concept that forms the basis of plastic and reconstructive surgery, its validity has been questioned by many studies in the literature and it is seen as the inadequacy of the first steps of the reconstruction ladder. VRAM flap is generally used frequently in the reconstruction of thigh and groin defects (2).

Conclusion

Operations planned on the basis of microsurgery in the treatment of recurrent malignant tumors allow us to act more radically during mass excision and to provide more functional and more anatomically appropriate reconstruction of major defects and defects that expose vital structures such as the brain.

Keywords: microsurgery, free flap, reconstruction ladder

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MANDIBULAR RECONSTRUCTION WITH FREE FIBULA FLAP, OUR CLINICAL EXPERIENCE

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Introduction

Head and neck cancers involving the mandibular region are typically treated surgically. Surgical resection may also be required in cases of mandibular osteonecrosis. The goal of mandibular reconstruction is to restore preoperative deglutition, speech, airway support and cosmesis. The most commonly used flap for mandibular reconstruction is the osteomyocutaneous free fibula flap (FFF). In this report, 6 cases of FFF for the mandibular region in the last 6 years will be shared.

Material & Method

A case series of 4 females and 2 males who underwent FFF for mandibular reconstruction between 2018 and 2024 will be presented (Table-1). The patients were between 60-74 years. Four of the FFFs were performed for squamous cell carcinoma, one for mucoepidermoid carcinoma, and one for ameloblastoma. In all cases, FFF reconstruction was performed simultaneously with tumor resection and no flap loss was observed. During the follow-ups, 1 patient developed hematoma, 1 patient developed fistulation, 1 patient developed osteonecrosis, and 2 patients developed respiratory failure requiring mechanical ventilation. 1 patient had plate exposition and 1 patient had secondary flap operation due to recurrence. In 2 patients, Z-plasty was performed during follow-up due to contracture. In 4 patients, adjuvant combined chemotherapy (CT) & radiotherapy (RT) was given and adjuvant RT was given in one patient. Only 1 patient died postoperatively due to cardiac problems.

Results & Discussion

The FFF has become the most widely used flap in mandibular reconstruction due to the length and thickness of bone that can be harvested. In all patients, reconstruction was performed simultaneously with cancer resection, which has the advantage over secondary reconstruction in rapidly restoring anatomy and function while reducing costs, number of operations, length of hospital stays and complications. The contraindication to use FFF is poor or absent blood flow from all of the anterior tibial, posterior tibial and

peroneal arteries. All of the 6 FFF patients in this study were evaluated with preoperative CT angiogram and no vascular anomalies were detected. The FFF survival rate seen in our clinic is consistent with the literature which is 90-93%. This success may be attributed to preop detailed examination and prediction.

Keywords: Free Fibula Flap, Free Tissue Transfer, Head and Neck Surgery, Mandible Reconstruction

A RARE CASE REPORT OF FREQUENT RECURRENCE OF CALVARIUM IN AN ADULT PATIENT: HEMANGIOENDOTHELIOMA AND SCALP RECONSTRUCTION

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Introduction

Calvarial tumors are neoplasms arising from the dome-like upper part of the calvarium. The primary treatment is usually surgical and reconstruction is usually required after excision. We report a 39-year-old male patient who underwent multiple craniotomies, calvarial and scalp reconstruction for recurrent hemangioendothelioma.

Case Report

A 39-year-old male presented with a subcutaneous mass in the occipital region in 2014. The tumor was excised and the pathology result was reported as epithelioid hemangioma. In the 6th postoperative month, an aggressive mass was observed in the same localization and the patient was scheduled for re-excision of the tumor. Duraplasty, cranioplasty with miniplates, rotation flap from the pariatoooccipital area were performed for the scalp defect. Pathology and radiological examinations revealed hemangioendothelioma with well-differentiated angiosarcomatous components. The patient received radiotherapy and chemotherapy treatment and remission was achieved, but in 2017, a mass destructing the bone was detected in the neighborhood of the old lesion and the patient underwent cranioplasty, duraplasty and reconstruction with latissimus dorsi free flap (LDF) for the scalp defect. Then, in 2021, a recurrence was detected in the left frontal region and cranioplasty with miniplate and duraplasty were performed. Until 2022, there was no finding in favor of metastasis. After making sure that there is no remission, an anterolateral thigh free flap (ALT) was applied for the scalp defect. There was no evidence of recurrence in follow-ups.

