2019 Global Partner Electronic Poster Presentations (E-Posters)

Braxon Biological ADM Wrapping for Treatment of Capsular Contracture: A Preliminary Study

Presenter: Stefania de Fazio, MD, PhD, Roma, Italy
Co-Authors: Franco Bassetto, MD, Plastic and Reconstructive Surgery, University of Padua, Padova, Italy; Eleonora De Antoni, MD, Clinic of Plastic Surgery, University of Padua, Padova, Italy; Vincenzo Vindigni, MD, PhD, Plastic and Reconstructive Surgery, University of Padua, Padova, Italy

Capsular contracture and BIA-ALCL are intimately connected with a strong pathologic foreign bod reaction[1] but not all patients can afford a total autologous breast reconstruction.
The new biological acellular dermal ADM “Braxon®” (Decomed S.r.l., Italy) offers complete breast implant coverage, becomes revascularizated and repopulated by fibroblasts and “hides” alloplastic materials from severe immunitary reactions.[2]
With these assumptions, we developed a preliminary study to assess the effectiveness of Braxon® for the treatment of capsular contracture.

Since September 2018, 17 patients with Baker III and IV capsular contracture who couldn’t stand autologous reconstructions were enrolled in the trial. Surgery consisted in implant change with pocket arrangement (maintaining the same one) and prosthesis coverage with Braxon®, a pre-shaped 0.6mmthick ADM that totally wraps anatomical breast implants. Pre-operative demographic data, local conditions, surgery details and postoperative recovery data were collected; a preliminary outcome was drawn up at 3 and 6 months with Breast-Q assessment and surgeons’ clinic evaluation.

Twenty-one procedures were performed: four bilateral and thirteen unilateral implant-exchanges. Mean age was 57 years old, mean BMI was 23. 65% of patients were not-smoker, 17% were ex-smokers, 18% were current smokers. 29% of breasts received radiotherapy, 65% of patients received chemotherapy and 71% of breasts had a pinch test ≤1cm. All patients underwent total capsulectomy except for the posterior wall and maintained the previous pocket. The new implant sized between 195cc and 585cc and was macro-textured in six cases, micro-textured in fourteen cases and polyurethane-surfaced in one case. 5 breasts developed a “red breast syndrome”.

Four patients encountered implant loss: two developed an immediate severe local reaction; two developed an unexpected implant exposition two months after surgery. Particularly, two of these patients had previous mastectomy and radiotherapy in the 90s, both underwent chemotherapy and more than two implant-exchanges during the years, and both had pinch test ≤1cm.

For patients who succeed the surgery, our case series clinical results showed limited signs of capsular contracture and nice visual appearances.

Comparing pre-operative and post-operative self-administered Breast-Q questionnaires, we found improved scores for Psychosocial, Sexual Well-being and Physical Well-being of Chest modules, and Satisfaction with Breast modules provided statistically significant better scores at the latter examinations.

Statistical association was found between implant loss and radioteraphy.

We assume that a “conservative” treatment for capsular contracture can embrace the coverage of the implant with Braxon®, but proper preoperative selection is fundamental: patients with a precarious perfusion of the mastectomy flap as heavily radio-treated women should not be considered for this type of procedure. A longer follow up and a multivariate analysis are needed, but clinical results are encouraging and patients demonstrate their satisfaction.

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Reconstruction of Traumatic Defects of Fingers with Dorsal Metacarpal Artery Perforator Flap

Presenter: Dun Hao Chang, MD, Plastic and reconstructive surgery, Far Eastern Memorial Hospital, New Taipei City, Taiwan
Co-Authors: Chi-Ying Hsieh, MD, Taiwan, Che-Wei Chang, MD, Taipei, Taiwan; Ke-Chung Chang, MD, Far Eastern Memorial Hospital, New Taipei City, Taiwan

Introduction: Reconstruction of soft-tissue defects of fingers is challenging because of the limitation of local tissue restoration. The dorsal metacarpal artery perforator (DMAP) flap is a vascular island flap raised on the dorsum of the hand, and it is a good choice of finger reconstruction by replacing like with like in single operation. This flap is based on the dorsal metacarpal artery or the palmar arterial system via dorsopalmar anastomosis. The consistency of the cutaneous perforator makes DMAP flap more reliable, and the dissection is also straightforward and easy.

Materials and Methods: From Nov 2016 to May 2019, 10 patients suffered traumatic injury to their fingers, resulting in various soft tissue defects. These patients who underwent DMAP flap for the soft tissue reconstruction were studied. Five patients

received the flap surgery in an emergent setting as a primary procedure, and the other 5 patients had the surgery for secondary reconstruction.

Results: The patients were 9 males and 1 female, average age 43 (17-66) years old. The average flap size was 4.9 x 2.0 cm; one flap was based on the first DMAP, 6 flaps were based on the second DMAP, one was based on the third DMAP, and 2 were based on the fourth DMAP. All the donor sites were closed primarily. Nearly half of the flaps had temporary venous congestion, but most of the flaps survived well ultimately. Only two patients had flap partial necrosis, and one required additional skin grafting and another underwent conservative treatment with eventful wound healing.

Conclusions: The DMAP flap can offer thin and pliable skin to reconstruct finger defects within one-stage surgery. It's simple to harvest with minimal donor-site morbidity. The DMAP flap is the ideal flap for resurfacing soft-tissue defects of finger proximal to the fingertip.

Enhancing Melanoma Pathological Reporting in an Irish Tertiary Referral Centre

Presenter: Matt Davey, MB BCH BAO, Plastic, reconstructive and aesthetic surgery, Galway University Hospital, Galway, Ireland
Co-Authors: Christina Buckley, MD, Department of Plastic and Reconstructive Surgery, Cork University Hospital, Cork, Ireland; Niall McInerney, MB BCh BAO FRCS, Plastic Surgery, University Hospital Galway, Galway, Ireland; Alan J Hussey, MB BCh, university Hospital Galway, galway, Ireland; Shirley Potter, MB BCh BAO, MSc (anat), FRCS (plast), PhD, Plastic, reconstructive and aesthetic surgery, Galway University Hospital, Galway, Ireland

Background: Pathological assessment of tissue is a critical aspect in the multidisciplinary management of malignant melanoma. Histological parameters of the primary tumor are the strongest predictors of outcome in patients with clinically localized primary melanoma and strongly influence the next stages of management. Traditionally, the British Association of Dermatology (BAD) guidelines for melanoma pathology reports used in Ireland, however the International Collaboration on Cancer Reporting (ICCR) have developed an internationally agreed, evidence based dataset for pathological reporting of cutaneous melanoma.[(1)] The purpose of this audit was to enhance the quality of melanoma pathologic reporting in a tertiary referral center in the west of Ireland.

Methods and Materials: All primary melanoma pathology reports were evaluated from February 2018 to January 2019. Data was retrieved from the Galway melanoma multi-disciplinary meeting. Compliance with ICCR guidelines was assessed.

Results: 168 malignant melanoma pathology reports were analyzed. 84 of these were dated from February 2018 to June 2018 (initial-audit), and a further 84 from July 2018 to

January 2019 (re-audit). Initial audit reports contained 71.2% of the ÔrequiredÕ ICCR pathological features, and 62.8% of the ICCR ÔrecommendedÕ features. Re-audit findings showed 94.0% of the ÔrequiredÕ ICCR pathological features, and 87.2% of the ICCR ÔrecommendedÕ features.

Conclusions: Accurate pathological reporting is essential to accurate melanoma diagnosis. Our closed-loop audit results show that improvements can be made in terms of pathological reporting of melanoma. Following this study, our institute has closely adopted the ICCR guidelines and plan to re-evaluate practice over the next year.

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Using a Turnover Flap Combined with a Rotation Flap for Recalcitrant Tracheoesophageal Fistula and Tracheostoma Malacia: A Case Report

Presenter: Chun-Chia Chen, MD, Division of Plastic Surgery, Department of Surgery, Chung Shan Medical University Hospital, Taichung, Taiwan

Background: We illustrate a surgical method to resolve a case of recalcitrant tracheoesophageal fistula as well as tracheostoma malacia, caused by a placement of voice prosthesis. Placement of voice prosthesis for voice restoration is believed as a simple method after total laryngectomy[1]. However, a too wide and nonclosing tracheoesophageal fistula, ultimately a complication, can result in considerable morbidities, such as chronic chocking and aspiration pneumonia. The prosthesis must be removed definitely in this circumstance. Most tracheoesophageal fistulas close spontaneously in few days after removal of voice prosthesis or after local debridement[2]. Closure of the persistent tracheoesophageal fistula is challenging and sometimes refractory. Primary closure was believed only as first surgical act in simple patients who have not received radiotherapy treatment. A recalcitrant tracheoesophageal fistula requires a well-vascularized and double layered barrier between tracheostoma side and esophageal side with non-tension repair[3-5]. This technique provides a turnover flap for esophageal site closure and a rotation flap for tracheostoma side coverage as well as reduces redundant peri-tracheostoma skins to eliminate tracheostoma malacia simultaneously.
Case report: A 70-year-old female patient undergoing a voice prosthesis insertion sustained iatrogenic tracheoesophageal fistula, and tracheostoma malacia after removal of prosthesis. A series of surgical intervention were performed but failed. We designed a turnover flap combined with a rotation flap to correct the tracheoesophageal fistula and

tracheostoma malacia successfully. The satisfactory result was obtained in a ten-month follow-up.
Results: Using redundant local skin flaps of tracheostoma, we successfully managed an iatrogenic tracheoesophageal fistula caused by a voice prosthesis. The patient was weaned from a tracheostomy tube two weeks postoperatively and no recurrence was noticed in a ten-month follow-up.

Conclusion: A turnover Flap combined a rotation flap is a good choice for a recalcitrant tracheoesophageal fistulae with tracheostoma malacia. It provided a simple and safe method and may be considered as the initial surgical treatment.

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Biofluorescence Modulation: A New Era in Woud Healing?

Presenter: Stefania de Fazio, MD, PhD, Stefania de Fazio MD, Roma, Italy
Co-Authors: Carlotta Scarpa, MD, PhD, Clinic of Plastic Surgery, Padova, Italy; Franco Bassetto, MD, Plastic and Reconstructive Surgery, University of Padua, Padova, Italy

Nowadays Fluorescence Biomodulation has become one of the most promising treatments in wound healing. Based on the ability of specific chromophores, activated by a blu Led lamp, to restart the healing cascade, this tretament can be used for chronic ulcers, burns, surgical incisions and a new frontier has been opened to prevent pathological scarring as keloids. Here we present our personal experience with this device.

Materials and methods: 20 patients affected by chronic ulcer or burns or pathological scars have been treated with fluorescence biomodulation. Every patient has undergone to informed consent, pictures, measurement of the lesions, a VAS score and a quality-of-life evaluation. The evaluations were done at the first session and at the end of the

treatments. The median total amount of session has been 10 for each patient (minimun6 maximum 16).

Every session has last 5 minutes 2 times/week. The follow up of the patient has been at 1-3-6 months after the treatments.

Results: The treated patients presented an interesting recovery of the cicatrization with a consequent reduction of the wound volume, up to some cases with complete re-epithelialisation, which remained stable even at the subsequent controls.

The advantages found can therefore be summarized in the following points:

• Management and reduction of inflammation, pain and bacterial colonization;
• Management and reduction of maceration of perilesional tissue;
• Good response in granulation tissue growth and reduction in lesion volume;
• Rapid acquisition of the method thanks to the system's ease of use;
• Good tolerability on the part of the patient.

Conclusions: The use of the technology is very fast and simple, consisting of 5 minutes of treatment (application of the gel and supply of light for 5 minutes) for 2 applications per week, and can be used both directly in the patient's bed (in patient), during hospitalization, both in the dressing office (outpatient), as the LED source is easily transportable.

The treatment proved to be non-invasive, well accepted by patients, simple to administer, and free from adverse events related to it, while remaining contraindicated in patients with a history of skin hypersensitivity and / or photosensitizing treatment.

Robotic-Assisted Microsurgery for Vascular Microanastomosis

Presenter: Chih-Sheng Lai, MD, Taichung Veterans General Hospital, Taiwan, R.O.C., Taichung, Taiwan

Objectives: Da Vinci Surgical System has made great strides in surgery. However, its application in plastic and reconstructive surgery is still in the preliminary stages of development. Robotic surgical systems can provide a clear and three-dimensional (3D) image of the surgical field with magnification of up to 20 times. The high-definition visualization technology and ergonomically designed surgeon's console of robotic surgical systems allow the surgeon to work for long periods without developing neck or muscle fatigue. It can also eliminate the operator's physiologic tremor. This study presents our experience with robotic-assisted microsurgery in vessel anastomosis in free forearm flap reconstruction for the patient with oropharyngeal cancer.

Materials and Methods: This study was a retrospective review of consecutive adult patients and we recruited 13 patients (10 men and 3 women) who underwent reconstructive operations using a free radial forearm flap with robotic-assisted microsurgery for oropharyngeal defects after tumor extirpation. Between May 2013 and August 2017, we had the current existing limited experience (1 artery and 13 veins) with microsurgical vascular suture using Da Vinci system. Two Black Diamond micro needle drivers (Intuitive Surgical) were introduced to perform vessel anastomosis in an end-to-end fashion using 9-0 nylon. The anastomotic patency was confirmed by Acland test to ensure that proper antegrade blood flow through the vascular junction had been accomplished.

Results: Thirteen patients underwent operation for oropharyngeal reconstruction with robotic-assisted microsurgery. There were 10 male patients and 3 female patients with a mean age at presentation of 52 years (range, 39–65 years). There were 1 artery and 13 veins which were anastomosed by using robotic surgical system. The diameter of recipient blood vessel ranged from 1.5 to 3.5 mm (mean, 2.36 mm). The diameter of donor blood vessel ranged from 1 to 4 mm (mean, 2.0 mm). The operative time of vessel anastomosis ranged from 28 to 60 minutes (mean, 38.9 minutes). The number of suture stitches for vessel anastomosis ranged from 7 to 10 stitches (mean, 8.2 stitches). There were no intraoperative complications, and the vascular patency rate was 100%. Hematoma developed in 1 patient 2 weeks after surgery due to an abrupt rise in blood pressure.

Conclusions: Lack of haptic feedback in robotic-assisted microsurgery will not affect the success rate of vessel anastomosis. Increasing appropriate practice and experience can reduce the operative time. The application of a robotic surgical system seems to be a safe option in the free flap reconstruction of oropharyngeal defects without lip or mandible splitting. Our finding demonstrate that the robotic surgical system does have potential for performing vascular microanastomosis. Although robotic surgery is a developing technology, it has huge potential and will play a central role in long-distance remote-control surgery in the future. We believe in the near future robotic-assisted microsurgery could herald a new era in microsurgery.

Smartphone Thermal Imaging for Preoperative Perforator Mapping in Breast Reconstruction with DIEAP Flaps

Presenter: Orla Hennessy, MB BaO BCh, MCh, Plastic Surgery, Galway University Hospital, Galway, Ireland
Co-Authors: Niall McInerney, MB BCh BAO FRCS, Plastic Surgery, University Hospital Galway, Galway, Ireland; Alan J Hussey, MB BCh, university Hospital Galway, galway, Ireland; Shirley Potter, MB BCh BAO, MSc (anat), FRCS (plast), PhD, Plastic, reconstructive and aesthetic surgery, Galway University Hospital, Galway, Ireland; Raymond McLoughlin, MB BCh BAO, FRCSI, FRCR, FFR RCSI, MSc (Hons), FRCPC, Radiology, Galway University Hospital, Galway, Ireland

Background: Perforator based flaps are now the mainstay of autologous breast reconstruction practice. Despite available radiological investigations ranging from Doppler ultrasound (US) to CT angiography (CTA), finding and quantitatively assessing perforators remains a complex and imprecise process, often complicated by factors such as variable anatomy, prior surgery and body habitus. In this study we assess the use of infrared thermographic imaging (IRT) as a novel modality to aide preoperative localisation of perforator vessels.

Methods: Women undergoing elective breast reconstruction with Deep Inferior Epigastric Artery Perforator (DIEAP) flaps were recruited between August 2017 and July 2018 in Galway University Hospital. All had CTA and Doppler US mapping of arterial perforators pre-operatively as standard. Additional abdominal thermal images were taken using a FLIR ONE smartphone compatible camera. Thermal hotspots were compared with Doppler markings and CTA findings.

Result: Twenty-six flaps were analyzed. Seventy perforators were marked by Doppler US, with a mean of 2.92 perforators per flap (±SEM 0.15, SD 0.72). Forty (57%) had a corresponding hotspot on IRT. Overall, there was a statistically significant positive correlation between the number of perforators detected by Doppler US and IRT ($r=0.573$, $n=26$, $p=0.003$), kappa index 0.65. Eighty-four perforators were identified by CTA, with a mean of 3.5 perforators per flap (±SEM 0.14, SD 0.66). Fifty eight (69%) had a corresponding hotspot on IRT. There was a statistically significant positive correlation between the number of perforators detected by CTA and IRT ($r=0.504$, $n=26$, $p=0.012$), kappa index 0.60.

Conclusion: Thermography is an inexpensive, portable, non-invasive imaging technique, which shows statistically significant correlation to CTA and Doppler US in mapping perforators. This may be used as an alternative or adjunct to current techniques, providing additional information which may translate into reduced operating time.

Clinical Versus Histopathological Diagnosis of Non-Melanoma Skin Cancer

Presenter: Jordan E Wilkinson, MBChB, Plastic Surgery, Cork University Hospital, Cork, Ireland
Co-Authors: Martha Botros, MBBCh, MRCS, Msc, Plastic Surgery, Cork University Hospital, Cork, Ireland; Jason E Kelly, MB BCH BAO MRCS FRCS(PLAST), Plastic Surgery, Cork University Hospital, Co. Cork, Ireland; Cynthia Heffron, MD, PhD, FRCPath, Pathology, Cork University Hospital, Cork, Ireland

BACKGROUND: Non-Melanoma Skin Cancer (NMSC) is the most frequently diagnosed malignancy globally.

While the mortality rate for NMSC remains low when compared to other neoplasms, it places a substantial burden on healthcare systems worldwide due to its rising incidence.

As with all cancer, successful management hinges on an accurate diagnosis. In NMSC the margin of excision is often determined by the histopathological type and subtype.

In some cases it is possible to excise the NMSC with the required histological margin such that a single procedure is all that is required. In other cases a diagnostic procedure is indicated prior to planning the definitive procedure.

AIM: Our aim was to estimate how accurately we diagnose the type of NMSC we perform procedures on and how that accuracy varies.

METHODS: We reviewed the clinical impression of the surgeon written on the pathological request form in 200 consecutive cases of NMSC diagnosed in one Histopathology Laboratory, and compared this to the histopathological findings.

RESULTS: The clinical impression of the surgeon was correct in approximately two thirds of cases. The remaining third of incorrect clinical diagnoses varied across specialties and Histological types.

We demonstrate these findings graphically.

CONCLUSION: While we do diagnose NMSC accurately the majority of the time, it is still a surprising finding. Further studies and analysis are needed to establish (a), what type and subtype are misdiagnosed most frequently and (b), which group or specialty would benefit from targeted education if any.