Discussion & Conclusion

Intraosseous lesions of the calvarium are usually slowly progressive lesions characterized by swelling, local pain or sensory deficits. They can be confused with other conditions such as benign bone lesions or infections

as in our case. Following excision of calvarial masses, there may be a need for scalp reconstruction. Autologous or allograft bone grafts, composite grafts with fascia and muscle, temporal and galeal-pericranial local flaps, pectoralis major and LDF, radial forearm, rectus abdominis, scapular, ALT and gastrointestinal free tissue flaps, titanium mesh and bone substitutes made of various materials that can be used in reconstruction. In our case, rotation flaps, free LDF and ALT were used for scalp defects and very good cosmetic and functional results were obtained.

Keywords: Anterolateral Thigh Free Flap, Hemangioendothelioma, Latissimus Dorsi Free Flap, Scalp Reconstruction

RECONSTRUCTION OF SCAPULAR REGION WITH PEDICLED LATISSIMUS DORSI MUSCLE FLAP CAUSED BY DIFFERENT ETIOLOGIES

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Introduction

Scapular region contains many muscles and recipient vessels thus offers many alternatives for reconstruction. Major disadvantages of free flap surgery are longer duration and necessity of surgical experience. Pedicled flaps are reliable alternatives when microsurgery can't be done. In our study we aimed to show the use of pedicled latissimus dorsi flap in different etiologies.

Case 1

45-year-old female, developed acromial necrosis due to radiotherapy after soft tissue sarcoma excision and reconstructed with random pedicled fasciocutaneous flap. After the debridement we rotated the latissimus dorsi flap through a tunnel in scapular region and adapted on the defect. No complications were observed postoperatively.

Case 2

30-year-old male with a tissue defect on deltoid region caused by a firearm injury. After the debridement we have reached to latissimus dorsi muscle through a lazy-s incision on the posterior thoracic region. Flap was removed from the minor pedicle and elevated on its major pedicle which was rotated counter clockwise with turn over principle and adapted on tissue defect.

Discussion

Engdahl presented two cases where tumor resections were reconstructed with pedicled latissimus dorsi flap and stated it is reliable because of its bulkyness and good rotational arc. (1) Ihara compared functional outcomes of pedicled latissimus dorsi flap and free tensor fascia lata flap in the shoulder and obtained similar results. (2) Karakawa compared pedicled and free flaps. They concluded; eventhough free flaps require longer duration and experience they have lower complication rates hence they are superior. (3) We preferred pedicled flaps because one of the patients was treated with radiotherapy and neighbouring tissues were severely fibrotic. In the

other case there were multiple foreign bodies in the defect area and the area was fibrotic as well.

Conclusion

Large defects can be caused by malign tumor resections and traumas. Even though there are many reconstruction options best solution should be tailored according to the location of the defects and comorbidities of the patient. Pedicled latissimus dorsi is a reliable flap which requires less experience and time.

Keywords: Pedicled flap, Latissimus dorsi, Scapula

TIMING OF RADIAL CLUB SURGERY IMPACT ON FUNCTIONAL OUTCOMES: PROSPECTIVE FOLLOW-UP CASE STUDIES (2000-2020)

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Introduction

Radial club hand is a congenital malformation characterized by varying degrees of radial deviation and radial bone hypoplasia or absence. Surgical correction is often pursued to address functional deficits and improve hand aesthetics. However, the optimal timing for surgery remains a subject of debate. Early intervention during infancy aims to promote hand development and minimize functional impairment for better outcomes. This article aims to assess the impact of the timing of radial club surgery on functional outcomes.

Methods

The study is structured as a prospective follow-up pilot study, commencing data collection from the present and extending longitudinally over time to track patients. Regular assessments are conducted for a minimum period of two years post-intervention, with the possibility of extension up to six years. Data is collected prospectively during follow-up visits or through a comprehensive review of medical records. Eligibility for inclusion was limited to patients exhibiting type IIIb or type IV deformities according to the Bayne and Klug Classification.

Results

A total of 22 patients participated in this study, involving 34 hands, all of whom completed surgical interventions before the age of 10 months. Our results demonstrated a mean hand forearm motion range of 105-10 degrees, with a 95-degree mean correction in most cases (90%) over a 4-year follow-up period. The final range of motion for the affected hand with radial club showed normal flexion in 91% of cases, normal extension in 86%, normal ulnar deviation in 91%, and normal radial deviation in 95.5%. Skin necrosis developed in only four cases, representing 18% of the total participants.

Conclusion

A comprehensive management approach immediately post-birth, integrating exercises, splinting, and surgical correction within the first few months of life, aims to enhance overall patient well-being. Early surgical correction for radial club hand before the age of 10 months is effective and safe, with non-significant complications observed but noticeable optimized outcomes.

Keywords: Radial Club, Radial Club Hand, Radial Longitudinal Deficiency, Radial Club Surgery Timing

OUR EXPERIENCES WITH FREE FLAP IN PATIENTS WITH COMPOSITE DEFECTS IN THE HEAD AND NECK REGION AFTER TUMOR RESECTION

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Tissue defects can be seen in every part of the body from head to toe and in every age group, and it is an area where the principles of plastic surgery are tested. In this study, we talked about our free flap experiences in patients who underwent tumor resection by the Ear, Nose and Throat (ENT) department and had composite tissue defects in the head and neck region. 9 patients who were operated on between 2021-2023 were evaluated. 5 of the patients were female and 4 were male. The age distribution of the cases was between 38-72. All cases had buccal mucosa defects. In some cases, there were also maxillary sinus, mandible, palate and retromolar trigone defects. Reconstruction was performed with free ALT flap in 2 patients, free ALT + vastus chimeric flap in 3 patients, free LD flap in 2 patients, free radial forearm flap in 1 patient and free fibula flap in 1 patient. In the postoperative period, total flap loss was observed in 1 patient, and reconstruction was performed with an interpolation flap in the next session. In addition, venous problems were observed in 1 patient and wound separation due to infection was observed in 2 patients. It healed secondarily with dressing and wound care. Simple and easy methods are primarily preferred in closing tissue defects. Secondary healing, local flaps and late-term reconstruction with epithesis are some of these. However, in the reconstruction of wounds of patients with multiple tissue deficiencies accompanied by large tissue defects, free flap surgeries should be considered in the foreground for both aesthetic and functional recovery.

Keywords: head and neck defect, reconstruction, free flap, microsurgery

A PRACTICAL, PORTABLE AND LOW-COST EDUCATION MODEL FOR BASIC MICROSURGERY TRAINING

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Introduction

Microsurgery training is a tough process that requires the development of fine motor skills of residents during the plastic surgery training period. Because of rise in the number of residents gradually in our country, process of microsurgery practical training is taking time and getting more expensive. Therefore, an economical, portable basic microsurgical training model has been designed in our clinic and it is aimed to provide its use in active training activities and the development of microsurgical skills. In this model, anastomosis times and patency were supplied and compared with each other.

Method

A microscope simulation environment was prepared with a tablet has camera feature, a tablet holder and a portable clinic lamp. 8 fr silicone pediatric catheter and medical gloves were preferred for artery anastomosis and nerve coaptation respectively. The tablet camera was set to 3x magnification in video mode, and the tablet screen was adjusted to eye level with a holder fixed to a flat table. Anastomosis and coaptation studies were performed by 15 residents and 15 trainee students from our clinic with 7.0 PDS/Prolene in the training model. Video recording was taken until the work was completed. The duration, patency and compliance comparison were evaluated by the faculty members through repeated experiments and studies.

Conclusion

In this study conducted with 30 people, the study process of each participant was recorded by video. As the number of trials increased, it was seen that the participants performed faster, more end-to-end compliance and high patency practices in a shorter time.

Discussion

Experience and time are required to work under a microscope and perform anastomosis and coaptation in microsurgery residents should practice such training models in order to gain experience in microsurgery. With the model we have designed in our study, we have shown that it is possible to

manage the process by advancing it in a controlled manner by providing both an economical and easily accessible and applicable training module. In addition, due to the high number of residents in all clinics, this model can help residents get a chance to practice

Keywords: Microsurgery, Education

AMPUTATION VERSUS RECONSTRUCTION FOR A PATIENT WITH ROTHMUND THOMPSON SYNDROME

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Introduction

Rothmund Thompson (RTS) is an extremely rare genetic disorder (1,2). This study aims to advance reconstructive surgeries for syndromic patients with insufficient wound healing, as long as they have good vascular structure.