The Use of the Pruritus Severity Scale in the Burns Patient: A Pilot Study

Presenter: Ciaran M Hurley, MB BCH BAO MRCS, Plastic Surgery, University Hospital Galway, Galway, Ireland
Co-Authors: Christina Buckley, MD, Department of Plastic and Reconstructive Surgery, Cork University Hospital, Cork, Ireland; Jack F Woods, MB MCh MRCS, Plastic Surgery, St James's Hospital, Dublin, Ireland; James Clover, Senior Lecturer and Consultant, Plastic Surgery, Cork University Hospital, Cork, Ireland

Introduction: Pruritus, the sensation of itch can be experienced by up to 87% of patients following a burn injury. It can be a distressing and disabling feature of burns recovery. Currently, pruritus is assessed using a Visual Analogue Scale (VAS) and the Itch Man Scale (IMS) which have been validated in the burns population. These scales are limited due to their single faceted nature and there is merit in establishing a more advanced, multi-dimensional severity scale. This novel scale may lead to more focused treatment as it documents location severity as well as duration of pruritus.

Aim: To validate a novel pruritis severity scale (PSS) for use in the burns patients in Cork University Hospital.

Methods: Data was prospectively collected on all burns patients in Cork University between March 2015-Sept 2016. Children were excluded as they were unable to participate in formal pruritus assessment. The PSS was compared with existing IMS and VAS scales using pearsons correlation score (SPSS™).

Results: 70 patients were identified during the 18-month period. 40% reported significant itch symptoms. The mean PSS was 6.8. The PSS was validated using bivariate correlation analysis against current valid measures of itch showing positive linear correlation and proved to be statistically significant (r= 0.74, 0.71 p= <0.01).

Conclusion: PS is a new valid method of objectively assessing pruritus severity. It is advantageous due to its multi-faceted assessment of itch which may lead to better guide treatment of pruritus in burns patients.

The Moleculight I:X Device in Plastic Surgery: A Novel Wound Intelligence Device

Presenter: Ciaran M Hurley, MB BCH BAO MRCS, Plastic Surgery, University Hospital Galway, Galway, Ireland
Co-Authors: Ryan M Sugrue, MD, Plastic Surgery, Galway University Hospital, Galway, Ireland; Pat McCluskey, Hons, Wound Care, Cork University Hospital, Co. Cork, Ireland; James Clover, Senior Lecturer and Consultant, Plastic Surgery, Cork University Hospital, Cork, Ireland; Jason E Kelly, MB BCH BAO MRCS FRCS(PLAST), Plastic Surgery, Cork University Hospital, Co. Cork, Ireland

Introduction: Current practice in the outpatient setting for diagnosing wound infections is limited to clinical assessment of signs and symptoms. Subsurface bacterial burden can be missed during standard wound examination protocols. The MolecuLight i:X™ visualizes the presence of potentially harmful levels of bacteria through endogenous auto-fluorescence without the need for contrast agents or contact with the patient. The intended use of the device is to assist with the management of patients with wounds by enabling real-time visualization of potentially harmful bacteria.

Method: A single-centre prospective observational study was conducted in Cork University Hospital in an outpatient plastic surgery wound care clinic. Patients had their wounds photographed under white and autofluorescent light with the MolecuLight i:X device™. Autofluorescent images were compared to the microbiological swab results.

Results: 33 patients and 52 swabs were included. 95.4% (n=41) were positive for bacteria growth. Staphylococcus aureus was the most common bacterial species identified. The MolecuLight i:X™ device had a sensitivity of 100% and specificity of 78%

at identifying pathological bacteria presence in wounds on FL-imaging. The positive predictive value was 95.4%. The negative predictive value was 100%. It demonstrated a sensitivity and specificity of 100% at detecting the presence of Pseudomonas species on FL-imaging.

Conclusion: The MolecuLight i:X™ device is a safe, effective, accurate and easy-to-use auto-fluorescent device which improves the assessment of wounds in the outpatient clinic setting. In conjunction with best clinical practice, the device can be used to guide clinicians with the use of antibiotics and specialized dressings.

The Usefulness of Modified Tenzel Flap for Reconstruction of Periorbital Defect

Presenter: Kyung Ah Lee, PhD, Plastic & reconstructive Surgery, Inje University, Busan, Korea, Republic of (South)
Co-Author: Jinan Cha, MD, Plastic & reconstructive surgery, Inje University, Busan, Korea, Republic of (South)

Purpose: Reconstruction of extensive eyelid defects is quite challenging. Although numerous procedures have been proposed for reconstructing periorbital defects, but there is no universal method.

Tenzel flap, known as semicircular flap, is most commonly used technique to reconstruct eyelid defects affecting one-third to two-thirds of the eyelid.[1] We accepted the usefulness of this method, have extended the indications to reconstruct the defect around the eyes.

Methods: Seven patients underwent reconstruction with a modified Tenzel flap after wide excision of malignant skin lesion. Indications, complications, and outcomes were evaluated.
The indication of classical Tenzel flap is for covering the full-thickness defect of the lateral lower eyelid between 25% and 60%.[1-2] We extended the indication of the flap including medial portion of lower lid defect, typically after excision of malignant skin lesion.

The procedure starts with the removal of tumor lesion. The design of modified Tenzel flap begins as semicircle at the lateral canthal area as classical Tenzel flap and extends along the subciliary line to cover the defect on medial lower eyelid. Then the flap is raised in a subcutaneous plane, and dissected widely until the flap has adequate mobilization to cover the defect.

Results: All the flaps survived and healed well with minimal scarring and natural palpebral outline. None of the patients complained postoperative epiphora or ocular irritation.

The follow-up time ranged from 1 to 28 months, with a mean of 7.6 months. No other late complication was observed until the end of follow up.

Conclusion: This series of cases with modified Tenzel flap show in aesthetically and functionally satisfactory outcome. Alternative flaps covering periorbital defect have some limitations to consider.

The Tripier flap is limited in size especially in a vertical direction and often involves 2 stages.[3] Mustarde cheek rotation flap cannot be free from flap descent due to its direction of rotation and its size of the flap,[4] and also leaves scar at cheek eminence which can be conspicuous in asian people.
Compared to traditional procedures, modified Tenzel flap was shown to have several advantages including one stage operation, shorter flap incision, less noticeable scar, and effective prevention of complications such as lower eyelid ectropion and distal flap necrosis.

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Application of Kuhnt-Szymanowski Procedureto Lower Eyelid Blepharoplasty

Presenter: Jae Seong Lee, MD, Plastic & Reconstructive Surgery, Jeju National Universitiy Hospital, Jeju, Korea, Republic of (South)
Co-Authors: Myoung Soo Shin, PhD, Plastic & Reconstructive Surgery, College of Medicine, Jeju National University, Jeju, Korea, Republic of (South); Jae Seung Lee, PhD, Seoul First Plastic Surgery Clinic, Seogwipo-si, Jeju-do, Korea, Republic of (South); Jae Kyoung Kang, MD, College of Medicine, Jeju National University, Jeju, Korea, Republic of (South); Byung Min Yun, PhD, College of Medicine, Jeju National University, Jeju, Korea, Republic of (South)

Purpose: Lower lid blepharoplasty is performed with a variety of maneuvers. Conventional lower lid blepharoplasty with anterior fat removal has a risk of potential lower lid malposition.[1)] Some aging patients who want lower lid blepharoplasty consultation are not suitable for operation because of lower lid laxity or history of blepharoplasty.[1)] In this article, we applied the Kuhnt-Szymanowski procedure, one of

the most popular procedures for paralytic ectropion, for aesthetic lower lid blepharoplasty and obtained good aesthetic results.[2)]

Method: We performed Kuhnt**-**Szymanowski procedure on 26 cases of lower lid blepharoplasty with fat reposition. The skin-muscle flap is dissected, and then the tarsal plate is exposed. From the lateral edge of the eyelid, the full thickness of the pentagon tissue including tarsal plate and conjunctival mucosa is excised. The tarsal plate is approximated together with a 6-0 absorbable suture and then the conjunctival wound is closed with a 6-0 absorbable suture. At the lateral end of the skin-muscle flap the excess cilia and skin are resected. The skin wound is closed.

Result: Most of the patients were satisfied with the aesthetic results during the postoperative follow- up period. There were no recurrences of lower eyelid bulging, lower lid malposition, or wound-related complications

Conclusion: From our experience, this procedure can be performed safely in combination with other procedures to enhance lower lid appearance and useful to patients with poor lid tone or laxity. Especially in cases of patients at high risk of ectropion, we can excise a large amount of excess skin with the procedure. Thus, it can increase indications for lower lid blepharoplasty. It is not only safe, effective and aesthetic but also prevents ectropion.

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Oxygen Plasma Surface Modification of Silicone Breast Implant on Capsular Contracture and Adverse Immune Response

Presenter: Shin Hyuk Kang, M.D., Ph.D., Plastic and reconstructive surgery, Chung-Ang University Hospital, Seoul, Korea, Republic of (South)
Co-Author: Chan Yeong Heo, MD, Plastic and Reconstructive Surgery, Seoul National University Bundang Hospital, Seongnam-Si, Korea, Republic of (South)

Background: Breast implants are widely used in the plastic surgery field. However, these materials still require improvement. In this study, we evaluated whether hydrophilic modification of the hydrophobic silicone implant surface using oxygen plasma treatment can reduce various adverse immune response and capsule formation with improved biocompatibility and mechanical property.

Methods: Smooth, micro textured, and macro textured silicone implants were treated with oxygen plasma at proper power and time. Surface hydrophilicity after oxygen plasma treatment was confirmed by measuring the water contact angle. We evaluated the change of protein absorption, cell viability, mechanical property, and in-vivo tissue of modified surface implant.

Results: The contact angles of each type of silicone implants decreased to less than 10°â€ža immediately after plasma treatment. Plasma treated group significantly inhibited protein adsorption and showed improved tensile strength in mechanical evaluation compared to the control group. We observed no topographic changes on the surface of the implant with the SEM image. In the cell study, the cells were evenly distributed on the plasma treated surface. In vivo study, we confirmed decreased capsule thickness, collagen fiber, number of inflammatory cells, expression of TGF-β1 and α-SMA were detected. Also, the amount of activation of a series of cytokines related to macrophage activation and T cell response was reduced.

Conclusions: Oxygen plasma modification is a cost effective and promising method that can be applied clinically to reduce adverse immune responses and decrease capsular contracture by increasing the hydrophilicity without changing the topography of various textured types of implant surfaces.

Transconjunctival Fat Reposition for Tear Trough Deformity with a Bidirectional Cog Thread

Presenter: Youngwan Jin, MD, PhD, Plastic Surgery, Gangnam K-Beauty Plastic Surgery Clinic, Seoul, Korea, Republic of (South)
Co-Authors: Jungseok Yoo, MD, Plastic Surgery, Gangnam K-Beauty Plastic Surgery Clinic, Seoul, Korea, Republic of (South); Heon Yoo, MD, Plastic Surgery, Gangnam K-Beauty Plastic Surgery Clinic, Seoul, Korea, Republic of (South)

Purpose: Recently, transconjunctival fat repositioning has been developed, varying from internal and external fixations, to correct tear trough deformities. Although internal fixation methods provide a secure and durable fixation, the use of external fixation methods is more widespread because of the simplicity of the procedures, thus enabling fast fixation[1-4]. However, problems with external fixation include patient tolerance and risks of relapse and infection. In this regard, we introduce a new method for fat repositioning that has the advantages of internal and external fixation procedures.

Methods: We retrospectively reviewed 220 patients who underwent this procedure from January 2017 to June of 2018. Through transconjunctival incision, dissection was done along the preseptum to arcus marginlais where the periosteum is to cut to make subperiosteal or supraperiosteal pocket. For fixation of redraped medial and central fat pads, we used 15cm 2-0 size of U-shaped absorbable polydioxane(PDO) cog thread which has double arm needle on each end. One end of the thread entered the fat pads

to engage to the mid portion of the thread. Then both double arm needles externalized from the pocket out to the cheek skin. After the reposition of fat pads to the pocket, cut was then made close to the exit of each thread with an adequate traction.

Results: Our mean follow-up was 6 months. No complication as infection or palpation of knots occurred. 8 patients developed relapse which required additional fat removal. Only 3 patients had dimple which was solved with manual massage.

Conclusion: Our method using a bidirectional PDO cog thread has advantages over other previous methods, including (1) a simple procedure that enables fast fixation; (2) wide fixation with a single thread; (3) firm fixation during 6–8 months, which prevents relapse; and (4) avoiding external knots that may help prevent infection. With our method, we provided satisfactory results for patients with tear trough deformities with minimal laxity of the lower eyelid.

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Pmpc Networks as Biomembrane-Mimicking Coating Alleviate Capsule Formation Around Silicone Breast Implants

Presenter: Ji Ung Park, MD, Department of Plastic Surgery, SMG-SNU Boramae Medical Center, Seoul, Korea, Republic of (South)
Co-Authors: Jiyeon Ham, PhD, Department of Chemistry, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of (South); Tae Hyun Choi, MD, PhD, Department of Plastic and Reconstructive Surgery,, College of Medicine, Seoul National University, Seoul, Korea, Republic of (South); Yan Lee, PhD, Department of Chemistry, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of (South)

PURPOSE: Despite their popular use in breast surgeries, the limited biocompatibility of silicone implants can induce severe side effects, including capsular contracture – an excessive foreign body reaction that forms a tight and hard fibrous capsule around the implant. In this research, we intended to elucidate the detailed mechanism of the

PMPC-based inhibitory effect against inflammation and following fibrous capsular formation [1-2].

METHODS: Protein and cell interactions related to the activation and proliferation of macrophages were carefully examined on the PMPC cross-linked network which was covalently grafted on PDMS surfaces in high density. Furthermore, as an initiative effort to examine the effect of the PMPC network surface on capsular formation in a larger animal model, we analyzed the fibrous tissues around the silicone-gel-filled breast implants, which are popularly used in human breast augmentation, in a pig model

RESULTS: Silicone implants were covalently coated with biomimetic and zwitterionic polymer, Poly(2-methacryloyloxyethyl phosphoryl choline) (PMPC), with or without crosslinkers. Adsorption of fibrinogen were declined on PMPC-coated silicone. The number of adhered macrophages and the amounts of released cytokines (MIP-1α, MIP-1β, IL-8, TNFα, IL-1α, IL-1β and IL-10) were dramatically decreased when PMPC was introduced. *In vivo* 6-month porcine experiments revealed PMPC effects could persist in long-term insertion when PMPC was coated with crosslinkers. 25%-decreased capsular thicknesses, 31%-reduced inflammatory cells. IHC assay for TGF-β, myeloperoxidase, α-smooth muscle actin, and VEGF also revealed 44%, 59%, 14%, and 74%-reduced OD on crosslinked PMPC-silicone compared to silicone. Thus, high density of PMPC coating makes foreign silicone implants stealth-like so significantly reduced inflammation and capsule formation.

CONCLUSIONS: Our study can be one of landmarks to demonstrate the process of capsular formation and the effectiveness with validity and safety of the MPC-grafted silicone implants in higher animal models as critical preclinical practices.

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The Appropriate Choice of Type of Dual-Plane Techniques for Breast Augmentation Using Motiva™ and Bellagel Micro™ Implant

Presenter: Moonseop Choi, MD, PhD, Grace Plastic Surgery, Seoul, Korea, Republic of (South)

Co-Author: Eun-jeong Choi, MD, Grace Plastic Surgery, Seoul, Korea, Republic of (South)

Purpose: These days there are a lot of concerns about using anatomical textured implant for breast augmentation due to some reports of Breast implant-associated anaplastic large cell lymphoma (BIA-ALCL) development, while its results are quite ideal for aesthetics of female breast contour. Necessarily micro-textured round implants are emerging as an alternative, obtaining the advantages of textured implant yet reducing the risk of cancer as much as possible. But they would not be enough to expand lower pole of breast because of their soft characteristics. To overcome the limitations of the aesthetical aspect, such as upper pole excessive fullness and restriction of lower pole expansion, dual plane technique of type II or more can be helpful to reduce restriction power from breast tissue. We evaluated the benefit and aesthetical results of this technique to improve postoperative breast contour especially in Asian females.

Methods and materials: 22 Asian female patients who underwent bilateral primary breast augmentation in type II or III dual-plane technique using micro-textured implant (Motiva Ergonomix™ and Bellagel Micro™) between February 2017 and December 2018 were reviewed retrospectively. All subjects were followed longer than 6 months postoperatively. Photographs (frontal, bilateral oblique and lateral views) respectively taken at pre-operation, 1 month, 6 months and 12 months post-operatively were evaluated. The aesthetical results were assessed by two different plastic surgeons.

Results: 20 Korean and 2 Chinese female patients were involved in the study. The dual plane technique of type II or III was associated with higher aesthetical scores making sufficient volume expansion of lower pole and less excessive volume increment of upper pole.

Conclusions: A high type of dual plane more than type II for breast augmentation using micro-textured breast implant appears to be an aesthetically beneficial method with excellent contour outcome. It can be one of the key determinants affecting result resolving the problem of the defects of micro-textured round implants substituting for anatomical implant reluctant to use with successful achievement though further randomized prospective study will be needed.

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Naevus Sebaceous Excision in Children; Is It Necessary?

Presenter: Maire Caitlin A Casey, MB BCh BAO, MRCSI, PhD, Plastic Surgery, St James' Hospital, Dublin, Dublin, Ireland
Co-Author: David JA Orr, MD MSc FRCSI (Plast), Dublin Cleft Centre, Our Lady's Children's Hospital Crumlin, Dublin, Ireland

Background: Nevus Sebaceous refers to a benign, congenital hamartomatous lesion of the pilosebaceous follicular unit. While it is recognised that these lesions are capable of malignant transformation into BCCs, the incidence is still debated[1,2]. Definitive treatment is with full thickness excision, however, the necessity and timing of excision to prevent possible future malignancy remains unclear, with many authors arguing that prophylactic excision is unnecessary[3]. The aim of this study was to analyse the management of naevus sebaceous over a ten-year period in a tertiary referral paediatric unit.

Method: A retrospective analysis of all sebaceous naevi excised in a ten-year period was conducted, from January 2007-December 2017 inclusive. Cases were identified from histological specimens and operative notes were examined.

Results: A total of 189 paediatric patients had excision of a sebaceous naevus during this period, with an average age of 6.4 years (range 4months-18years). Of these, 37 required a staged procedure (20%), with three requiring the use of tissue expanders. Four patients developed post-operative alopecia, four developed problematic scarring, one required evacuation of haematoma and one required excision of a post-operative pyogenic granuloma. Two patients required steroid injections for keloid scarring, one required excision of a hypertrophic scar and one required scar revision. For management of alopecia, one patient required serial excision in two stages, one excision with rotation flap and two patients required the use of tissue expanders. 99% of patients required general anaesthetic (n=187). 43 patients (23%) required more than one GA, with an average of 2.5 general anaesthetics per patient. No carcinoma was identified.

Conclusion: Excision of sebaceous naevi in children usually requires general anaesthetic and may require more than one procedure to excise the primary disease or to manage the consequences of surgical intervention. We propose that excision of sebaceous naevi during childhood in order to avoid malignant change is not essential. Observation and selective excision of suspicious lesions during adulthood is an alternative strategy. Excision of large lesions for cosmetic benefit can be considered,

but in most cases can be delayed until the patient is mature enough to participate in the decision.