Case Report

A 40-year-old male patient with RTS underwent transtibial amputation on his left leg due to a chronic ulcer on his left malleolus and ankle ankylosis by the orthopedics clinic. Our clinic was consulted as the stump healing was stunted and both the tibia and fibula on the amputated leg became exposed. On physical examination the patient was cachectic with brittle, erythematous skin and atrophic muscles. However, the patient had no significant stenosis in CT angiogram of the affected leg.

A myocutaneous latissimus dorsi free flap was performed to cover the defect. No major complications that require revision surgery were seen. The patient was discharged on the postoperative eighth day with no complications and satisfactory wound healing.

Discussion

RTS may present itself with neoplasms, bone defects, contracted skin, and chronic wounds, which may result in tissue defect that require reconstruction. When considering lower extremity amputation, it is crucial to prioritize the patient's quality of life and minimize the extent of amputation. In these circumstances, surgeons have two options: one is to perform the amputation level from a more proximal level, and the other option is to provide soft tissue coverage. Keeping amputation level limited makes mobilization much easier for the patient because of better muscle support and more suitable prosthesis options, which enhances patient's life quality of life. In the presented case, the latissimus dorsi flap was an appropriate choice, providing good thickness and length, as the tissue will be subjected to high pressure during ambulation.

Conclusion

RTS is a genetic disease that may develop pathologies requiring plastic surgery interventions. Planning these reconstructions requires consideration of the rarity of major vessel deformities in RTS patients, which makes free flap a viable preservative option.

Keywords: Free flap, latissimus dorsi, rothmund thompson syndrome

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LONG-TERM OUTCOMES OF FREE FIBULAR FLAP IN PEDIATRIC PATIENTS

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Aim

The aim of this study is to discuss the long-term results of the vascularized free fibula flap performed to save the limb and restore a functional limb in pediatric patients.

Material Method

Eight pediatric patients who were operated on for malignant tumors (osteosarcoma, Ewing sarcoma) located close to the epiphysis between January 2014 and November 2023 were included in the study. The patients underwent epiphyseal-preserving surgery with a vascularized fibular flap. All patients received neoadjuvant and adjuvant chemotherapy. No patient received radiotherapy. Functional evaluation was evaluated using the Musculoskeletal Tumor Society (MSTS) scoring system.

Results

Patients were followed for an average of 62 months (min 36max 110 months). The average age of the patients was 9.2 (min 5-max 14) years. Boiling times in the target region (epiphyseal region) and diaphyseal region were reported separately. Accordingly, the average total union time in the target region of all patients was 11.5 months (min 7 - max 12), and the average total union time in the diaphyseal region was 10 months (min 5 - max 11). According to the MSTS grading system, the average score of the patients was 25.50 (min 22 - max 30). The average surgery time was 490 min (min 420 - max 520), the average intraoperative blood loss was 690 cc (min 480 - max 1000), and the average hospital stay was 7 (min 5 - max 21) days. There was shortness of the extremity in two patients, delayed union in three patients, angular deformity in 1 patient, and infection in 1 patient.

Conclusion

In pediatric patients, vascularized free fibula flap applied to malignant tumors located close to the growth line is the ideal material for long bone reconstruction. Although this technique has many complications, most

of them can be treated successfully with secondary operations without leaving any sequelae.

Keywords: Free fibular flap, limb saver, pediatric

MANAGEMENT OF COMPLICATIONS DEVELOPING AFTER THE REPAIR WITH FREE VASCULARIZED PERONEAL FLAP IN PEDIATRIC PATIENTS.

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Aim

Assessment of the complications developed in the pediatric patients treated with free vascularized peroneal flap to protect epiphysis and sharing our experiences in the management of the complications.

Materials and Methods

Seven pediatric patients who had been treated with free vascularized peroneal flap because of malignancy (Ewing sarcoma no:3, osteosarcoma no:4). The patient had neoadjuvant and adjuvant chemotherapy. None of the patients had radiotherapy

Findings: Case 1

The patient's tumor was at the tibia proximal metaphysis. He was 15 years old. Tumoral resection was applied at epiphyseal line level. Since the epiphyseal plate is affected, 3 cm shortening developed. The patient was followed in a conservative form by using heightening shoes. No complication developed after the heightening surgery.

Case 2

The patient was 10 years old. The tumor was at the tibia proximal metaphysis. The resection's distal level was epiphyseal line. During the patient's 5 years follow up, 5 cm shortening was formed. By applying callus distraction at the proximal metaphysis, 3 cm increase in height was obtained. The patient tolerated 2 cm remaining shortage so conservative follow up was done. The patient had no complications later.

Case 3

Resection was applied at the distal tibial epiphysis. A delayed union developed. Pseudoarthrosis surgery, autogenous spongiosis bone greft and fixation with bone plate were applied.

Case 4

Tumor resection was applied proximal to the epiphyseal line. A delayed union developed. Pseudoarthrosis surgery, autogenous spongiosis bone greft and fixation with bone plate were applied.

Case 5

Tumor resection was applied at the tibia intercalated segment level. Delayed union occurred at the distal tibia. Pseudoarthrosis surgery, autogenous spongiosis bone greft and fixation with bone plate were applied.

Case 6

Postop infection was developed. Osteomyelitis treatment was applied. Periodical debridement was applied 3 times. Bone plate was removed from the patient and external fixation was applied instead. Intravenous antibiotics treatment was given for three weeks. A complete recovery was achieved.

Case 7

A 20 degrees' valgus was formed in the femur bone in one plane. No surgery was applied and the patient was followed up conservatively.

Conclusion: I the patients treated with free vascularized peroneal flap; with enough vascularization, all the developing complications can be treated successfully.

Keywords: vascularized flap, peroneal flap, malignancy, surgery complications

THORACIC RECONSTRUCTION WITH CONTRALATERAL FREE FLAP FOLLOWING PEDICLED FLAP COMPLICATION AND POSTOPERATIVE COMPLICATIONS: A CASE REPORT

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Introduction

The ipsilateral latissimus dorsi flap is often preferred in patients with full-thickness chest wall necrosis post-radiotherapy. This case report analyses the surgical difficulties encountered in a situation where a pedicled flap could not be used and the management.

Case

A 46-year-old woman presented with full-thickness chest wall necrosis after mastectomy and radiotherapy. After full-thickness excision in the thoracic surgery clinic, a pedicled latissimus dorsi flap was planned to repair the defect. However, this flap could not be used because of damage to the thoracodorsal artery during thoracic wall excision. Instead, the contralateral latissimus dorsi free flap was used and anastomosed to the contralateral internal mammary artery and vein. The overlying muscle outside the skin island was covered with a skin graft. After the operation, the patient had a generally uneventful recovery period. However, one year later, the patient presented with swelling and ecchymosis in the right thorax, and antibiotic treatment was started considering the infection. When the symptoms did not resolve, it was decided to remove the sandwich graft. During the operation, the flap was removed and severe bleeding occurred during implant removal. Although subclavian artery injury was initially thought to be a subclavian artery injury, it was realized that the bleeding originated from the ascending aorta when an inverted T-shaped thoracotomy was performed. The ascending aorta was repaired by the cardiovascular surgery team. After the bleeding was controlled, the entire thoraces and mediastinum were flushed, thoracic tubes were placed and the flap pedicle that was cut during inverted T thoracotomy was repaired. Long-term follow-up (>5 years) showed no mortality.

Conclusion

Free flaps offer an effective alternative for pedicled flap complications. This case emphasizes the importance of surgical flexibility and microsurgical skills. Although there was a serious postoperative complication, the patient

was not lost in long-term follow-up.

Keywords: 1 Thoracic reconstruction, 2 Latissimus dorsi free flap, 3 Pedicled flap complication, 4 Full-thickness chest wall necrosis

RE-REVASCULARIZATION OF THE THUMB WHICH WAS REPLANTED AFTER TRAUMATIC AMPUTATION 10 YEARS AGO

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Background

Since the thumb is responsible for approximately 40% of functional capacity of the hand, when compared to the other fingers, congenital or traumatic absence of the thumb results in serious loss of function as it cannot perform movements such as opposition and grasping. Therefore, thumb amputation is the first indication for digital replantation (1,2).

Aim

As the thumb plays critical role in hand function, the patient who underwent replantation ten years ago after traumatic thumb amputation presented with a subtotal amputation of the same finger. The finger was then revascularized and survived.