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Toxic Epidermal Necrolysis after Acute Burn Injury

Presenter: Sharon Kennedy, MB, BCh, BAO (Hons), MSc, Plastic Surgery, Galway University Hospital, Galway, Ireland
Co-Authors: Elizabeth Concannon, MB, BCh, BAO (Hons), MSc, National Burns Unit, St. James's Hospital, Dublin, Ireland; Odhran P Shelley, MB BCh, National Burns Unit, St. James's Hospital, Dublin 8., Ireland

Toxic epidermal necrolysis is a rare, potentially fatal disorder that involves large areas of skin desquamation. Patients with toxic epidermal necrolysis are frequently referred to burn centres for expert wound management and early comprehensive critical care as this has been shown to improve patient outcome and mortality. The authors describe the first report of medication-induced toxic epidermal necrolysis occurring in a patient during acute burn management in a tertiary burn care facility. The patient sustained a 17% total body surface area flame burn to her face, chest, bilateral upper limbs and bilateral lower limbs while escaping from a wildfire. She required extensive debridement and allografting to manage burn injured areas and additional areas of epidermal loss from subsequent toxic epidermal necrolysis, amounting to a total body surface area of 90%. Definitive burn wound closure was achieved using autologous split-thickness skin grafting once donor sites healed and became suitable for harvest 3 weeks after the onset of toxic epidermal necrolysis. Grafts achieved complete take and the patient was discharged home following rehabilitation.

Carboxytherapy-Induced Fat Loss Is Associated with VEGF-Mediated Vascularization

Presenter: Junho Park, MD, Plastic and Reconstructive Surgery, Seoul National University Hospital, Seoul, Korea, Republic of (South)
Co-Authors: Jeong Jin Chun, M.D, Plastic and Reconstructive Surgery, Soonchunhyang University Hospital, Bucheon-si, Korea, Republic of (South); Sun Jae Lee, M.D., Plastic and Reconstructive Surgery, Soonchunhyang University Hospital, Bucheon-si, Korea, Republic of (South); Syeo young Wee, M.D., Department of Plastic and Reconstructive surgery, Soonchunhyang University Hospital, Gumi-si, Gyeongsangbuk-do, Korea, Republic of (South); Chang yong Choi, M.D., PhD, Department of Plastic and Reconstructive Surgery, Soonchunhyang University Hospital, Bucheon, Korea, Republic of (South)

Purpose: Carboxytherapy is the transcutaneous administration of CO_2 gas for therapeutic purposes. Although this non-surgical procedure has been widely used for reducing localized adiposity, its effectiveness on fat loss in obese patients and its underlying mechanisms remain unclear.

Materials and Methods: C57BL/6 mice were fed with a high-fat diet for 8 weeks to generate obese animal models. Obese mice were randomly assigned to two groups: One group was administered air to both inguinal fat pads (air/air), and the other group was treated with air to the left inguinal fat pad and with CO_2 to the right inguinal fat pad (air/CO_2). Each group was treated every other day for 2 weeks. Morphological changes and expression levels of genes associated with lipogenesis and vascularization in fat were determined by histological and qRT-PCR analyses.

Results: Mice treated with air/CO_2 showed lower body weights and blood glucose levels compared to air/air treated mice. Paired comparison analysis revealed that CO_2 administration significantly decreased adipose tissue weights and adipocyte sizes compared to air treatment. Additionally, CO_2 treatment markedly increased vessel numbers and expressions of Vegfa and Fgf1 genes in adipose Tissues. The expressions of Fasn and Fabp4 genes were also modestly reduced in CO_2 treated adipose tissue. Moreover, Ucp1 expression, the target gene of VEGF and a key regulator in energy expenditure, was significantly increased in CO_2 treated adipose tissue.

Conclusions: Carboxytherapy is effective in the reduction of localized fat in obese patients which is mechanistically associated with alteration of the vasculature involved in VEGF.

The Hybrid Reconstruction of Facial Defect Using Three-Dimensional Printed Patient Specific Implant and Free Tissue Transfer

Presenter: Seung Eun Baek, MD, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of (South)

Co-Author: Suk-Ho Moon, MD, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of (South)

Objectives: The reconstruction of facial defects is challenging because surgeons must consider their anatomical complexity, previous surgical history, soft tissue contracture after radiation therapy, and aesthetic result. To overcome these challenges, both bone and soft tissue defects should be reconstructed simultaneously. We performed hybrid reconstructions using 3D-printed patient specific implant (PSI) and autologous free transfer to achieve satisfactory results and postoperative outcomes.

Materials and Methods: Two patients visited our facility for the reconstruction of facial defects after the treatment of malignant tumors. Both patients had history of wide excision including orbital wall resection and enucleation, followed by several radiation therapies, and facial bone reconstruction using plates and screws. Severe soft tissue contracture was developed around the eye socket. The design of implant was based on the mirror images of the contralateral unaffected bone structure, and PSI was manufactured using 3D-printing technology. During surgery, we removed foreign bodies from the previous operations, and released soft tissue contracture. The 3D PSI was inserted to reconstruct the skeletal defect. After that, we elevated the chimeric anterolateral thigh (ALT) flap with two skin paddles from thigh to cover the soft tissue defects.

Results: There was no complication including foreign body reaction, inflammation and infection for 18 months follow up period. All patients were satisfied with functional and aesthetic outcomes. No atrophy of the autologous tissues around the implant was found, and the contour and volume were well preserved. Mild soft tissue thinning appeared partially on the transferred autologous tissues which required several fat injections for correction.

Conclusions: Simultaneous skeletal reconstruction using 3D-printed patient specific implant with autologous free soft tissue achieved satisfactory facial contour without major complications immediately following surgery. Also facial symmetry after the surgery was well preserved post-operatively. We believe that this hybrid method for facial reconstruction will become one of the most useful reconstructive plans for bone and soft tissue defect of face.

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Head and Neck Injury in Major Trauma: A 4-Year Retrospective Analysis of Patterns and Surgical Workload in an Irish Major Trauma Centre

Presenter: Abdulrahman Mohamed, B.Dent.Sc, MFDS RCSEd, University College Cork, Cork, Ireland
Co-Authors: Jeffrey Mulcaire, MB BCh BAO, Emergency Medicine, Cork University Hospital, Cork, Ireland; James Clover, Senior Lecturer and Consultant, Plastic Surgery, Cork University Hospital, Cork, Ireland

INTRODUCTION: A considerable number of trauma patients sustain some form of head and neck injury, often with considerable associated morbidity and mortality.[1]
Major trauma describes serious and often multiple injuries where there is a strong possibility of death or disability.[2]

The Trauma Audit Research Network (TARN) is Europe's largest database of major trauma patients.[3]

While head and neck injury has been widely documented in the literature, there are few studies on it in major trauma patients.

This study is aimed to address this important gap in the literature, particularly in the context of increasing development of Irish and European trauma systems.
The management of trauma forms a major workload of plastic, maxillofacial and ENT surgery departments.[4]

Knowledge of head and neck involvement in major trauma is important in guideline development, efficient hospital resource allocation, and surgeon training.

PURPOSE: To determine the prevalence of head and neck injury in major trauma in an Irish population
To assess the sociodemographic (age, sex) and clinical patterns (injury types, mechanisms) underlying it.

METHOD: The TARN database was searched for entries with head and neck injuries between 2014-2017 admitted to Cork University Hospital (CUH). Descriptive data analysis was carried out with the data generated.

RESULTS: Twenty-one per cent of major trauma patients treated in CUH between

2014-2017 (n=503) sustained some form of head, face, or neck injury.
Males were considerably more affected than females (M:F 2:1).

The most common mechanism of injury was falls, accounting for over half of all causes, followed by RTAs (20%) and this varied depending on age and sex.
The elderly (65+) were the most affected age group.

There were 217 counts of soft tissue injury, and 610 counts of bony fractures, the most common of which being scalp contusions and cranial vault fractures respectively.

Eighty-seven percent of patients underwent some form of surgical procedure.

Plastic surgery was the most commonly performed on face and neck injuries. Direct wound closures, ORIF of facial bones and wound exploration were the most commonly performed.
Neurosurgery was the most commonly performed on head injuries.

Median length of stay was 9 days and the 30-day survival rate was 84%.

CONCLUSION: Head and neck injury is commonly seen in major trauma, affecting patients of all ages and genders. It produces significant injury as well as surgical workload.
Further research with a larger national sample is needed to allow more accurate assessment of its impact on morbidity, mortality and the healthcare system.

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A New Technique Using 'septal Turn over Flap' to Create a Natural Lateral Double Eyelid Fold When Performing Upper Blepharoplasty

Presenter: Hea Kyeong Shin, MD, PhD, Plastic and Reconstructive Surgery, Dongguk university, Gyeongju, Korea, Republic of (South)
Co-Author: Jung hwan Kim, MD, Plastic and Reconstructive Surgery, Dongguk university, Gyeongju, Korea, Republic of (South)

Background: When performing upper blepharoplasty, if the double eyelid fold curves rapidly at the lateral end, it can gives an unnatural impression. To make a long and laterally extended double eyelid fold is a challenging problem for plastic surgeons. Because, there is no tarsus beyond the lateral palpebral fissure[1], so we cannot fix the dermis of lower skin flap to the tarsus beyond the lateral palpebral fissure[2]. And, levator aponeurosis runs deeper at this point, so the double fold line may become deep and abruptly end at this point[3]. Therefore, the authors' goal is to introduce a new technique which uses ‘septal turnover flap’ to make laterally extended double eyelid fold. And to evaluate how much the most lateral fixation point moves with this ‘septal turnover flap’.

Methods: Patients who underwent upper blepharoplasty (with septal turnover flap technique) between 2017.03 and 2018.02 were included in the study. Sixty-two lids in 31 patients were subjected to this operation. The horizontal palpebral fissure (HPF) length of both eyes were measured before surgery. We also measured and recorded the extent of the most lateral fixation site before and after performing septal turnover flap. The patients were followed up for 6 months postoperatively and evaluated for complications and satisfaction.

Surgical technique: To make a septal turnover flap, proceed to levator idenficiation in the usual way. Next, find the conjoined tendon where the levator aponeurosis, anterior septum, and posterior septum meet. Dissection is performed until the most lateral side of the conjoined tendon. If the dissection cannot proceed any further, make an incision into the anterior septum for the amount of lateral extension that is sufficient to turn over. The flap is then turned over to the anterior and lateral side to create a septal turnover flap. Next, fixation was performed between the most lateral point of the turn-over septal flap and the dermis of the lower skin flap.

Result: The mean HPF length was 25.9 ± 3.2 mm and the mean extended length of ‘the most lateral fixation point’ was 3.6 ± 0.9 mm. The ratio between ‘Extended length’ and HPF was 0.14. There were no revision surgeries and no direct complications associated with the use of this technique.

Conclusion: The most lateral fixation point moved about 3.6 mm laterally by using the septal turnover flap technique. As a result, the most lateral fixation point was laterally moved about 14% of the patient's own HPF. Therefore, it is possible to prevent deep and abruptly end double fold lines caused by the conventional upper blepharoplasty technique. Septal turnover flap can be easy and satisfying method that achieves the natural double fold line by move the fixation point more laterally.

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Skin Micro-Graft for Refinement of Cleft Lip

Presenter: Lei-Ming Sun, MD, PhD, Beauty-Safe clinic, Taipei, Taiwan

There are many methods of cleft lip repair. Despite of these genius methods there often exists a secondary deformity at the vermilion portion. The defect may be tiny but it is a stigma for patients. Simple excision or using a local flap is often impossible. Fat graft is not suitable to treat such tiny defects and is notorious for its high absorption rate.[1] Dermal graft is a good option, but traditional method owns many limitations. Here we proposed a novel method named skin-micrograft to overcome these aforementioned drawbacks.

Patients and Methods: Five patients were enrolled in this method. They aged from 23 to 44. Of these 5 patients, one was a bilateral cleft deformity and 4 were unilateral. The common complaints are the dimpling of vermillion and upper lip. One patient also complained nasal sill defect and one patient a vermillion notch.

The surgical method began with harvesting of the posterior auricular skin. The harvested dermis is minced into small pieces of about 2 mm in diameter. Multiple stab incisions were made with a 18-gauge needle along the scar. The minced dermises were buried to the subcision pocket via the stab incisions. The whole scar with all stab wounds were covered with the DuoDerm® sheet without any suture. All patients were operated at outpatient clinic.

Results: The mean follow-up was 11 months. Satisfying results have been achieved in 4 patients. Only one patient with a 40% graft resorption at 7 months postoperatively had complaints.

Discussion: The vermilion of the medial portion of the cleft lip is usually deficient. Fat grafting may be of benefit, but it has to be done during immediate cleft lip repair.[2] Local flaps such as the Abbe flap or tongue flap require a second operation and may leave donor site ugly scars. Plastic surgeons have been used dermal graft to repair this defect.[3] However, the traditional method is too extensive to make a long incision along the scar to create an adequate pocket.

We proposed a novel concept composing of subcision plus minced dermis graft, i.e. skin micro-graft, to overcome these drawbacks. Patients were operated at an outpatient clinic with local anaesthesia. Instead of a long incision, tiny stab incisions were made along the scar. Dermis were minced before inset. Since small dermal pieces have higher contact surface/volume ratio than the large one, this will theoretically achieve a higher survival rate than the traditional graft method.

Conclusions: This skin-micrograft method is an effective method to correct these defects. It is simple and reliable and can be completed at an outpatient clinic.

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Toxicity of Polyacryamide Gel Injection to Breasts and Its Management

Presenter: Jo-Chun Hsiao, MD, Department of Plastic and Reconstructive Surgery, Chang Gung Memorial Hospital at Linkou, Taoyuan, Taiwan
Co-Author: Ming-Huei Cheng, MD, Plastic Surgery, Chang Gung Memorial Hospital, Taipei, Taiwan

Introduction: Polyacrylamide gel (PAAG) has been used for soft tissue augmentation and contour correction in face and breast since 1995. Take advantage of its ease of application, minimally invasive and low technique demand under local anesthesia, PAAG has attracted many patients worldwide to undergo the procedure. The injected material is believed to be an atoxic, non-immunogenic ,non-irritable that can be injected directly into the human body as a permanent tissue expander. However, triggered by heat or ammonia polyacrylamide can be degraded to toxic monomer, which has teratogenic, carcinogenic and neurotoxic character.

Patients and methods: We collect the patients who have history of PAAG injection then received surgical excision and immediately reconstruction by a single surgeon at Chang Gung Memorial Hospital from September 2009 to May 2018. The clinical signs and symptoms, reconstructive procedure, image finding, pathological result are reviewed by charts retrospectively, and we also compare the successful rate, acute and chronic complication, revision rate between different reconstructive procedures. In order to prove the toxicity of the degraded monomer by PAAG, we extract the urine sample from the patients and lay person. The level of N-acetyl-S-(propionamide)-cysteine

(AAMA) measured by LC–MS/MS system (Varian, Palo Alto , CA) is applied as the biomarker of indirect evidence of PAAG toxicity.

Results: There are 16 patients received implant insertion after PAAG removal, and 2 patients underwent free flap reconstruction. Both procedures have 100 % successful rate. Patients who had PAAG injection has higher N-acetyl-S-(propionamide)-cysteine (AAMA)than the control group ($P<0.05$)

Conclusion: We offered the protocol to take care of these patients: careful history taking, chronological signs and symptoms, detailed physical examination, T2-weighted MRI exam, meticulous surgical planning for immediate reconstruction, and post-operative pathological result. Patients who received pectoris muscle excision have higher possibility of further revision surgery. This is the first study to provide objective data to prove the risk of PAAG injection by indirect evidence from urine sample. There is statistical significant difference between study group and control group among the N-acetyl-S-(propionamide)-cysteine (AAMA) level. Moreover, immediate reconstruction after PAAG removal is safe by experienced surgeon to gain symmetric and optimal aesthetic result without acute complication.

Audit of Perioperative Antimicrobial Prophylaxis in a Plastic Surgery Service

Presenter: Jack F Woods, MB MCh MRCS, Plastic Surgery, St James's Hospital, Dublin, Ireland
Co-Author: Marlese Dempsey, FRCS(Plast), St James's Hospital, Dublin, Ireland

Introduction: Surgical site infection (SSI) rates occur in 1 – 5 % of operative cases. Perioperative antimicrobial prophylaxis (PAP) forms a significant component of prevention of this morbidity, in addition to appropriate patient preparation, maintenance of sterile fields and surgical technique. There is an unclear understanding of the optimum antimicrobial prophylaxis in Plastic Surgery, with a risk of underprescribing leading to SSI or overprescribing leading to antimicrobial resistance and unnecessary expense. We aimed to mitigate these risks by introducing, implementing and auditing new guidelines for PAP in Plastic Surgery at our institution, based on the best available international evidence.

Methods: A first cycle audit was completed based on existing guidelines for PAP in our hospital, including all operative procedures over a two-week period. Subsequently, changes to the guidelines were developed and adapted in consultation with the Microbiology service. Following implementation, a two-week second cycle audit was completed. We monitored the indication, agent, dose/route, timing, duration and SSI within 30 days.

Results: Our first cycle results revealed a SSI rate of 3.15% (4/127). PAP was inappropriately managed in 37% (47/127) of patients. An incorrect agent was given in

six cases. Timing of administration was erroneous in five cases. 27 patients were given post-operative courses of oral antibiotics of varying duration despite no indication. No second dose was administered during cases > 4 hours in 2 of 3 cases. Subsequent to this, guidelines were altered and the second cycle results showed improved adherence to guidelines, a reduced SSI rate and less inappropriate prescribing.

Discussion: Current practice of PAP in Plastic Surgery is haphazard and often inaccurate. We aim to provide an evidence-based approach to PAP in our institution which may be audited on a prospective basis and applicable to the wider Plastic Surgery community.

Giant Lipoma in the Hand

Presenter: Kwang Seog Kim, MD, PhD, Plastic and Reconstructive Surgery, Chonnam National University Medical School, Gwangju, Korea, Republic of (South)

Background: Lipomas are the most common benign form of soft tissue tumor in the body.[1] Although they are commonly found on the upper extremity, their occurrence in the hand is rare.[2] Giant lipomas of the hand, defined as greater than 5 cm in diameter, are extremely rare.[3] In this report, the author presents a patient with a giant lipoma on the palmar side of a hand.

Methods: A 49-year-old man presented with a soft and fixed lump in the left hypothenar area. The mass was not tender, but it was associated with symptoms of tingling sensation and paresthesia in the left ring and little fingers that had lasted for 4 years. Preoperative image studies revealed an encapsulated and multilobulated mass, which measured 8 cm × 5 cm × 2 cm. Under general anesthesia, the mass was operated by a T-shaped skin incision. The mass was mainly located in the subcutaneous layer, however, deep extensions were seen reaching into the carpal tunnel, the hypothenar muscles, and intertendinous spaces between the left index and little fingers. To enable a complete excision of the mass, the common palmar digital nerve of the ulnar nerve passing through the mass was temporarily transected. After complete excision of the mass, the nerve was coapted again under microscopy.

Results: With the exception of temporarily reduced sensation in the left ring and little fingers immediately after surgery, no particular complications were noticed. Basic histologic examination identified the specimen as a lipoma and further immunohistochemical studies ruled out the possibility of malignancy. Complete sensory recovery was achieved 6 months after surgery, without any sign of recurrence.

Conclusions: Although giant lipomas in the hand can extend to vital components such as neurovascular structures, muscles and tendons, meticulous en bloc resection can provide excellent results without any complications.