Case report

A 46-year-old male patient was admitted with a left-hand thumb injury as a result of work accident. In the physical examination, it was determined that the left-hand thumb was subtotal amputated at the level of the interphalangeal joint (Figure 1a). According to the anamnesis, it was learned that the same finger was completely amputated ten years ago and repaired at another center. The patient underwent emergency surgery for thumb revascularization. There was a neuroma discovered in the ulnar side digital nerve (Figure 1b-c); this indicated that the finger was previously traumatized, as indicated by the patient's anamnesis. No circulatory problems were observed in follow-ups (Figure 1d-2).

Conclusion

Thumb amputation has a dramatic impact on quality of life, psychosocial functioning, and work ability (3). Traumatic loss of the thumb is a critical injury that affects grasping and capturing functions. Although replantation/revascularization of a previously traumatized finger is among the relative contraindications in the literature (4); due to the importance of the thumb

for hand functions and the development of microsurgical techniques and increasing experience in this field, replantation/revascularization of a previously traumatized finger should definitely be attempted.

Keywords: Thumb replantation, amputation, neuroma

OUR CLINICAL EXPERIENCE IN HAND AMPUTATIONS

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Introduction

Traumatic hand amputations are devastating injuries with significant psychological and socioeconomic consequences. These amputations are defined as “major” when they occur as transections through the limb at or proximal to the wrist. Children show better functional recovery than adults, and replantation should almost always be attempted in the pediatric population. Relatively good results have been reported with wrist and proximal wrist level amputations.

Case

In 2024, 2 patients with total amputation at the wrist level were operated on by us. 2 amputations were work accidents and the amputates were defective and crush injuries. Two patients were admitted 4 hours after the event and arterial circulation was established at the 6th hour of the ischaemia period. The exploration of the amputated part started before the patient is brought to the operating room. In all cases with hand amputation, replantation was performed under general anesthesia with a tourniquet application. After debridement, the arteries, veins, nerves, and tendons were identified and tagged in both stumps. Signs of arterial damage was noted. Only loose small bone fragments of the carpus were removed, but all of the carpal bones were saved and internal osteosynthesis was performed using two K-wires. None of the cases required the use of a vein or nerve grafts. After arterial repair in both patients, approximately 30 minutes was waited for vein repair in order to prevent toxic ischaemic metabolites from entering the circulation.

Discussion

There is a broad variability in functional outcomes reported in the literature for major upper extremity replants, making it difficult to collate results. As expected, more distal injuries involving the forearm were largely found to have an excellent to good outcome. Proximal injuries involving the elbow, a major joint of the upper extremity, as well as the arm had a majority of fair to poor outcomes. Secondary procedures are often required in major upper extremity replant patients. These secondary procedures aim to augment volitional control, range of motion, and reliable coverage of the

replanted limb and can contribute to the overall functional outcome.

Conclusion

The outcome of surgery has to be assessed not only by the rate of limb survival but also by the functional result and patient acceptability. Timely intervention at every stage will help reduce ischemia time and thus improve the survival rates and the long-term functional outcomes.

Keywords: hand, amputation, replantation, microsurgery

OUR CLINICAL EXPERIENCE IN REGENERATIVE MEDICINE APPLICATIONS AND CELLULAR THERAPIES IN PLASTIC SURGERY

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Regenerative medicine is an emerging field that focuses on repairing or replacing tissues and organs damaged by age, disease, trauma or congenital defects.

It is well known that the main field of plastic surgery is tissue repair. In plastic surgery and regenerative medicine, cellular therapies are used for tissue repair and their use is gradually increasing.

The cellular therapies used today include platelet-rich plasma (PRP), platelet-rich fibrin (PRF), stem cells (autologous and allogeneic), stromal vascular fraction (SVF), adipose tissue transplantation, fibroblast cell culture and exosome therapies.

In the present study, we describe the cellular therapy methods we use for tissue repair and healing of wounds, hypertrophic scars, skin rejuvenation, hair loss and acne scars.

Stem cells are cell types defin

ed by their ability to renew themselves, proliferate indefinitely, differentiate into other cells and repair the damaged structure when injected into damaged tissue. In clinical practice, mesenchymal stem cells are most commonly used. The most commonly used sources of MSCs are bone marrow, adipose tissue and umbilical cord blood.

Although SVF cannot be described as stem cells, we can define it as a cocktail containing mesenchymal stem cells, rich in growth factors, adipocyte progenitors, fibroblasts, endothelial progenitors, endothelial cells and predominantly stromal cells.