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Perceptions of Plastic Surgical Practice Amongst Other Medical Professionals

Presenter: Laoise Coady, BA, BM BCh BAO, MSc, MRCSI, Plastic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland
Co-Authors: Christine Quinlan, BM BCh BAO, MCh, FRCSI (Plast), Plastic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; Robert Caulfield, MB BCh BAO, FRCSI (Plast), Plastic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland

Background: Plastic surgery is an evolving and innovative specialty which encompasses both aesthetic and reconstructive work. It is our experience that the breadth of our specialty is poorly understood by other medical professionals both within the hospital and in primary care. As the majority of our work arises from referrals from other healthcare workers, the aim of this study was to assess whether our colleagues are aware of the role of the plastic surgeon in a variety of clinical settings, and whether patients are therefore being assessed appropriately.

Methods: A web-based anonymous survey was administered to healthcare professionals from varied backgrounds. Respondents were presented with clinical cases in which we considered plastic surgical involvement to be routine, in Ireland. Respondents were asked to identify the most appropriate surgical specialty they deemed should be involved in clinical management of each scenario.

Results: A total of 190 survey responses were collected. Respondents included public health nurses, physiotherapists, GPs, Non-Consultant Hospital Doctors and Consultants from 25 medical and surgical subspecialties.
Respondents believed plastic surgeons to be the most appropriate experts to manage necrotising fasciitis (53.44%), nerve repair (73.54%), skin cancer (64.74%), digital replantation and (81.05%), burns (98.94%).
Other specialties than plastic surgery was deemed the most appropriate to perform cleft palate and lip surgery, oculoplastic and craniosynostosis surgery.
In a number of clinical scenarios which form core components of the plastic surgery syllabus, including open lower limb fractures, head and neck reconstruction and chest wall reconstruction, our colleagues did not believe plastic surgeons were the most likely specialty to be consulted.

Conclusion: Our findings show a heterogeneous level of understanding of the role of the plastic surgeon in clinical practice amongst other medical professionals. As the field of plastic surgery continues to evolve, we believe the education of other healthcare professionals on the scope of our practice is essential to ensure the ongoing appropriate and timely referral of patients for clinical management.

Nasal Tip-Plasty Using 3D PCL Mesh

Presenter: Eunsoo Park, Md, PhD, Plastic & Reconstructive Surgery, Soonchunhyang University Bucheon Hospital, Bucheon, Korea, Republic of (South)
Co-Authors: HeeYong Kang, Md, Plastic & Reconstructive Surgery, Soonchunhyang University Bucheon Hospital, Bucheon, Korea, Republic of (South); Seungmin Nam, MD, Plastic & Reconstructive Surgery, Soonchunhyang University, Bucheon, Korea, Republic of (South); SeokHwan Kim, MD, Plastic Surgery, Soonchunhyang University Bucheon Hospital, Gyeonggi-do, Korea, Republic of (South)

Purpose: For achieving beautiful shape in Asian rhinoplasty, correction of tip projection is very important because of blunt nasal tip. Polycaprolactone (PCL) is an U.S. FDA-approved synthetic biodegradable polymer and is easily fabricated into three-dimensional (3D) structures. In this study, we performed tip plasty using PCL implant. Suitability, safety and efficiency of this procedure were evaluated.

Methods: 20 patients were recruited. PCL was fabricated based on 3D printing into various size, various shape (dumbbell or ball) implant. Closed surgery was performed by marginal incision and dissection in the subperichondrial plane. In three patients, open procedure was performed by transcolumellar incision for definite fixation. The material was inserted inferior to medial crura or superior to dome according to implant shape. Results were evaluated by gross morphological assessment and patient satisfaction survey. Tip projection is evaluated as the distance from alar base to the nasal tip. Related complications were recorded.

Results: There were significant improvements in tip projection. Eleven patients were satisfied to results. Implant remained in their initial location. There is no infection, nostril asymmetry, rotation or deprojection of the tip. In one patients hypertrophic scar was presented in mucosa. Another one patient underwent wound necrosis, but after 1-week secondary healing was completed by conservative treatment. Average surgical time was 30 minute.

Conclusion: PCL implant is easy to improve nasal tip shape and produce a safe result. Also, that will make operative time shorten by skipping autologous cartilage harvest. Therefore, tip plasty using PCL implants designed by 3D printing can be effective and safe technique.

Efficacy of Q-Switch 1064 Nm Nd: YAG Laser on Split Thickness Skin Graft in Long Term Study

Presenter: Atthawit Mangkornwong, MD, Plastic surgery, Mahidol university, Bangkok, Thailand
Co-Authors: Sitthichoke Taweepraditpol, MD, Plastic surgery, Mahidol university, Bangkok, Thailand; Warangkana Tonaree, MD, Plastic surgery, Mahidol university, Bangkok, Thailand; Apirag Chuangsuwanich, MD, Plastic surgery, Mahidol university, Bangkok, Thailand

Background: Hyper-pigmentation and non-pliability after split-thickness skin graft procedure is a common problem in Asian skin. This can cause distress to the patients. Various treatments have been attempted but still have unsatisfactory results. Q-switch 1064 nm Nd: YAG laser has been used as a standard treatment for hyper-pigmented skin lesions, but there is not any report in treatment of hyper-pigmented skin graft and improve skin texture with Q-switch 1064 nm Nd: YAG laser.

Objectives: To evaluate the efficacy of Q-switch 1064 nm Nd: YAG laser on skin grafts compared to untreated skin grafts and normal skin.

Materials and Methods: A prospective case-control trial study was conducted between September 2017 to September 2018 at the outpatient unit, Division of Plastic and Reconstructive Surgery, Department of Surgery, Siriraj Hospital, Mahidol University, Thailand. Half area of the skin grafts was treated with Q-switch 1064 nm Nd: YAG laser for 4 times, and the other half left untreated. Treatment results were evaluated with clinical photograph, assessment of melanin index (MI), erythema index (EI) and Elasticity parameters at baseline, 2 weeks after each session, 1 month after the final treatment and every month until 1 year, with untreated sites as the control.

Results: There are 10 patients with split thickness skin graft were enrolled in this study. Most patients had split thickness skin graft at lower extremities after burn treatment. After 4 sessions of Q-switch 1064 nm Nd: YAG laser treatment, the melanin index decreased when compared to normal skin ($p=0.232$) and to the untreated skin graft ($p=0.770$). The elasticity of the treated skin graft also increased significantly when compared to normal skin ($p=0.039$) and the untreated skin graft ($p=0.846$). The erythema index decreased when compared to normal ($p=0.432$) and to the untreated skin graft ($p=0.164$), No complications recorded in this study.

Conclusion: This study showed that Q-switch 1064 nm Nd: YAG laser treatment can be an another modalities in hyper-pigmented skin graft treatment and also can reduce erythema and soften the split thickness skin graft.

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Efficacy of Triamcinolone and Lidocaine-Triamcinolone Mixture in Keloid Treatment

Presenter: Sitthichoke Taweepraditpol, MD, Plastic surgery, Mahidol university, Bangkok, Thailand
Co-Author: Wilasinee Udkhamtiang, MD, Plastic surgery, Mahidol university, Bangkok, Thailand

Backgroud: Triamcinolone acetonide intralesional injection is an option in keloid treatment. Lidocaine has usually been mixed with triamcinolone to reduce pain during injection.Previous experimental studies found that lidocaine could inhibit fibroblast proliferation but there is no clinical study about lidocaine-triamcinolone mixture effect in keloid volume reduction.

Methods: Between October 2017 and February 2018, total 15 patients were enrolled in this study and randomly divided into 3 groups: Group I received only Triamcinolone 40mg/ml intralesional injection alone , group II received Triamcinolone 40 mg/ml mixed with 2% lidocaine in 1:1 , Triamcinolone 40 mg/ml with 2% lidocaine with adrenaline (1:100,000) in 1:1 in Group III . All patients received the treatment every 4 weeks for 4 times . After16 weeks, the patients were evaluated for volume reduction ,Vancouver scar scale and Visual analogue score. Kruskal–Wallis test and Fisher's exact test was used for statistical analysis.

Results: The average age of the patients was 39 years old (16-65years old) The location of keloid was knee, other were face, ear, chest, shoulder and leg. Mean duration of keloid was 14.6 months. The initial size of keloid started form 0.57 ± 0.50 ml in Group I, 0.62 ± 0.210 ml in Group II and 0.98 ± 1.00 ml in Group III. There is no any significant difference in demographic data. We found that no significant volume reduction was observed among 3 groups (group I :0.34±0.52 ml, group II :0.41±0.43 ml,

and group III:0.53±0.93 ml, p-value=0.65). But the percentage of volume reduction in group II was noticeable (group I; 47.95%, group II; 62.1%, and group III; 42.07%, p-value=0.521). All patients in group B also showed improvement in scar pliability.

Conclusion: Lidocaine-triamcinolone mixture might have higher efficacy than triamcinolone alone in term of keloid volume reduction and scar pliability. We will further study in the larger population in the future.

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Flying Brevet - a Technique for Mastectomy in Female to Male Gender Reassignment Surgery

Presenter: Jeannine McManus, MBBS, BSc, MPH, MS, Plastic Surgery, Camp Hill, QLD, Australia

Background: Several techniques are described for chest wall contouring in female-to-male (FTM) transgender patients, each with specific applications and limitations. Factors to consider are the aesthetic requirements of the male chest, elimination of anatomical female breast features, operative technique, scar minimization and success of outcome. We describe a technique for FTM patient chest wall reconstruction known as the ‘Flying Brevet’ technique. This procedure is tailored to FTM patients but can also be used for large gynaecomastia patients. We present a description of the technique with a retrospective review of outcomes and case series of patients that have undergone this procedure.

Methodology: This is a retrospective review of a single surgeon experience with 99 consecutive patients who have undergone the Flying Brevet. The approach involves a semicircular areolar incision, with superior skin resection and glandular resection. A planned second stage procedure may be performed for larger breasts if required.

Results: Nipple sensation was intact in most cases. 8% incidence of postoperative haematoma, one case of fat necrosis, one case of partial nipple-areolar-complex (NAC) necrosis and one case of full NAC necrosis in the series. There was one postoperative infection and 6% incidence of hypertrophic scarring.

Conclusion: The Flying Brevet provides a consistent method of mastectomy for FTM chest wall reconstruction. It permits large glandular and skin resection in ptotic breasts.

Complications of the Surgical Excision of Encapsulated Versus Non-Encapsulated Lipomas: A Retrospective Analysis

Presenter: Won hyuck Do, MD, Plastic surgery, Inje University, Seoul, Korea, Republic of (South)
Co-Author: Youngwoong Choi, M.D., Ph.D, Department of Plastic Surgery, Inje University Sanggye Paik Hospital, Seoul, Korea, Republic of (South)

Background: Lipomas are common benign soft tissue tumors composed of mature white adipocytes. Lipomas on the trunk and limbs rarely present a diagnostic problem, and surgical excision is the mainstay of management [1]. The histological features include a well-circumscribed and lobular mass covered with a thin fibrous capsule. However, lipomas that are poorly demarcated from the surrounding fat are often encountered during surgery despite postoperative histologic diagnosis. We investigated the complications associated with different types of lipomas.

Methods: This retrospective study included 119 patients who underwent lipoma excision and computed tomography (CT) imaging in our clinic between January 2011 and August 2018. Patients who had lipomatosis or other lipoma subtypes such as hibernoma,
circumference of the lipoma was encapsulated in at least one plane with a smooth, linear margin, as specified by Roberts et al. [2], the mass was defined as an “Encapsulated lipoma” (Figure 1,2).. The complications included in this study were delayed wound healing (healed after 14 days of surgery), recurrence, seroma, and hematoma formation.

Results: Encapsulated and non-encapsulated lipomas were diagnosed in 89 (74.8%) and 30 (25.2%) patients, respectively. Encapsulated lipomas occurred most commonly on the head, whereas non-encapsulated lipomas occurred most commonly on the neck and trunk (P=0.000, P=0.002, P=0.031). Analysis with Fisher’s exact test showed a statistically higher incidence of delayed wound healing with non-encapsulated than

encapsulated lipomas (P=0.014). The rates of seroma or hematoma formation and recurrence showed no statistically significant differences between the groups. Hematoma and seroma were treated with continuous aspiration and compressive dressing in 5 cases, stitch out and old blood clot removal and re-suturing in 2 cases. All patients were healed without complication after the procedure described above.

Conclusions: In conclusion, when comparing the incidence of postoperative complications, it is important to preoperatively classify the types of lipoma using CT imaging. Direct excision is adequate for removal of encapsulated lipomas. However, non-encapsulated lipomas might require alternative methods, such as ultrasonic liposuction, to prevent post-operative complications. Our study results will help reduce the incidence of scarring by providing guidance on appropriate surgical methods.

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Combined Glabellar and Cheek Flap for Nasal Reconstruction after Cutaneous Squamous-Cell Carcinoma Resection

Presenter: Carlos Augusto Cutini, MD, Cutini Cirugia Plastica, Bahia Blanca, Argentina
Co-Author: Jorge Augusto Cutini, MD, Cutini Cirugia Plastica, Bahia Blanca, Argentina

Cutaneous squamous-cell carcinoma represents one of the most frequents skin's neoplasm[1], and its treatment is based on surgical resection with free margins of healthy tissue[2]. When this type of carcinoma is located on the face, the surgical planning could need to include more than one local reconstructive flap.

We present a case of an 86 years old, male patient with a cutaneous squamous-cell carcinoma located on the dorsal nasal region. Surgical excision with healthy tissue margin, confirmed with intraoperative margin assessment, was performed. The remaining defect consisted of an area of 7 $cm^{2.}$ The reconstruction was executed with a combination of a glabellar and cheek flap, due to its the size, under local anesthesia. The deferred histological exam confirmed the absence of neoplastic cells on the specimen's margins and no complications was evidenced after 3 months follow up.

Selected patients could benefit of combined local flap's reconstructions instead of more complex surgical intervention that required general anesthesia. Other strategies, like skin graft reconstructions, could lead to an aesthetically displeasing result.

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Surgical Anatomy of Vascularized Submental Lymph Node Flap: Re-Designing Single Lymph Node Perforator-Based Flap

Presenter: Nutcha Yodrabum, MD, Division of Plastic Surgery, Department of Surgery, Faculty of Medicine Siriraj Hospital, Mahidol university, Bangkok, Thailand
Co-Author: Parkpoom Piyaman, MD, Department of Anatomy, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand

Background: Vascularized submental lymph node flap includes Ia and IIb sublevel of the neck and highlights submental artery as major arterial supply. To reduce flap dimension, submental perforators have been exploited whereas anterior belly of digastric muscle (ABDM) has been spared. Nevertheless, topographic relationship between the two is still elusive.

Methods and Materials: 40 vascularized submental lymph node flaps were harvest from 23 fresh cadavers. Colored polymer was injected into external carotid arteries prior to the harvest for visualization of the arterial supply. The harvest also included part of submandibular salivary glands and whole ABDMs to preserve topographic relationship. The lymph nodes and related structures were studied macroscopically and by tracing under light microscope.

Results: Median number of lymph nodes was 4 nodes (range 2~8) comprised of 3 (0~7) submental nodes (supplied by submental a.), and 1 (0~4) submandibular node (by facial a.). Submandibular nodes contributed 39.7% of Ib nodes but none in Ia. The submental artery branched off 2~8 perforators which were originated lateral (44.4%) or deep (43.6%) to ABDM. Most of the perforators supplied not only skin paddle but also lymph nodes via hilar arterioles. Much of Ia nodes, 71.7%, recieved arterial supply located deep to ABDM. Majority of hilar arterioles, 78.9%, were branched from the perforators whereas only few were originated directly from submantal artery. Diameter of the perforators were 0.50 ± 20 mm.

Conclusion: Lymph node guarantee could be achieved by inclusion of submandibular lymph node gaining 4 nodes (2 ~ 8), totally. Dissection deep to ABDM could risk damaging arterial supply to most of Ia nodes (71.7%). Ib submental perforators had high prevalence, but not constant, pre-op doppler U/S is recommended. Skin and Ib lymph nodes shared route of arterial supply via submental perforators. Inclusion of skin paddle could benefit as visual monitoring for viability of the transplanted nodes. Vascularized lymph node flap could be re-design as “1 lymph node + 1 perforator-based + skin paddle”.

Synergistic Effect of Adipose-Derived Stem Cells and Fat Graft on Wrinkles in Aged Mice

Presenter: Jae Hoon Jeong, MD, PhD, Plastic and Reconstructive Surgery, Seoul National University, Gyeonggi-do, Korea, Republic of (South)
Co-Authors: Kikap Kim, MD, Ph D, Seoul National University, Seoul, Korea, Republic of (South); Sukwha Kim, MD, Ph D, Seoul National University, Seoul, Korea, Republic of (South)

Background: We investigated the synergistic effects of adipose-derived stem cells (ADSCs) and fat graft on skin wrinkles in a nude mouse model of chronological aging.

Methods: After 50 weeks of chronological aging, 44 female BALB/c nude mice were classified into four groups; 1) negative control, 2) injected subcutaneously with fat on the back skin (0.5 cm^3), 3) injected with ADSCs (1×10^5 cells in 0.5 cm^3 Hank’s balanced salt solution), and 4) injected with both fat (0.5 cm^3) and ADSCs (1×10^5 cells in 0.5 cm^3 Hank’s balanced salt solution). The degree of wrinkling was evaluated using replica analysis, and skin biopsies were performed after 4 weeks. The dermal thickness and density of collagen were determined. Type I procollagen and matrix metalloproteinases (MMP) levels were determined using real-time polymerase chain reaction (qPCR) and western blot analysis. Tropoelastin, fibrillin-1, and CD31 levels were evaluated using immunohistochemistry.

Results: Based on the total wrinkle area, there was significant wrinkle reduction in the fat graft and ADSC with fat graft groups. Type I procollagen mRNA and collagen levels were significantly higher in the ADSC with fat-treated group than in the ADSC- and fat-treated groups. In addition, the ADSC with fat grafted group exhibited significantly higher CD31 expression level than the ADSC- and fat-treated groups.

Conclusions: Both ADSCs and fat graft have wrinkle reducing effect and synergistically affect collagen synthesis and neovascularization.

Comparison of Smooth, Textured and Polyurethane Surface Implants from the Perspective of Biofilm and Capsule Formation Under Local Antibiotherapy: An Experimental Study

Presenter: Mehmet Suhan Ayhan, Professor, MD, Plastic Surgery, Gazi University Faculty of Medicine, Ankara, Turkey
Co-Authors: Safa Manav, MD, Plastic Surgery, Gazi University Faculty of Medicine, Ankara, Turkey; Erkan Deniz, MD, Plastic Surgery, Gazi University Faculty of Medicine, Ankara, Turkey; Suheyla Esra Ozkocer, MD, Histology and Embryology, Gazi University Faculty of Medicine, Ankara, Turkey; Cigdem Elmas, Professor, PhD, Histology and Embryology, Gazi University Faculty of Medicine, Ankara, Turkey; Erdem Sahin, MD, Microbiology, Gazi University Faculty of Medicine, Ankara, Turkey; Meltem Yalinay, Prof, MD; PhD, Microbiology, Gazi University Faculty of Medicine, Ankara, Turkey

Introduction: Capsule contracture is not a rare complication after breast augmentation. Biofilm formation and implant surface structure seem to have a role in etiology. Although capsular contracture around implants with different surfaces have been studied, the impact of surface structure on biofilm formation has not yet been clarified. In this study, we compared biofilm formation on breast implants with different surfaces, after standardized bacterial contamination and also effect of local antibiotic use on biofilm formation on different surfaces.

Materials-Methods: Twenty-four Long Evans rats were used. Rats were divided into four groups. Mini implants *(Polytech/Germany)* with three different surfaces *(smooth, textured and polyurethane-coated)*were placed on the dorsum of each rat.

Group-1: Sterile implants placed directly in pockets
Group-2: Implants were incubated in *Staphylococcus epidermidis* medium before implantation.
Group-3: Implants were incubated in *Staphylococcus epidermidis* medium andinserted in *Rifamycin*solution before implantation.
Group-4: Sterile implants were inserted in *Rifamycin*solution before implantation

All rats were sacrificed at three months. Clinical (Baker scoring), microbiological (scanning electron microscopy, microtiter plate), histological (capsule thickness, inflammatory cell density)and immunohistochemical (actin protein amount / sequence) evaluations were performed.

Results: Capsule contracture developed only on infected textured implants. Textured and PU implants showed more biofilm formation than smooth implants. Capsule thickness, inflammatory cell density and actin accumulation were highest on textured implants. Actin sequence was parallel and concentric on textured; but in irregular array on PU implants.

Conclusion: In presence of bacterial contamination, textured implants have the most propensity of developing capsular contracture comparing to smooth and PU implants at

three months after implantation. Biofilm formation is less on smooth implants. Despite high bacterial load and biofilm formation, PU implants are resistant to CC, probably due to irregular actin array. Use of local antibiotics reduced biofilm formation on all surfaces, but didn't prevent capsular contracture on textured surface.

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Revision with Anatomical Restoration of the Mobile Tracheostomy Scar and Retraction

Presenter: Jae Young Cho, MD, PhD, Samsung Medical Center, Kang nam gu, Korea, Republic of (South)
Co-Authors: Jin Woo Jang, MD., Department of Plastic Surgery, Kyung Hee University Medical Center, Seoul, Korea, Republic of (South); Sang Yoon Kang, MD, PhD, Kyung Hee University, Seoul, Korea, Republic of (South)

Purpose: Most tracheostomy has the spontaneous closure by secondary intention. The scar is depressive and retracted having motion of up and down with swallowing. Even persistent fistula is remains. Several methods cover the tracheostomy scar surgically as simple excision, bilateral v-y advancement, or using the allodermal matrix, etc. These methods have deficit to correct the mobile scar from Up and down movement of trachea due to adhesion of skin and fibrotic subcutaneous scar tissue. We present our method and results of an layer by layer restoration of anatomical structure and revision of tracheostomy scar.

Method and Material: The indications for mobile tracheostomy scars contain patients, who wants revision by free will, have stable mental status without infection on wound or generally, and will be get notable aesthetical improvement. The surgical methods are as follows. The full procedure is explained to the patient and to whom it may be concerned. After confirming the mobile scar and being the fistula, under the local anesthesia with

supine position, the incision was made as oval shape design through the original tracheostomy scar. The Scar tissue of skin and subcutaneous tissue was extirpation and the dissection goes to the root of the scar tissue till approach the tracheal ring. Most of the scar tissue is removed and small scar tissues flaps are made on the bottom. The scar flaps are sutured as turn over each other. From the bottom, sharp dissections are made for removal of all attached tissue and restoration of anatomical structure. First, we find the sternohyoid muscle bilaterally and direct closed on the midline and dissect the sternothyroid muscle and its fascia for closure. After closure the muscle, we confirm the disappearance of the up and down movement on swallowing resulted from scar adhesion. Next platysma muscle are dissected from both side and closed vertically. The subcutaneous fatty layer and adjacent aponeurotic tissue are closed transversely for prevent adhesion from muscle. Skin is closed with fine technique and no drain.

Results: We have 20 patients including one patient having the trachea fistula for 2010 to 2018 with average 12months periods. The patients were satisfied and have no more mobile scar on swallowing. Wide scars and depressions are controlled with aesthetic view. There is no complication like as inflammation, infection, hematoma, seroma, voice change, fistula formation, recurrence of fistula, widening or hypertrophic scar or, recurrence of adhesion.
Conclusion: The mobile tracheostomy scars and retraction, even fistulas are compromised to the patients during the swallowing and social activity. We have good results from the revision and anatomical layer by layer restoration for the mobile tracheostomy scars and retractions. We present that this method is reliable to correct the sequela of tracheostomy scars healed secondary intention and have superiority than other method in functional and aesthetic aspect.

Diced Acellular Dermal Matrix Combined with Autologous Fat Grafts for Reconstruction of Partial Breast Defects

Presenter: Bommie Florence Seo, MD, PhD, Department of Plastic Surgery, College of Medicine, The Catholic University of Korea, Seoul, Korea, Republic of (South)
Co-Authors: Jin Tae Cho, MD, Plastic and Reconstructive Surgery, Catholic University, Uijeongbu, Korea, Republic of (South); Yong Suk Kim, MD, General Surgery, Catholic University, Uijeongbu, Korea, Republic of (South); Sung-No Jung, MD, Plastic and Reconstructive Surgery, Uijeongbu St. Mary's Hospital, The Catholic University of Korea, Uijeongbu, Korea, Republic of (South)

Purpose: This study was performed to evaluate the feasibility of reconstruction using a combination of diced acellular dermal matrix(ADM) combined with autologous fat grafts in patients receiving breast conserving surgery(BCS).

Methods and Materials: 17 female patients undergoing BCS for unifocal invasive breast cancer with an estimated excision dimension of 5cm or less at the longest axis were included. In all patients, extensive preoperative communication was performed

during which local flaps were suggested as the first option. In patients that did not desire an extramammary flap donor site, autologous fat grafts (donor site: lower abdomen in all 17 patients) combined with human donor ADM was planned. It was also agreed on that if, during the mastectomy, a more extensive defect was inevitable, a tissue expander would be inserted for delayed reconstruction. After the excision was performed by the breast surgeon, autologous fat was harvested using the wet technique from the lower abdomen via a single incision in the lower midline of the umbilicus in all patients. Fat was injected based on the Coleman technique, slowly into multiple layers of the subcutaneous tissue surrounding the defect, and the pectoralis fascia layer. The endpoint of injection was any sign of blanching for the skin flaps, or when clinically considered saturated. In the central defect, human donor acellular dermal matrix diced into 1x1x1cm sized cubes were inserted. Subcutaneous sutures and surgical strips were used for closure, and no drains were inserted. Mild compression was applied using elastic bandages during the first postoperative day, after which the patient used a mastectomy bra without additional compression. Follow up was performed weekly for one month after operation, and then monthly during the whole period of radiation therapy. Evaluation was done for infection signs, or seroma. Visual symmetry and softness were evaluated by both the surgeon and patient. The patient rated satisfaction on a scale of 1 to 5(very satisfied) every time she visited the clinic.

Summary of Results: 17 patients with an average age of 56 years received a partial mastectomy performed by a single breast surgeon. An extended periareolar incision or radial incision was used. The nipple areolar complex was completely excised in 1 case. The average weight of the excised breast tissue was 120.7grams. The average maximum diameter was 4.8cm. 8 of the defects were located in the lower outer quadrant, 6 in the lower inner quadrant, 1 in the upper outer quadrant and 1 in the upper medial quadrant. The average volume of injected fat was 53.7milliliters, and the range of ADM cubes used was from 10 to 25. There were no patients who experience clinically detectable seroma or infections. From around 2 weeks after surgery until during radiation therapy, the reconstructed tissue felt nodular, with some resolution during the year after radiation was finalized. Patient satisfaction was on average 4.5.

Conclusion: Although with limitations considering softness and suppleness, diced ADM with autologous fat graft may be an option for patients undergoing BCS that do not desire local flaps or other methods of reconstruction.

Predicting Wound Complication of Immediate Breast Reconstruction after Neoadjuvant Chemotherapy

Presenter: Jaemin Lee, MD, Plastic and Reconstructive surgery, Korea University hospital, Seoul, Korea, Republic of (South)
Co-Authors: Hyung Chul Lee, MD, Plastic and reconstructive surgery, Korea university hospital, Seoul, Korea, Republic of (South); Seung Ha Park, MD, PhD, Plastic and Reconstructive Surgery, Korea University, Seoul, Korea, Republic of (South); Byung Il

Lee, MD, PhD, Plastic and Reconstructive Surgery, Korea University, Seoul, Korea, Republic of (South); Eul Sik Yoon, MD, PhD, Plastic and Reconstructive Surgery, Korea University, Seoul, Korea, Republic of (South)

Purpose: Immediate breast reconstruction and its oncologic safety has changed paradigm of treatment of breast cancer, even in patients with locally advanced disease. As the role of neoadjuvant chemotherapy has well established in advanced breast cancer, its impact on surgical outcome has been questioned even in the reconstruction perspective. However, there is still unsettled debate on wound healing complication after immediate breast reconstruction, and there is still remaining vacancy of standardized, individualized approach of breast reconstruction to patients who just finished their challenging treatment. It is reasonable to doubt that certain type of cytotoxic regimen or specific type of patient characteristics may be critical to vulnerability to complications. Thereby, we aimed to analyze complication in immediate breast reconstruction after neoadjuvant chemotherapy with its oncologic factors.

Method: Retrospective review of patients who underwent immediate breast reconstruction between March 2014 to March 2019 in a single center was conducted. Patients attribute, surgical characteristics with reconstruction options, as well as oncologic factors such as regimen of neoadjuvant chemotherapy, period between surgery and last chemotherapy session, toxicity during neoadjuvant chemotherapy were analyzed with complication profile such as major wound complication, infection, seroma, and hematoma. Univariate and multivariate logistic regression were used to analyze factors ($p < 0.05$) and Fischer's exact test was done in subgroup analysis

Result: Total 299 patients including 47 (15.7%) patients with neoadjuvant chemotherapy were included. Multivariate analysis revealed neoadjuvant chemotherapy (adjusted OR 5.467, $p<0.001$) and diabetes (adjusted OR 3.679, $p = 0.011$) were related to major wound complication. Complication analysis further showed neutropenia during neoadjuvant chemotherapy was a significant predictor of major wound complications in neoadjuvant chemotherapy recipients. (adjusted OR 6.179, $p=0.026$). Cyclophosphamide & doxorubicin followed by docetaxel regimen showed higher wound complication in the neoadjuvant chemotherapy group (Fischer's exact test, $p=0.041$)

Conclusion: In this review, neoadjuvant chemotherapy was associated with increased major wound complication. Hematologic toxicity was a significant predictor of wound complication in neoadjuvant chemotherapy group. Patients who presented toxicity during neoadjuvant chemotherapy should intensely monitored for their wound care and further larger cohorts should precisely guide impact of neoadjuvant chemotherapy regimen and timing of surgery to patients of immediate breast reconstruction after neoadjuvant chemotherapy.

Abbreviation: Neoadjuvant chemotherapy, NAC

Declarations of interest: None

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Mastopexy with Implants in the Time of Bia-ALCL

Presenter: Guillermo Siemienczuk, MD, Centro Quirurgico Rosario, Rosario, Argentina
Co-Authors: Sandra Filiciani, MD, Plastic Surgery, Centro Quirurgico Rosario, Rosario, Argentina; Mariano Etcheverry, MD, Plastic Surgery, Centro Quirurgico Rosario, Rosario, Argentina

Background: Today's concern about the problem of Breast Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL)[1], which undoubtedly has come to our speciality area to stay for a long time, compels us to reconsider mastopexyÕs key concepts.

Objective: Describe our mastopexy surgical technique with these new concepts.

Technique: 1¼ - BREAST AUGMENTATION

A. Incision in the inframammary fold.
B. We place smooth implants on the partial sub-pectoral plane, or John Tebbetts[2] dual plane (sub-glandular and submuscular), with Omar VenturaÕs modification[3] (Fig. 1) that is sub-fascial and submuscular (Respecting the 14 steps of W.P. Adams[4])
C. We fix the inframammary fold with PDS 2/0 sutures so that it does not descend.
D. We close the incision in the subcutaneous plane with vicryl 2-0.

2¼ - MASTOPEXY

A. We adjust skin resection to the new volume obtained with the implants, adapting Òin situÓ the previous marking (Fig. 3).
B. We perform the incisions of the mastopexy to remove the excess of tissue (Fig. 4).
C. The lateral pillars of the vertical incision are carved and sutured with Vicryl 2.0. We also use PDS 2/0 sutures and incolor 3/0 Vicryl, then close the skin with Nylon 3/0 running subcuticular suture.

D. We make a round block with 3/0 nylon very deep, with buried knot and so that it passes unnoticed and it cannot be exposed.

3¼ - Finally, we put micropore on all the sutures.

Conclusions:

1. BIA-ALCL make us reconsider some surgery concepts about breast implants. This explains why we have stopped using textured implants.
2. Transposing these new concepts on the breast augmentation to the mastopexy with implants, we place smooth implants in double plane and then perform the mastopexy, as if they were two different surgeries.
3. We prevent excessive tension in the vertical and periareolar sutures, and in the very unlikely case that they present dehiscence, it will not leave the implant exposed, and because of this, we will not have to remove it.
4. This way of surgery make all our mastopexy procedures have T inverted scars. We already know that is far from ideal, but we prefer to deal with the subsequent treatment to improve their qualities, rather than having to face the possible seroma, or the implant's exposure and capsule contracture.

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High-Definition Tummy Tuck

Presenter: Ricardo a Babaitis, MD, Babaitis Surgery Team, Buenos Aires, Argentina
Co-Authors: Rita M Grande, MD, Babaitis Surgery Team, Buenos Aires, Argentina; Francisco J. Villegas, MD, Plastic surgery, Clinica San Francisco, Tuluá, Valle del Cauca, Colombia

Ever since Dr Saldahna presented the abdominolioplasty technique (1), and Dr Villegas presented the TULUA technique, the treatment of the abdomen has reached new expectations to try to obtain even better results. The authors standardized steps whereby to safely perform association of the TULUA technique with High-Definition liposuction.

Methods: Prospective evaluation was performed to all patients subjected to the TULUA technique with High-Definition LASER or VASER liposuction between March 2015 to March 2019. The technique involved general anesthesia. The TULUA technique (2) is a modified abdominoplasty characterized by (1) transverse elliptical plication of the lower abdominal wall, (2) no undermining of the flap above the navel, (3) unrestricted liposuction, (4) umbilical amputation and neoumbilicoplasty by skin graft, and (5) low transversely placed abdominal scar. When performing the High-Definition liposuction, there are 3 distinctive components highlighted by the authors, 1) mark linea alba once the neo umbilicoplasty has been performed. 2) mark the linea semilunaris before resecting the abdominal flap, taking care to match the preoperative marks under the incision to not move the flap when suture is done. 3) do not mark the inferior muscle belly of the rectus abdominis muscle because is going to change place when the flap is sutured. The patients also underwent fat grafts in pectoral, deltoid and gluteal region at the same time. The results were evaluated by the surgical team and the patients answered a satisfaction survey.

Results: The technique was performed on 30 patients, 9 male patients and 21 female patients, ages from 26 to 62 years (mean 45 years). The results are evaluated by the surgical team with follow-up ranged from 4 months to 4 years. There were no medical complications. Seroma (30%), haematoma that required medical treatment (3.33%) , and elevation of navel and lower transverse scar (10%) were reported. High percentage of patients answered a survey (98%) with high rate of satisfaction (90%).

Conclusions: The authors present a new abdominolipoplasty technique combining in a safe way the TULUA abdominoplasty and the High Definition (LASER/ VASER) Liposuction, with good results and low complications.

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Body Contour in Male Patients. Liposuction and Gluteoplasty with Autologous FAT Tissue.

Presenter: Ricardo a Babaitis, MD, Babaitis Surgery Team, Buenos Aires, Argentina
Co-Authors: Rita M Grande, MD, Babaitis Surgery Team, Buenos Aires, Argentina; Rodrigo G. Rosique, MD, PhD, Master Hospital of Plastic Surgery, Goiania, Brazil; Javier Jesus Vera Cucchiaro, MD, AESTHETIC CLINIC, Salta, Argentina

The low back and buttocks should be considered esthetic unit in the male patient and demands a totally different approach from the feminine figure. The treatment of this area in males needs to improve the shape of the gluteal muscle mass through lipoinjections and recreate the superficial anatomy, taking care to even enhance the flat zone near the iliaca crest at the upper external quadrant of the gluteus through liposuction. The male high-definition muscular back body figure demands liposuction in inner thighs, lumbosacral and trochanteric zones and waistline as well.

Methods: Prospective evaluation was performed in male patients subject to treatment of the gluteal zone through liposuction and lipo injection between March 2014 and March 2019.
The technique (1) involved general anesthesia, tumescent infiltration, liposuction at the inner thighs, lumbosacral and trochanteric zones, waistline and upper external quadrant of the gluteus, harvest of fat cells, decantation, and grafting with retrograde injection in different planes in the subcutaneous space (2) of the internal quadrants of the gluteal region.

Results: This technique was performed in 200 consecutive male patients with BMI under 26. The quantity of fat grafted varies from 200cc to 600cc per buttock with a mean of 400cc. The results were evaluated by the surgical team with follow-up ranged from 4 months to 5 years. Erythema was present for a mean of 3 days, ecchymosis in trochanter area (25%) and a very low rate of infection (0.5%) that had good outcome with antibiotics p.o. were reported. Clinical assessment estimated a 30 to 50% loss of augmentation effect during the first 2 months. A satisfaction survey was answered by patients (90%). Patients were generally pleased with the final shape and volume of the buttock contour (98%).

Conclusions: Liposuction and gluteoplasty with autologous fat tissue is a safe, simple and inexpensive technique to achieve a male muscular back body shape, with low complication rate and good outcomes.

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Transgender Top Surgery: A Patient s Desire. Case Report

Presenter: Marlene C. Pérez Colman, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina
Co-Authors: Florencia Dolino, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Robertino B. Basso, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Federico Notrica, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Maria Laura Bramati, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina

PURPOSE: Top surgery in female to male (FtM) transsexual patients has become a milestone in the process of masculinization. It is generally the first surgery in the transition. In 2008, Monstrey et al. proposed an algorithm on how to choose the most suitable technique for mastectomy depending on the breast size and envelope, the aspect and position of the nipple-areola complex (NAC) and skin elasticity. Still, we consider that this algorithm lacks one key element: patient's decision.

METHOD: We present a case in which a patient and surgeon decided, in an informed manner, his treatment. A 36-year-old trans man, who underwent inframammary skin resection mastectomy without preservation of the NAC. In a second surgery, after edema had resolved and the thorax tissue was settled, both nipples were reconstructed using a star-flap as an outpatient surgery. A month after this procedure, both areolas were tattooed.

RESULT: We present pictures of the two-staged procedure, showing a very good aesthetic result and a high patient satisfaction.

CONCLUSION: Although standardized techniques are important, the surgeon should include individual patient's preference in the decision. We consider that not all patients fit into algorithms and that patient choice should be taken into account as part of the decision-making process.

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DUAL Phase Liposuction Technique. Approach to the Anterior Unit in Male Patient.

Presenter: Ricardo a Babaitis, MD, Babaitis Surgery Team, Buenos Aires, Argentina
Co-Authors: Rita M Grande, MD, Babaitis Surgery Team, Buenos Aires, Argentina; Rodrigo G. Rosique, MD, PhD, Master Hospital of Plastic Surgery, Goiania, Brazil; Javier Jesus Vera Cucchiaro, MD, AESTHETIC CLINIC, Salta, Argentina

The dual phase laser liposuction technique is a great tool for the treatment of patients to accomplish the nowadays male high-definition muscular shape figure. So as to obtain balance and harmony in the results, it is useful to consider abdominal wall, hips, pelvis, pectoral zone and shoulders as whole esthetic unit.