Exosomes are extracellular vesicles with a diameter of 30-150 nanomicros, surrounded by a double phospholipid layer, which are secreted by all cells. If we look at the properties of exosomes, they have many more advantages than the effects we can achieve with stem cells. Increasing angiogenesis, anti-inflammatory and immunomodulatory effects, providing tissue regeneration are important benefits.

In regenerative medicine, cellular therapies are used in the treatment of many diseases, while in plastic surgery, it is widely used in wound, burn, scar, skin and hair treatment by exploiting its properties such as increasing angiogenesis, anti-inflammatory and immunomodulatory effects, and tissue regeneration.

Keywords: Regenerative Medicine, Stem Cell, Exosom

FREE DIFFERENTIAL THICKNESS ALT FLAP FOR SEVERE HEMIFACIAL ATROPHY IN A CHILD: A CASE STUDY

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Background

Progressive hemifacial atrophy (PHA), also known as Parry-Romberg syndrome, presents a challenging reconstructive problem due to severe deformity, skin hyperpigmentation, skeletal growth restriction, and occlusal cant. This case involves a 9-year-old girl with severe right hemifacial atrophy, leading to social isolation and emotional distress, exacerbated by political and media attention.

Clinical Presentation

The patient's deformity began with a dark patch on the right cheek at 2.5 years old, progressing to hemifacial atrophy. Over six years, the condition stabilized but left the patient with significant facial asymmetry, skeletal defects, and ear deformity. Importantly, facial nerve and muscle function remained intact.

Surgical Approach

A free anterolateral thigh (ALT) flap was selected due to its versatility. The flap was modified for differential thickness to provide adequate bulk in key areas such as the malar and cheek regions, while minimizing bulk in the temple and infraorbital areas. Subperiosteal dissection with intraoral access allowed precise placement, ensuring preservation of vital structures and natural contouring. Monitoring of the skin paddle and facial nerve function was critical.

Outcomes

The patient experienced transient facial nerve neuropraxia postoperatively, with improvement in nerve function over time. At 14 months post-surgery, there was a significant improvement in facial symmetry, social reintegration, and psychological well-being. Future plans include soft tissue augmentation and potential skeletal surgery.

Conclusion

The differential thickness ALT flap offers a reliable reconstructive option

for severe hemifacial atrophy, providing both aesthetic and functional restoration. Long-term follow-up is crucial for monitoring growth and planning subsequent interventions, including skeletal and soft tissue adjustments.

Keywords: Progressive hemifacial atrophy, Free Flap, Parry-Romberg syndrome

TAMAI ZONE 2 ONLY ARTERY REPLANTATION

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Introduction

Fingertip injuries are widespread. In this case report, the replantation of a 16-year-old male patient's injury to the distal phalanx of the first finger of his right hand due to a motorbike chain was performed with only arterial anastomosis without venous anastomosis.

Case presentation

In September 2024, a 16-year-old male patient was admitted to the emergency department with a history of being caught by a motorcycle chain in the Tamai Zone 2 region of the 1st finger of his right hand. During the examination under the microscope, 2 digital arteries were found. It was observed that Zone 2 amputation was on the oblique and radial sides. Ulnar digital arterial flow was observed to be better and the site was flushed with heparinized fluid. The bone was corrected proximally and distally with Rongeur and fixed with a K-wire. Since the ulnar artery did not reach the radial side of the amputation, a 1.5 cm vein graft was taken from the right wrist. An anastomoses were performed with the proximal to the ulnar digital artery and the distal to the radial digital artery. And it was seen that there was a flow. Vein anastomoses could not be performed because the vein was damaged. The skin was sutured with 5-0 prolene. A fish mouth incision was made to the pulp. In the postoperative period, the patient was given a daily dose of low molecular weight heparin treatment. Although no vein anastomosis was performed during the 10-day post-operative period, no venous insufficiency developed. No further evaluation could be made after the 10th day due to the patient's non-compliance with the city change.

Discussion

Replantation can be challenging in Tamai zone 2 injuries, especially if there is vein damage, as in our case. It was observed that in such injuries, replantation with only a single artery without vein anastomosis may not cause venous insufficiency after surgery. The literature review suggests that there are very few cases similar to ours, and therefore, our case sets a precedent in this field.

Keywords: Tamai Zone 2, Only artery anastomosis, Fingertips injuries