Methods: Prospective evaluation was performed of all male patients subject to dual phase laser liposuction between March 2014 and March 2019. Patient's antecedents of criolipolisis, mesotherapy and hidrolipoclasia and massive weight loss were recorded and pre and post photos were taken. The technique involved general anesthesia, diode LASER operating at 980nm, first phase total power 20W was delivered into the subcutaneous tissues only, to specially treat fibrotic areas due to criolipolisis, fostatilcoline mesotherapy, hydrolipoclasy. In the second phase, the diode LASER was at lower power (15-W), to generate skin retraction. The LASER was applied under the skin with retrograde motion without risk of skin burns. This phase was to treat localized fat deposits associated with skin laxity, like arms, inner thighs, supraumbilical zone and waistline. To calculate the optimal cumulative energy, in both phases, a total energy dose of 7kJ/10x10-cm area was used as a safety parameter to prevent treatment complications (1). Harvest of fat cells was done through a tumescent liposuction, decantation and retrograde injection of fat cell was done in a strict adherence to the subcutaneous plane in previously marked shoulders and pectoral zones to achieve the desired definition at the correct places (2). The results were evaluated by the surgical team with follow-up ranged from 4 months to 5 years. A satisfaction survey was answered by patients.

Results: A total of 200 male patients were included, BMI under 26. Patients age ranged between 17 and 57 years, (mean 30 years). Patients registered antecedents of criolipolisis (30%), fostatidilcoline mesotherapy (30%), hydrolipoclasy (10%), and massive weight loss (5%). The quantity of fat grafted in the deep subcutaneous plane varied from 150cc to 250cc (mean of 220cc) per deltoid zone, and 100cc to 200cc (mean of 180) per pectoral zone.
Very low rate of infections (1.5%) , seroma (10%), fibrosis (5%), hyperpigmentation (1%), pseudo bursa (0.5%) and erythema for 2 to 5 days, (mean 3 days) were reported. There were no medical complications. High percentage of patients (97%) answered a survey with high rate of satisfaction (98%).

Conclusions: The dual phase laser liposuction technique is useful to achieve esthetic balance in the high-definition muscular male figure where it is mandatory to approach abdomen, chest and shoulders as a whole esthetic unit. This technique is simple, easy and has low-rate complications and patients are highly satisfied.

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Chest Wall Masculinization for Female to Male (FtM) Transgender Population: A Single Surgeon s Experience in Argentina.

Presenter: Marlene C. Pérez Colman, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina
Co-Authors: Florencia Dolino, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Robertino B. Basso, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Federico Notrica, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina; Maria Laura Bramati, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina

In the last five years, we have experienced and increased demand for gender affirmation surgery, abided by the changes in Argentina’s laws that oblige healthcare companies to finance these surgeries. Chest contouring, or “top” surgery, is one of the most relevant features for the transgender population, as it is the point of no return in gender affirmation.

At Hospital Italiano, we have performed thirty-five FtM chest surgeries since 2014, with varied sizes. Out of these, we have found particularly challenging, breasts over 400 grams (each breast). In these surgeries we must deal with multiple components, among the most important are loose skin and large Nipple Areola Complex (NAC). Moreover, patients with larger breasts tend to use binders to disguise them more often. The weight of the gland was based on the weight of the resection.
According to our surgical protocol, we performed a total of 35 FTMTS in patients 18 years or older, in a four-year period between 2014 and 2018. All patients were operated under general anesthesia and mean hospital stay was 24 hours. Hormonization therapy was interrupted before and after the planned surgical procedure. We present our experience.

Mean age at the time of surgery: 22 years old (18 to 38 years old). Mean BMI: 23 (21.1 – 34.6). 7 patients (20%) were smokers at the time of surgery and 2 (5.7%) were past smokers. There were no diabetic patients, and 3 (8.6%) patients were treated for hypertension. Other co morbidities included: hypothyroidism, depression, and latex allergy. 25 patients (71.4%) had started harmonization therapy before surgery and suspended it. All patients were categorized as grade 1 or 2 in the American Society of Anesthesiologist scale. Our complication rate was 20% (7 patients) out of which 5 had minor epidermolysis requiring local treatment, 1 seroma which was evacuated by ultrasound guide, 1 patient had a hematoma that was controlled and resolved, and 2 patients needed revision surgery for dog ears (1 had had epidermolysis and the other a hematoma).

To conclude, chest wall masculinization is the point of no return in gender affirmation surgery. The procedure is harder than a mastectomy because it, in essence, is not a mastectomy. We are perfecting the process, yet, so far, we have achieved good results with a low proportion of complications with no severe complications to date.

Lip Lift as a Complement in Facial Features Remodeling Surgery

Presenter: Marcelo R. Di Maggio, MD, MDMsurgery.com, Buenos Aires, Argentina

INTRODUCTION: The lips are a defining feature of youth, beauty, and femininity.1

Because of its importance in facial contouring we take special care in upper lip procedures. Lip lift techniques include subnasal resection alone or in combination with open rhinoplasty.2,3

SURGICAL TECHNIQUE: We use the subnasal lip lift, an indirect lip lift. The superior incision extends from 1 alar crease to the other, goes inferior to the nostril sill crossing the base of the columella. The lower incision is parallel to the upper incision. When combining it with open rhinoplasty, a V-shaped columellar incision is performed in the lower 3rd of the columella which is connected with the subnasal incision line. The marginal incision for the rhinoplasty is performed as usual. The are a variation with an endonasal scar. The amount of skin resection ranged from 3 to 7 mm and is based in preoperative analysis in conjunction with desired dentalshow.4 It is important not to over resect. The skin and the subcutaneous tissue are removed taking care of the orbicularis muscle. The created defect is closed in 2 layers in a free tension manner. The 1st subcutaneous layer is closed with 4-0 suture (Monocryl, Ethicon). Skin layer is closed with 6-0 suture (Ethilon, Ethicon). Skin sutures are removed between 5 and 7 days after the surgery.

CONCLUSION: The lips are a defining feature of youth, beauty, and femininity.
To use a technique that the surgeon master’s perfectly, finishing with a very precise closure to leave the best possible quality of scar are some details to keep into account.

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The Use of a Simulator Software and Customized 3D Printed Breast Molds As a Method to Optimize Abdominal-Based Flap Breast Reconstruction.

Presenter: PMarlene C. Pérez Colman, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina
Co-Author: Horacio F. Mayer, MD, FACS, Cirugia Plastica, Hospital Italiano de Buenos Aires, Ciudad de Buenos Aires, Argentina

Background: Aesthetically pleasing and symmetrical breasts are the goal of reconstructive breast surgery. Sometimes, however, multiple procedures are needed to improve a reconstructed breast's symmetry and appearance. Recent advances in 3-dimensional (3D) surface imaging and printing technologies allowed for improvement of autologous breast reconstruction symmetry. While 3D printing technology gets faster, more accurate and cheaper, the technology required to obtain proper 3D breast images, such as laser scanners or 3D photogrammetric cameras, remains expensive. In this study, we present our preliminary experience with the use of a more affordable technology to obtain 3D images named Crisalix® and customized printed breast molds in optimizing autologous breast reconstruction.

Methods: A 3D contralateral breast imaging is performed before surgery using the simulator software. The obtained image is mirrored and exported to a 3D printer. A customized breast mold is created based on the 3D image. Then, abdominal-based flap surgery is performed, where the breast mold is used to determine the required flap volume and to shape the breast mound in height, width, projection and orientation.

Results: Two patients reconstructed with abdominal-based flaps were included in this series. Objective assessment of cosmetic outcome revealed that good breast symmetry was achieved in all cases.

Conclusions: The use of this 3D aesthetic surgery simulator software, although originally conceived for aesthetic purposes, seems to be an affordable and great alternative to the expensive technology currently used to generate the 3D breast images required to create customized molds for autologous breast reconstruction.

Red Breast Syndrome (RBS) Associated to the Use of Polyglycolic Mesh: A Case Report.

Presenter: Marlene C. Pérez Colman, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina
Co-Author: Horacio F. Mayer, MD, FACS, Cirugia Plastica, Hospital Italiano de Buenos Aires, Ciudad de Buenos Aires, Argentina

Background: Some patients undergoing breast reconstruction with Acellular Dermal Matrix (ADM) develop postoperative erythema overlying their ADM grafts named Red Breast Syndrome (RBS). This entity has never been related to the use of a synthetic mesh. Herein we report the first case in the medical literature of RBS associated to the use of a polyglycolic acid mesh.

Methods: We present a case of a 61-year-old patient who underwent bilateral nipple-sparing prophylactic mastectomy because of BRCA-1 gene mutation. The patient was reconstructed with a direct-to-implant approach, and the implants were covered with a Polyglycolic acid Mesh. Twenty days after the reconstruction, she presented with a blanching erythema of both reconstructed breasts without signs of infection on the area covered by the mesh: Red Breast Syndorme.

Results: The patient denied symptoms like fever or tenderness and presented with no clinical signs of infection. Her laboratory tests were within normal range. We decided to watch and wait. The patient continued strict controls in the outpatient setting. Gradually, the erythema begun to disappear, and it resolved spontaneously.

Conclusions: RBS has only been described with the use of ADMs, but since in this case the mesh was made of polyglycolic acid, we suggest RBS should be considered either with the use of biological or synthetic meshes. The importance of its differential diagnosis resides in distinguishing it from an infection.

An Analysis of Melanoma Recurrence Following Negative Sentinel Node Biopsy

Presenter: Patrick Daly, MB BCh BAO, Department of Plastic Surgery, Mater Misericordiae University Hospital, Dublin 7, Ireland
Co-Authors: Shirley Potter, MB BCh BAO, MSc (anat), FRCS (plast), PhD, Plastic, reconstructive and aesthetic surgery, Galway University Hospital, Galway, Ireland; Kenneth M Joyce, MD, University Hospital Galway, Galway, Ireland; Christine Quinlan, BM BCh BAO, MCh, FRCSI (Plast), Plastic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; Richard Hanson, MB BAO BCh, AFRCSI, MCh, FRCS(plast), E.B.O.P.R.A.S. Fellow., Dip Health Management, Department of Plastic Surgery, Mater Misericordiae University Hospital, Dublin 7, Ireland; Robert Caulfield, MB BCh BAO,

FRCSI (Plast), Plastic Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; Dylan Murray, FDS, FFD, FRCSI, FRCSI (Plast), Department of Plastic Surgery, Mater Misericordiae University Hospital, Dublin 7, Ireland; Kevin J Cronin, MS, FRSCI, FRCSI (Plast), Plastic, Reconstructive and Hand Surgery, Mater Misericordiae University Hospital, Dublin, Ireland; Fergal Moloney, MB BCh BAO, Department of Dermatology, Mater Misericordiae University Hospial, Dublin 7, Ireland

Background: The status of the sentinel lymph node is one of the strongest predictors of disease recurrence in patients with intermediate thickness and thick primary melanomas. Nonetheless, a proportion of patients develop recurrence following a negative Sentinel Lymph Node Biopsy (SLNB).

Aims: To assess the incidence and sites of subsequent disease recurrence amoung SLNB-negative patients and to analyse clinicopathological characteristics associated with disease recurrence.

Methods: Clinical and pathological characteristics, as well as recurrence data were recorded for all SLNB patients from 2008 to 2018. Multivariate Cox proportional hazards regression models estimated the hazard ratio (HR) and 95% confidence interval (CI) for the association between clinicopathological factors and development of recurrence following a negative-SLNB.

Results: Overall, 107 negative SLNB were analysed (mean follow-up 44 months), and 19(17.8%) developed subsequent recurrence. Mean time to recurrence was 26.5 months (range 4 - 76). Five patients (4.7%) recurred within 12 months and were therefore considered as a false negative SLNB. Sites of recurrence were local 2(11%), in-transit 2(11%), nodal 9(47%) and distant 6(32%). Multivariate analysis found head and neck site [HR 2.67; 95% CI 1.77-7.60, P < 0.001], tumour thickness (HR 1.16; 95% CI, 1.04-1.30, P = 0.01) and the presence of ulceration (HR 1.18; 95% CI 1.06 - 1.32, P = 0.01) to be predictive of recurrence following a negative-SLNB.

Conclusion: Patients with head and neck melanoma, thicker primary tumours and the presence of ulceration had an increased risk of developing disease recurrence following a negative-SLNB. The findings confirm the importance of continued surveillance to monitor recurrence among SLNB-negative patients. Melanoma which recurs after negative-SLNB may exhibit different tumor biology, and an improved understanding of this is required in order to individualise treatment and surveillance strategies.

Complication Classification in Plastic Surgery

Presenter: Rodrigo Naime Juarez Calvi, MD, Plastic surgery, Hospital Aleman, Buenos aires, Argentina
Co-Authors: Gustavo E. Prezzavento, MD, Plastic surgery, Hospital aleman, Buenos aires, Argentina; Juan Achaval Rodriguez, MD, Plastic surgery, Hospital aleman,

Buenos aires, Argentina; Emanuel Montes de Oca, MD, Plastic surgery, Hospital aleman, Buenos aires, Argentina

In comparison to other surgical fields, there is no objective classification described for complications in plastic surgery. Besides PROM`s, Plastic surgeons continue considering Clavien-Dindo criterion, which underestimates several relevant aspects. Our purpose is to describe and apply a classification for plastic surgeons, that can enable patient followment, medical staff achievements registration and comparison between services with a unique criterion.
We designed a table of complications and applied it to our patients. The table includes asesment of scar, sensibility, Infection, Collection, and personal satisfaction, with a minimum score of 0 (ideal), to a maximum worst of 12.
We show graphical examples, with preoperative and postoperative images.

Plastic surgery does not have a worldwide consensus on how to classify complications. PROMs, while widely used, only include subjective criteria. A group in Cambridge in 1994 and another in Paris in 2009, have described two proposals, although with several drawbacks. Our classification includes postoperative aspects of interest in plastic surgery, that Dindo Clavien`s do not consider sensibility, scar aspect and personal satisfaction. Therefore, Clavien´s 1rst and 2nd scores are fragmented into more specific qualities of postoperative care. We encountered our classification easy to use: in 10 seconds we can fulfill an evaluation that considers both, objective and subjective aspects of the postoperative patient. Moreover, it can be used not only for aesthetic surgery but to reconstructive and plastic surgeries. Finally, we believe this classification could be useful to compare results among different institutions.

Tissue Engineering-Based Wound Healing of Soft Tissue Defects Involving Anterior Tibia Area

Presenter: Kijae KIM, MD, Plastic Surgery, Korea University, Seoul, Korea, Republic of (South)

Purpose: Soft tissue defect on anterior tibia area is hard to treat when bone/perichondrium is exposed. Free flap coverage is usually used in this area. However, it is associated with disadvantages such as surgical burden, cosmetic outcome, and so on. . This case shows a male patient who had a 5*5 cm sized wound with perichondrium exposure in anterior tibia area.

Methods: A 46-year-old man visited our clinic with perichondrium exposed ulcerative lesion on the right anterior tibia area. Surgical debridement was carried out multiple times and NPWT was applied for a month. But perichondrium exposure remained affected and volume defect was considerable.

We planned to use a dermal substitute based on
porcine atelocollagen (Pelnac, Eurocollagen). Pelnac was applied two times at 1 week interval. Granulation tissue filled whole wound site especially where perichondrium was exposed. However, there was unfilled residual volume defect. We used artificial dermis (Megaderm, L&C Bio) and stromal vascular fraction.

Two weeks later, we used fetal keratinocytes (Kaloderm, tegoscience)
to promotoe epithelization.

Results: A month later, the wound was completely healed without any complication. +-+66

The contour was great, and the skin color was fairly similar to the surrounding area.

Conclusion: This case suggests that tissue engineering therapy with artificial dermis and stromal vascular fraction is an effective alternative treatment for coverage of soft defects involving lower extremity with exposed bones. It is better than flap coverage for specific patients.

Analysis of Outcomes of Pharyngolaryngoesophagectomy and Reconstruction in a Single Institution

Presenter: Jack F Woods, MB MCh MRCS, Plastic Surgery, St James's Hospital, Dublin, Ireland
Co-Author: Christoph FP Theopold, FRCS(Plast), Plastic Surgery, St James's Hospital, Dublin 8, Ireland

Introduction: Pharyngolaryngoesophagectomy (PLO) operations require extensive resections and reconstructions, carrying significant risks of morbidity and important quality of life implications. We aimed to investigate outcomes from recent PLO and reconstruction procedures at our institution.

Methods: A retrospective review of patients requiring PLO and reconstruction over an 11-year period from 2008-2018 was conducted. Information collected included patient demographics, diagnosis, procedure, margins of excision, reconstructive method, length of stay, complications, speech and swallow outcomes and survival data.

Results: A total of 30 patients fulfilled the inclusion criteria. Of these, 16 patients had reconstruction with free jejunal flaps, 2 had free tubed ALT flaps and 12 received gastric pull-ups. The average patient age was 61.67 (range 47-77) and 27/30 patients were smokers. The median length of stay was 56.5 days (range 15-124). There were two peri-operative mortalities. Twelve patients survived beyond 2 years post-operatively. 18 patients received adjuvant treatment. There was a 14% (4/28) early return-to-theatre rate and a 11% fistula rate. Functioning swallow was established in 79% of patients

(22/28). Speech was restored 75% of patients, the majority using an electrolarynx, or a Blom-Singer valve in those who had secondary tracheoesophageal puncture.

Discussion: There are satisfactory outcomes from PLO and reconstruction procedures at our institution in comparison to the international literature.

Transferring the Protective Effect of Remote Ischemic Preconditioning on Skin Flap Among Rats By Blood Serum

Presenter: Erkan Orhan, MD, Plastic Surgery, Gaziantep University, Gaziantep, Turkey
Co-Authors: Ozgur Gunduz, MD, Medical Pharmacology, Trakya University, Edirne, Turkey; Oktay Kaya, MD, Physiology, Trakya University, Edirne, Turkey; Meltem Oznur, MD, Pathology, Namik Kemal University, Tekirdag, Turkey; Ertan Sahin, MD, Nuclear Medicine, Gaziantep University, Gaziantep, Turkey

Purpose: The aim of this study was to show whether the protective effect of remote ischemic preconditioning (RIPC) on flaps can be transferred among different individuals with the transfusion of blood serum.

Methods and Materials: Blood serum was taken from rats without any procedure (Group x), rats 1 hour (Group y) and 24 hours (Group z) after performing RIPC and the remaining rats were divided into six groups. While the random pattern skin flap was performed only in the back region in Group 1, and it was performed 1 hour (Group 2) and 24 hours (Group 3) after induction RIPC. Flap surgery was performed after the intravenous injection of serum obtained from Group x in Group 4, from Group y in Group 5, and from Group z in Group 6. After 7 days, the ratios of viable areas in the flaps of the remaining rats were calculated.

Results: When the viable area ratios in the flaps to the whole flap area were calculated, it was found out that the viable area ratios in Group 2 (61.6%), Group 3 (75.6%) and Group 6 (74.2%) were statistically significantly higher compared to Group 1 (51.5%), Group 4 (52.6%) and Group 5 (58.7%), that viable area ratios in Groups 3 and 6 were statistically significantly higher compared to Group 2, and that there was no difference between Groups 3 and 6.

Conclusion: This study showed that RIPC forms a protective effect on the flaps and that this effect could be transferred among individuals with blood serum.

Long Term Experience with the Bidimensional Labia Minora Reduction

Presenter: Marlene C. Pérez Colman, MD, Plastic Surgery, Hospital Italiano de Buenos Aires, CABA, Argentina

Co-Author: Horacio F. Mayer, MD, FACS, Cirugia Plastica, Hospital Italiano de Buenos Aires, Ciudad de Buenos Aires, Argentina

Background: In 2011 we presented a technique for reduction of the labia in width and length dimensions by deepithelialization and a smaller inferior wedge resection. Because of this, the technique was named the bidimensional technique. We aim at presenting a long-term clinical experience with this technique.

Methods: A retrospective review of all patients' clinical records who underwent this technique was undertaken. A long-term follow-up was carried out by telephone. Patients' overall satisfaction with the procedure and final result was rated on a scale of 1 to 5, where 1 was poor, 2 was fair, 3 was good, 4 was very good and 5 was excellent.

Results: From October 2005 to December 2018, 56 women with an average age of 27 years (range 18–47) underwent this technique. In all patients, the wound healed very well. There were no cases of tip flap necrosis. Two patients had an immediate postoperative bleeding and another one a small hematoma that drained spontaneously. One patient developed an infection that responded well to antibiotics. By a telephonic survey, 36 patients rated the procedure and results as excellent, 14 patients as very good and 3 as good. Three patients were not reached.

Conclusions: The technique provides a tension-free closure and adequate vascularization to the healing edges of the superior labial flap, which reduces the chances of wound dehiscence. The associated resection of a full thickness posterior wedge, avoids a festooned appearance and the resulting scar is posteriorly placed where is easy concealed providing excellent cosmetic results and long term overall satisfaction.

Facial Lifting with FAT GRAFT

Presenter: Javier Vera Cucchiaro, MD, Clinic Aesthetic and Laser, Salta, Argentina

Introduction: The combination of the facelift with treatment of the deep structures with fat grafts, allows us to treat 86% of our patients with a short incision technique, avoiding retro-auricular dissection, an area of frequent complications such as hematoma and injury of the greater auricular nerve.

In addition, the fatty graft helps to reposition volume lost due to aging (deflation), and secondarily it improves the quality of the skin.

Material and Methods: 179 patients were treated from January 2016 to May 2019, with this surgical routine and 25 patients were excluded because they had necks with abundant skin and subcutaneous cellular tissue (enlarged incisions). There were 172

female patients and 7 male patients, aged between 39 to 72 years and with average of 48 years.

In all cases a treatment of the deep structures with a High-SMAS was used and fixed to the zygomatic process with no-absorbable suture type mononylon 3-0, associated with fatty graft at supra-periosteal and intramuscular level. We use tumescent infiltration that facilitates dissection has allowed us to obtain less edema and ecchymosis in the post-operative.

Results: Of the 179 patients we had hematoma in 2 patients (1.1%), paresis of the upper lip in 2 patients (1.1%), overcorrection in 2 patients (1.1%), secondary neck treatment in 8 patients (4.4%), hypertrophic scar in 12 patients 96.7%), without any cases of necrosis. In 78% we performed neck opening in the middle line of the Platysma and Digastric treatment.
The placement of the fatty grafts is performed at the end of the Lifting after having fixed the High-SMAS and before performing the skin closure. On average 40 to 60 cc is used for the entire face and when it is not associated with a lifting and it is only volumetric treatment we use between 60 to 80 cc.

Discussion: It is necessary to perform a pre-operative diagnosis of the areas to treated with fatty grafts, evaluating the amounts of fat to be placed and preventing an excess of grafts. Currently our routine for the preparation of fat is by decanting, we have already used centrifugation, growth factors and even stem cells, but according to the to the literature and experience we have returned to decanting and a delicate handling of adiopose tissue with micro-cannulas in diameter between 0.8 to 1.2 ml.
The concept of restoring lost volume is not new, but in the last decade it has been accepted and used routinely in most surgical facial treatment, so it is excellent complement to the treatment of the facial structures and allows optimizing the results with minimal risk of complications.

Conclusions: The combination of the treatment of deep structures with High-SMAS and the association of fat grafts in an intramuscular and supra-periosteal plane, have allowed us to obtain an up grade in our patients as well to have greater durability of the results, when treating volumen loss at the facial level.

Fibroblast Growth Factor-2 Stimulates Proliferation of Human Adipose-Derived Stem Cells Via Src Activation

Presenter: Yuanyuan Ma, MD, Plastic and Reconstructive Surgery, Kansai Medical University, Osaka, Japan
Co-Authors: Natsuko Kakudo, MD, PhD, Plastic and Reconstructive Surgery, Kansai Medical University, Osaka, Japan; Naoki Morimoto, MD, PhD, Plastic and Reconstructive Surgery, Kyoto University, Kyoto, Japan; Fangyuan Lai, MD, PhD,

Kansai Medical University, Osaka, Japan; Kenji Kusumoto, MD, PhD, Kansai Medical University, Osaka, Japan

Human adipose-derived stem cells (hASCs) is a subset of mesenchymal stem cells (MSCs), it has been regarded as one of the most promising stem cells in the fields of plastic surgery and regenerative medicine[1]. Fibroblast growth factor-2 (FGF-2) is widely used in clinical work and plays a crucial role in proliferation of hASCs[2-5]. However, the signaling pathways in hASC activated by FGF-2 remain unclear. In this study, hASCs were cultured with different concentration of FGF-2, and proliferation was assessed. Effects of FGF Receptor (FGFR) inhibitor, ERK1/2 inhibitor, PI3K/Akt inhibitor, JNK inhibitor, and p38 MAPK inhibitor and Src inhibitor on the proliferation were investigated. We assessed the effect of FGFR inhibitor on several signaling enzymes in protein level, such as ERK1/2, JNK, p38, and Akt. The involvement of Src activation by FGF-2 was also examined. Results showed FGF-2 remarkably promoted proliferation of hASCs, and stimulated cell progression to the S and G2/M phases. The proliferation was blocked by various inhibitors mentioned above. Activation of protein kinases on several signaling pathways such as AKT, Erk1/2, JNK, and p38 was blocked by FGFR inhibitor. We also found that Src, the downstream kinase of FGFR, was activated by FGF-2 and the activation was cancelled by FGFR inhibitor. MEK1/2, a downstream kinase of Src was parallely regulated by FGF-2. The Src inhibitor markedly blocked the proliferation of hASCs via inhibition of Src and MEK1/2. In conclusion, the Src activation is indispensable for FGF-2-mediated proliferation on ASCs, and the subsequent activation of multi-signaling pathways.

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Algorithm of Treatments for Pigmentary Disorders of the Face: A Prospective Observational Study in Asian Patients.

Presenter: Chikara Takekawa, MD, Aesthetic Surgery, Kobe university, Kobe, Japan
Co-Authors: Goichi Haraoka, MD, PhD, Aesthetic Surgery, Kobe University, Kobe, Japan; Takeshi Fukumoto, MD, PhD, Dermatology, Kobe University, Kobe, Japan; Hiroto Terashi, MD, PhD, Plastic Surgery, Kobe University, Kobe, Japan

Background: Most patients with facial pigmentary disorders have multiple disorders. However, there is no definitive treatment algorithm for all pigmentary disorders.

Objective: To investigate the clinical efficacy and safety of the combination of the Q-switched alexandrite laser and the carbon dioxide laser with ZO SKIN HEALTH® for facial pigmentary disorders.

Patients/Methods: This prospective observational study enrolled 251 patients with at least one facial pigmentary disorder. We assessed treatment efficacy and investigated which disorders were most responsive to combination treatment and the relationship between doctors' skills, outcomes, and dropout rates.

Results: There were 246 patients with lentigo senilis, 186 with moles, 79 with melasma, 53 with seborrheic keratosis, 17 with acquired dermal melanocytosis, and 16 with freckles. Overall, 227 patients completed treatment. Post-treatment outcomes were excellent in 97, good in 113, fair in 17, and poor in 0 patients. Freckles were the most responsive, and acquired dermal melanocytosis was the least responsive. Patient withdrawal and treatment outcomes did not differ significantly based on the doctors' skills. Overall, 3.2% of patients had adverse events.

Limitations: This study did not involve a control group.

Conclusions: Our combination algorithm improved several pigmentary disorders of the face simultaneously, regardless of the doctors' proficiency level.

Recent Trends of Hand Injuries in Kyoto for This 10 Years

Presenter: Satoshi Takada, MD, Plastic Surgery, Shojukai Kyowa Hospital, Kyoto, Japan
Co-Authors: Toshihiro Kitayama, MD, Shojukai Kyowa Hospital, Kyoto, Japan; Rhuku Ozawa, MD, Shojukai Kyowa Hopital, Kyoto, Japan

Background: Kyoto is one of the most famous cities in Japan that attracts more than 50 million tourists every year. At the same time, there are many world-famous companies and a lot of subcontracting factories in Kyoto. Kyowa Hospital is located in Kyoto and specialized in hand injuries. We investigate the contents of the surgeries for hand injuries in this hospital and report the current situation of the hand injuries in Kyoto.

Method: We investigate the components of the surgeries for hand injuries performed in operation rooms from 2009 to 2018. Survey items are age, sex, injured fingers, causes and operation method.

Result: The total number of the surgeries is 1349 persons and 1827 fingers. The number of the replantation of the amputated finger is 356 fingers. The total number of the surgeries has been decreasing slowly, however, the number of the replantation has been flat for 10 years. The most frequent cause of injuries is the industrial accident and the average age has been rising gradually.

Discussion: In Japan, it is said that the mechanization and automation in factories are progressing. This reduces the total number of hand injuries. Otherwise, the number of the people who do not follow the manual does not decrease and they are injured seriously. It is thought that rising of the average age symbolizes aging of working population in Japan.

Detailed data will be presented in the posters at the conference.

Long Term Quality of Life and Complications with Syndromic Craniosynostosis

Presenter: Yoshiaki Sakamoto, MD, PhD, Department of Plastic and Reconstructive Surgery, Keio University School of Medicine, Tokyo, Japan
Co-Author: Kazuo Kishi, MD, PhD, Department of Plastic and Reconstructive Surgery, Keio University School of Medicine, Tokyo, Japan

Introduction: Although studies have analyzed long-term stability of cranioplasty and midface distraction with craniosynostosis, to date nobody has investigated long-term quality of life and complications in adults with syndromic craniosysotosis. The purpose of this study was to investigate the long-term life in adult syndromic craniosynostosis.

Methods: Among syndromic craniosynosotosis patients including Crouzon syndrome, Apert syndrome, and Pfeiffer syndrome, the patients who had been performed cranioplasty and midface advancement and they were over 20 years of age were included in this study. We investigated the inconvenience in daily life and the disease currently undergoing treatment as well as the presence of marriage and children.

Results: Crouzon syndrome was 9, Apert syndrome were 5, and Pfeiffer syndrome were 4 aged 22-48 years old (mean 31.4±9.2 years old). Among them, only one case of Crouzon's syndrome is marrying, and there was only the same case where there is a child. Four cases of corneal disorder were observed in Crouzon's syndrome. In Apert syndrome, two cases had visual field contraction, one case with Pfeiffer syndrome and cataract was recognized. No dental problems were observed in either case.

Conclusions: Only one case is marrying, which was a small proportion compared with the average age of marriage in Japan. Significantly, it was high rate of the orbital problems that caused inconvenience in any disease. Even after completion of the series of treatments, the importance of ophthalmological follow up was suggested.

The Free Abdominoplasty Flap in Breast Reconstruction - the Untold Story

Presenter: Richard B Hamilton, MD, FRACS, Hamilton House Plastic Surgery, Adelaide, SA, Australia
Co-Author: Ingemar Fogdestam, MD, PhD, Plastic Surgery, formerly, Sahlgrenska University Hospital, Goteborg, Sweden

This year marks the fortieth anniversary of the first use of a free abdominoplasty flap in breast reconstruction. Before this operation the options open to a woman who had undergone a mastectomy and who was seeking some sort of breast reconstruction were extremely limited. The main approach available at the time was a multi-staged pedicled flap taken from the abdomen – a procedure that took several months to complete, was extremely taxing on the patient and very uncertain of outcome. Understandably, it was not often performed. The free abdominoplasty flap operation, performed in Gothenburg, Sweden in 1979 changed all that. Microsurgery had made possible an operation that could in one session reconstruct a breast. This operation, and the pedicled TRAM flap which followed two years later, transformed breast reconstructions from rarely performed procedures to common operations. This is all part of recorded history. What is not known is the major Australian contribution to this pioneering work. Bernard O'Brien had established a Microsurgery Research Unit which became part of St Vincent's Hospital in Melbourne in 1976. The whole operation was planned there, all the anatomical research was carried out in the unit's cadaver laboratory, and both the microsurgeons who were to perform the operation, one Swedish and one Australian, were trained there. And all the time that this preparation was being carried out in Melbourne, The Sahlgrenska Hospital in Gothenburg, Sweden, where the trailblazing operation was to take place, did not even have a microsurgery unit. On the fortieth anniversary of the operation, it is time to finally acknowledge Australia's contribution to its success.
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W9 Peptide Had the Potential to Contribute Bone Reconstruction By Enhancing Osteogenic Differentiation of Human Adipose-Derived Stem Cells

Presenter: Yuki Otsuki, MD, PhD, Plastic and Reconstructive Surgery, Osaka Medical College, Takatsuki city, Japan
Co-Authors: Takashi Nuri, MD, PhD, Plastic and Reconstructive Surgery, Osaka Medical College, Takatsuki city, Japan; Masaaki Ii, MD, PhD, Research Animal Laboratory and Translational Medicine, Research and Development Center, Osaka Medical College, Takatsuki city, Japan; Kazumasa Moriwaki, PhD, Pharmacology, Faculty of Medicine, Osaka medical college, Takatsuki city, Japan; Michio Asahi, MD, PhD, Pharmacology, Faculty of Medicine, Osaka medical college, Takatsuki city, Japan; Koichi Ueda, MD, PhD, Plastic Surgery, Osaka Medical College, Takatsuki, Japan

The reconstruction of bone defects is a critical process for reconstructive surgeons. Autologous bone graft is the standard treatment for bone fusion and healing. Donor sites of bone, e.g., iliac crest, rib, tibia, and calvarium, are generally used, but the patients suffer from numerous postoperative effects, such as postoperative pain, altered sensation, infection, hematoma, and scarring. Bone reconstruction with bone tissue engineering (BTE) is a recent and promising therapeutic approach to avoid donor site problems.
W9 is a peptide that abrogates osteoclast differentiation via blockade of nuclear factor-κB ligand (RANKL)-RANK signaling, which activates bone formation. However, W9 stimulated osteogenesis in osteoblasts and mesenchymal stem cells[1]. The present study demonstrated that the W9 peptide promoted osteogenic differentiation of human adipose-derived stem cells (hAdSCs) even under non-osteogenic differentiation culture conditions. W9-treated hAdSCs exhibited several osteocalcin-expressing cells and great mineralization compared to the BMP2-treated hAdSCs, which suggests that the W9 peptide had potent osteogenic potential in hAdSCs. W9 treatment also markedly enhanced the phosphorylation of p38, JNK, Erk1/2, and Akt, and BMP2 treatment only enhanced the phosphorylation of p38 and Erk1/2 in hAdSCs. hAdSCs did not express the RANKL gene, but W9 treatment upregulated Runx2, Collagen type IA and TGF receptor genes and increased Akt phosphorylation. These results suggest that the W9-induced potent osteogenic induction was attributed to activation of TGF and the PI3 kinase/Akt signaling pathway in hAdSCs.
W9 may also induce the osteogenesis of AdSCs and form ectopic bone, which will be examined in our next series of in vivo experiments. The results of the present and future studies may contribute to bone reconstruction with bone tissue engineering (BTE).

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Risk Factors of Macroscopic Hemoglobinuria after Sclerotherapy Using Ethanolamine Oleate for Venous Malformation

Presenter: Masahide Fujiki, MD, PhD, Plastic Surgery, Kyorin University School of Medicine, Mitaka-shi, Japan
Co-Authors: Mine Ozaki, MD, PhD, Plastic Surgery, Kyorin University School of Medicine, Mitaka-shi, Japan; Akihiko Takushima, MD, PhD, Plastic Surgery, Kyorin University School of Medicine, Mitaka-shi, Japan

Background: Sclerotherapy is an essential component of treatment for venous malformation, and ethanolamine oleate (EO) is known as a useful sclerosant agent. However, macroscopic hemoglobinuria (MH) and subsequent renal impairment are severe complications after sclerotherapy using EO. The present study aimed to clarify the risk factors of MH for better perioperative management for venous malformation.

Methods: Data collected during 130 procedures from 94 patients, who underwent sclerotherapy using EO for venous malformation, were retrospectively analyzed. Preoperative and operative variables, including sex, age, preoperative body mass index, location, depth, type of lesion, size, number of procedures, type of drainage vein, ratio of sclerosant to air, and injected total dose of 5% EO per body weight (BW), were examined. Univariate analysis and multivariate logistic regression were performed to determine the possible risk factors for MH.

Results: Following sclerotherapy, MH occurred in 27.7% of patients, but no case developed postoperative renal impairment due to aggressive hydration and haptoglobin administration. On univariate analysis, diffuse lesion, lesion size ≥50 cm^2, and total injected dose of 5% EO ≥0.18 ml/kg were found to be the risk factors of MH. Multivariate logistic regression analysis identified a total injected dose of 5% EO ≥0.18 ml/kg as the significant independent factor contributing to MH risk.

Conclusion: Macroscopic hemoglobinuria is a reversible complication if immediate and appropriate interventions with aggressive hydration and haptoglobin administration are performed; therefore, it should be closely monitored following sclerotherapy, especially when using 5% EO ≥0.18 ml/kg.

Efficacy of Collagen-Gelatin Sponge with Sustained Release of Basic Fibroblast Growth Factor for Intractable Skin Ulcers

Presenter: Yoshiaki Shingyochi, MD, PhD, Plastic Surgery, Juntendo University, Tokyo, Japan
Co-Authors: Erika Ando, MD, Plastic Surgery, Juntendo University, Tokyo, Japan; Ayaka Karibe, MD, Plastic Surgery, Juntendo University, Tokyo, Japan; Gaku Nojiri, MD, Plastic Surgery, Juntendo University, Tokyo, Japan; Rica Tanaka, MD, PhD, Plastic Surgery, Juntendo University School of Medicine, Tokyo, Japan; Hiroshi Mizuno, MD, PhD, Plastic and Reconstructive Surgery Department, Juntendo University School of Medicine, Tokyo, Japan

INTRODUCTION: Type I collagen sponge is widely used for skin defect coverage. A newly-developed hybrid collagen sponge which contains 10% alkaline-treated gelatin, termed collagen-gelatin sponge (CGS), has an ability of sustained release of a variety of growth factors. The objective of this study is to evaluate the efficacy of CGS with sustained release of basic fibroblast growth factor (bFGF) for intractable skin ulcers.

MATERIALS AND METHODS: CGS (PELNAC Gplus®; GUNZE, Kyoto, Japan) and a human recombinant bFGF (Fiblast® spray; Kaken Pharmaceutical, Tokyo, Japan) were used in this study. Totally 8 patients with intractable skin ulcers on the feet (6 cases associate with ischemia and diabetes and 2 cases with collagen diseases) were treated with CGS with bFGF. CGS with bFGF was changed weekly up to 3 weeks, depending on the healing situation. Furthermore, negative pressure wound therapy (NPWT) was applied directly onto the CGS with bFGF in 7 cases.

RESULT: Size of the wounds was reduced, and granulation was accelerated in 6 cases, in which 3 cases of spontaneous epithelization and 3 cases of subsequent skin grafting was achieved, respectively. The rest of 2 cases were ceased because of the maceration of the normal skin around the wounds.

CONCLUSIONS: These findings suggest that CGS impregnated with bFGF accelerates wound healing in intractable skin ulcers and seems to be one of the ideal devices for the treatment of such ulcers. Moreover, since bFGF can be sustained in CGS, it was considered that NPWT can be applicable with CGS with bFGF simultaneously.

Utility of a Finger-Mounted Tissue Oximeter in Flap Perfusion

Presenter: Yuki Matsushita, MD, Plastic and Reconstructive Surgery, Hamamatsu University School of Medicine, Hamamatsu City, Japan
Co-Authors: Hidekazu Fukamizu, PhD, Plastic and Reconstructive Surgery, Hamamatsu University School Medicine, Hamamatsu City, Japan; Masatsugu Niwayama, PhD, Electrical and Electronic Engineering, Shizuoka University, Shizuoka City, Japan; Naoki Unno, PhD, Vascular Surgery, Hamamatsu Medical Center, Hamamatsu City, Japan; Naohiro Kanayama, PhD, Obstetrics and Gynecology, Hamamatsu University School of Medicine, Hamamatsu City, Japan

Introduction: We developed a finger-mounted tissue oximeter with near-infrared spectroscopy to evaluate the fetal tissue oxgen saturation transvaginally. This study aimed to investigate whether this device is useful in evaluating blood flow in random pattern flaps (RPF) and arterial flaps (AF).

Material and Methods: Twenty SD rats were used. For RPF, a McFarlane-type caudally based skin flap (2 x 8 cm) was designed on the dorsum of the rat. For AF, an epigastric artery island flap (3 x 5 cm) was raised. The blood flow was evaluated using the oximeter and a laser Doppler. In RPF, the value of 30 minutes and 24 hours after the operation was measured to find whether the necrosis range could be predicted. In AF, the value after clamping the vessels for 30 minutes was measured to investigate whether it reflects the ischemia.

Results: In RPF, the mean values of rSO_2 at the proximal and the distal of the flap 30 minutes after the flap elevation were 46.8(±7.72) and 34.6(±7.70), respectively. Those 24 hours after the flap elevation were 47.3(±5.20) and 33.2(±8.55), respectively. In AF, the mean values of rSO_2 before and after the clamping were 52.1(±6.91) and 35.4(±5.31), respectively. A significant decrease of rSO_2 was observed at the distal of RPF and after the clamping of AF.

Conclusion: This device is compact, handy, non-invasive and inexpensive. It allows relative evaluation of blood flow, but further studies are needed to determine the cut-off values of rSO_2.

Elevation of Thin Pudendal Artery Flap Using Fat Thickness Data in Vulvovaginal Reconstruction

Presenter: Masao Fujiwara, MD, PhD, Plastic and Reconstructive Surgery, Hamamatsu University School of Medicine, Hamamatsu, Japan
Co-Author: Hidekazu Fukamizu, PhD, Plastic and Reconstructive Surgery, Hamamatsu University School Medicine, Hamamatsu City, Japan

Background: Majority of defects after excision of vulvovaginal skin cancers is shallow in depth. A thin flap is thus suitable for pudendal defects.

Objective: To create a thin pudendal artery flap, the relationship between fat thickness and age or body mass index (BMI) was examined.

Methods*:*
A total of 12 flaps in 7 cases were enrolled.In the initial 3 cases, five flaps were elevated in the subfascial plane of the gluteus maximus muscle based on the conventional method. In the 4th case with thick adipose tissue, the flap was elevated in the plane just below Camper's fascia (CF). We then adopted this modified flap elevation method in 7

flaps of the 4thto 7th cases. By using computed tomography, we evaluated the perineal fat thickness (PFT) and gluteal fat thickness (GFT) to determine the thickness of the flap.

Results: All flaps survived completely. In all flaps prepared with the modified method, debulking was not required. The mean PFT (34.4 ± 2.8 mm) of the patients less than 70 years of age was significantly higher than that of patients of 70 years or more (21.0 ± 3.5 mm). The mean GFT (18.4 ± 1.1 mm) of the patients with BMI≥25 was significantly higher than that of patients with BMI<25 (11.8 ± 1.2 mm).

Conclusions: To create a thin pudendal artery flap, the method of elevating the flap in the plane just deep to CF should be adopted, especially in patients less than 70 years of age or with BMI≥25.

Cephalic View of Breast Helps to Assess the Patient's Satisfaction

Presenter: Hiroki Mori, MD, PhD, Department of Plastic and Reconstructive Surgery, Tokyo Medical and Dental University, Tokyo, Japan
Co-Authors: Noriko Uemura, MD, PhD, Plastic and Reconstructive surgery, Tokyo Medical and Dental univ, Tokyo, Japan; Kentaro Tanaka, MD, PhD, Plastic and Reconstructive surgery, Tokyo Medical and Dental univ, Tokyo, Japan; Makiko Inoue, MD, PhD, Plastic and Reconstructive surgery, Tokyo Medical and Dental univ, Tokyo, Japan; Tsutomu Homma, MD, Plastic and Reconstructive surgery, Tokyo Medical and Dental univ, Tokyo, Japan; Haruka Koga, MD, Plastic and Reconstructive surgery, Tokyo Medical and Dental univ, Tokyo, Japan

Background and aim: In standard photography of breast, anterior, oblique, and lateral view photos are recommended. On the other hand, patients may watch the breast from the cephalic. In this study, we evaluated the anterior and cephalic view photo of reconstructed breasts, and performed patient outcome studies using questionnaire survey.

Methods: Fifty-six autologous breast reconstruction with abdominal or latissimus flap were included in this study. The cephalic view was taken at 60-70 degrees' elevation angle. The anterior and cephalic view photos were evaluated about symmetry. Questionnaire survey was composed of patient's own frequency of anterior or cephalic view, satisfaction of anterior and cephalic view. Breast Q Reconstruction module (post-operative) was also performed. Each was composed of 4 or 5 points scale.

Results: Mean follow-up was 64.8 months. The cephalic view photo score was different from the anterior one in 32%. Patient's frequency of anterior or cephalic view was equivalent. It showed tendency that someone looked both, and others looked neither. Although the satisfaction from anterior or cephalic view showed different score in 30%,

they showed correlation(correlation coefficient 0.69 in anterior, 0.67 in cephalic) with Breast Q score.

Conclusion: Patient outcome study suggested that surgeons can grasp the patient's evaluation and satisfaction with the cephalic view of breast. Cephalic view should be used to discuss with patients and be added as standard photography of the breast.

A Case Report : Staged Reconstruction and Adjuvant Brachytherapy in the Treatment of Soft Tissue Sarcoma at the Mandible Region

Presenter: Erika Dokoshi, MD, Plastic and Reconstructive Surgery, Hokkaido University Graduate School of Medicine, Sapporo, Japan
Co-Authors: Akira Saito, MD, PhD, Plastic and Reconstructive Surgery, Hokkaido Cancer Center, Sapporo, Japan; Yoshitada Hoshino, MD, Plastic and Reconstructive Surgery, Hokkaido University, Sapporo, Japan

Adjuvant brachytherapy following resection in soft tissue sarcoma is used to reduce local recurrences or preserve neurovascular structures[1),2)], but the case of head and neck region is rare. We report a case of the staged reconstruction combined with adjuvant brachytherapy after soft tissue sarcoma resection at the mandible region.

A 53-year-old male was diagnosed with a leiomyosarcoma of mandible region after previous surgical excision and underwent an additional wide local excision. Immediately following resection, brachytherapy catheters were inserted and the wound was covered with a tie over dressing. Brachytherapy was initiated after the first postoperative day. After completion of brachytherapy, the tie over dressing and catheters were removed and the wounds covered with NPWT dressing. The resulting wound was closed with a free radial forearm flap. There were no postoperative complications and no recurrence during 9 months' follow-up.

There are immediate and staged reconstructions for the wound following soft tissue sarcoma resection combined with adjuvant brachytherapy. To our knowledge, adjuvant brachytherapy has often used immediate reconstruction technique[3),4)], but we underwent staged reconstruction to avoid flap irradiation and complications resulting from brachytherapy catheter placement and dislodgment in the case of immediate reconstruction with flap.

In addition, we used tie over dressing during brachytherapy catheter placement, because the wound couldn't be covered with NPWT dressing. Tie over dressing is easy and able to apply in various area, therefore this case suggests that it may be one of useful methods for temporary wound coverage in head and neck region during brachytherapy.

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Modiolus Reconstruction Using Fascial Suspension with a Free Flap for Full-Thickness Oral Defects Involving the Oral Commissure

Presenter: Kaoru Sasaki, MD, PhD, Plastic surgery, Tsukuba University, Tsukuba-shi, Ibaraki-ken, Japan
Co-Authors: Masahiro Sasaki, MD, Plastic Surgery, Tsukuba University, Tsukuba-shi, Ibaraki-ken, Japan; Junya Oshima, MD, Plastic Surgery, Tsukuba University, Tsukuba-shi, Ibaraki-ken, Japan; Michiko Owaki, M.D, Plastic surgery, Tsukuba University, Tsukuba, Ibaraki, Japan; Akio Nishijima, M.D, PhD, Plastic surgery, Tsukuba university, Tsukuba, Ibaraki, Japan; Yukiko Aihara, MD, Plastic Surgery, Tsukuba University, Tsukuba-shi, Ibaraki-ken, Japan; HIronao Hanihara, M.D, Plastic surgery, Tsukuba University, Tsukuba, Ibaraki, Japan; Mitsuru Sekido, MD, PhD, Plastic Surgery, Tsukuba University, tsukuba-shi, Ibaraki-ken, Japan

Introduction: Modiolus reconstruction is important if the oral commissure on one side including the modiolus is removed. There are few reports that summarized multiple cases about modiolus reconstruction with a free flap for full-thickness oral defects involving the oral commissure. In this study, we sought to examine modiolus reconstruction using fascial suspension with a free flap for full-thickness oral defects involving the oral commissure and considered the proper fascial placement.

Patients and methods: We retrospectively analyzed 6 oral carcinoma cases in which modiolus reconstruction was performed. The tumor resection resulted in a lip defect of 10% to 80%. The defect types comprised 2 labial, 2 buccal, and 2 mixed types. The flap was from the anterolateral thigh (5 patients) or the radial forearm (1 patient). All the flaps survived. The upper and lower orbicularis oris muscles were connected to the masseter muscle by means of Y-shaped (4 patients) or V-shaped (2 patients) slings using the fascia lata or palmaris longus tendon.

Results: Almost all the patients achieved good static facial appearance without lip deviation or drooping. Mouth opening, oral commissure narrowing, and diet were satisfactory as the dynamic result.

Conclusion: Modiolus reconstruction using fascial suspension is a suitable method to maintain the lip balance easily and to achieve good oral function and natural facial appearance for full-thickness oral reconstruction involving the oral commissure. Especially, V-shaped modiolus has an advantage in terms of the natural oral commissure.

Treatment of Infectious Thoracic Aortic Aneurysm By Prosthetic Graft Replacement and Latissimus Dorsi Muscle Flap - Anatomical Analysis of Intrathoracic Approach By Cadaver Dissection and Clinical Applications -

Presenter: Kazuhiro Toriyama, MD, PhD, Department of Plastic & Reconstructive Surgery,, Nagoya City University Graduate School of Medicine, Nagoya, Japan
Co-Authors: Takafumi Uchibori, MD, PhD, Plastic and Reconstructive Surgery, Nagoya University, Nagoya, Japan; Hideyoshi Satoh, MD. PhD, Department of Plastic & Reconstructive Surgery, Nagoya City University Graduate School of Medicine, Nagoya, Japan; Yukiyo Tsunekawa, MD, Department of Plastic & Reconstructive Surgery, Nagoya City University Graduate School of Medicine, Nagoya, Japan; Chisato Koyama, MD, Department of Plastic & Reconstructive Surgery, Nagoya City University Graduate School of Medicine, Nagoya, Japan; Takatoshi Ueki, D Sci, Department of Integrative Anatomy, Nagoya City University Graduate School of Medicine, Nagoya, Japan; Hisao Suda, MD, PhD, Department of Cardiovascular Surgery, Nagoya City University Graduate School of Medicine, Nagoya, Japan; Yuzuru Kamei, MD, PhD, Plastic and Reconstructive Surgery, Nagoya University, Nagoya, Japan

Objective: For those patients in which the omentum could not be used, infectious thoracic aortic aneurysm (infectious TAA) is indicated to replace it with prosthetic graft and wrap it with latissimus dorsi muscle flap to prevent postoperative graft infection. However, there are few reports about the intrathoracic approach of the muscle flap to wrap the graft circumferentially. Therefore, we performed cadaver dissection and analyzed the adequate intrathoracic approach and applied clinical cases.

Methods: Anatomical analyses were performed using two cadavers that were fixed by the Thiel method. From 2016 to 2017, four patients underwent surgical management for infectious TAA. The locations of infection were all descending aorta. We retrogradely reviewed the results of treatment of intrathoracic infectious TAA by graft replacement and latissimus dorsi muscle flap according to anatomical analyses.

Results: In cadaver dissection, when we allow the muscle flap to pass through the second intercostal space (ICS) dorsally, the flap wrapped total descending aorta well.

When the muscle flap was passed through the 5th or 6th ICS, the flap wrapped distal descending aorta thoroughly. Clinically, Full circumference wrapping closure beyond the grafts could be achieved by such approaches. The infection was controlled postoperatively and there was no recurrence.

Conclusions: It is anatomically and clinically possible to wrap the graft circumferentially when we allow the muscle flap to pass through the second ICS for total descending aorta and the 5th or 6th ICS for distal descending aorta. The infection and recurrence were well controlled postoperatively.

Rapid Progression of Scalp Melanoma in a Pediatric Patient

Presenter: Tomohiko Yamaguchi, MD, Plasutic Surgery, JA Shizuoka Kouseiren Enshu hospital, Hamamatsu, Japan

Pediatric malignant melanoma, occurring the age of 20 years, is a rare tumor representing 2.6% of all malignant melanomas.[1] It is more often amelanotic, nodular and thicker at diagnosis than the adult form, resulting in diagnostic delays.[2] A 2-year-old Japanese girl had congenital melanotic nevi(CMM), consisting of brown and black lesions on the left forehead and the hair-bearing left temporal scalp, respectively. She received irradiation with Alexandrite laser 4 times between 5 and 17 months of age for her left forehead lesion, and its color became lighter. For the hair-bearing temporal lesion, only watchful observation was conducted. At 24 months of age, the size of the lesion was 13 × 11 cm. There was no particular change until 29 months of age, but the black lesion of the temporal area rapidly grew at 31 months. An excisional biopsy specimen showed malignant melanoma with tumor thickness (Breslow thickness) of 8.5 mm. An extensive resection was performed and there was no lymph node metastasis, however, 12 weeks after surgery, cervical lymph node metastasis and lung micro metastasis were observed. Although adjuvant chemotherapy was started with nivolumab or ipilimumab combination therapy 14 weeks after surgery, tumor metastasis was progressed to whole body. Unfortunately, 39 weeks after surgery, she died of dyspnea. When CMN develop superimposed papules/nodules, ulcers and color changes, histopathological evaluation is a prerequisite to exclude melanoma. Curettage of CMN in neonates has a potential to lower risk of melanoma not only by numerical reduction in nevus cells but also by removal of “active” melanocytes.[3] Our case indicates that early biopsy or curettage is a considerable choice even in a moderate-sized CMN.

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Surgical Treatment Strategy for Diabetic Forefoot Osteomyelitis

Presenter: Miki Fujii, MD, PhD, Plastic and Reconstructive Surgery, Critical Limb Ischemia Center, Kitaharima Medical Center, Ono, Japan
Co-Author: Hiroto Terashi, MD, PhD, Plastic and Reconstructive Surgery, Kobe University, Kobe, Japan

INTRODUCTION: The aim of this study was to propose an appropriate surgical treatment for diabetic forefoot osteomyelitis (DFO) involving ischemia or moderate to severe soft tissue infection.

MATERIALS AND METHODS: The records of 28 patients with osteomyelitis were retrospectively studied. All patients had undergone surgery based on preoperative magnetic resonance imaging examinations and histopathological or culture analyses confirming the surgical bone margin. The appropriate surgical margin, crucial factors for early healing, and prognosis after complete resection of osteomyelitis were examined. After healing, patients were followed up to assess prognosis (range 32–1,910 days, median 546 days).

RESULTS: The healing rate of nonischemic cases of DFO with negative surgical margins was 100% and that of ischemic cases was 84.6%; the ambulatory rates for both types of cases were 100%. No wound (and/or osteomyelitis) recurrence was observed. Nine new cases of DFO developed in six patients (21.4%; eight were due to vascular stenosis, and one was due to biomechanical changes in the foot.) After complete resection of osteomyelitis, preoperative and postoperative C-reactive protein levels and the size of the ulcer were significant predictors of early healing ($p<0.05$, 0.01, and 0.05, respectively).

CONCLUSION: The appropriate surgical margin should be set in the area of bone marrow edema, based on magnetic resonance imaging examinations after revascularization. In cases with high preoperative or postoperative C-reactive protein levels, long-term antibiotic therapy is recommended, and surgery should be planned after the C-reactive protein levels decrease, except in emergencies.

The Usefulness of New Closed-Type Intra-Wound Continuous Negative-Pressure and Irrigation Treatment That Enables Local Irrigation.

Presenter: Hisashi Migita, MD, Plastic & Reconstructive Surgery and Maxillofacial Surgery, Kurume University School of Medicine, Fukuoka, Japan

Background: When infected wounds must be closed, Intra Wound Continuous Negative Pressure and Irrigation Treatment (hereinafter referred to as “IW-CONPIT”), which we have reported so far, is a very effective method because wounds can be cured by applying negative pressure while irrigating the closed cavity.

However, this conventional method had several problems that there was a shunt from irrigation tube to aspiration tube, early adhesion of non-infected parts in the wound resulted in insufficient cleaning of infected wounds.
Therefore, we developed a method to clean the part to pinpoint and got almost satisfactory results.

Methods: 10Fr irrigation tube and 16Fr aspiration tubes are connected and are placed on a site to be cleaned in the wound. The slit portion of the irrigation drain is placed and start continuous negative pressure irrigation.

Results: This method was performed in 9 patients (mean age,64.7years, range;34 to 82 years,4 men and 5 women). By region, there were 1 mandible, 1 neck, 4 anterior chests, 1 abdomen, and 2 lower legs. All patients were cured without infection.

Conclusion: By connecting the aspiration tube and the irrigation tube, this method has enabled pinpoint cleaning of the most likely source of infection in the wound for a certain period of time. This method is an effective method that can prevent the occurrence of infection in infected wounds that must be closed after debridement. There is a possibility to get healing by cleaning the part to pinpoint of cases with foreign objects such as plates, etc.

Free Flap for Oropharyngeal Cancer Patient Complicated with Intraoral Dehisced Wound Resolved By Rotated Nasolabial Flap--One Case Report

Presenter: Yen-Wei Chen, MD, Division of Plastic and Reconstructive Surgery, Department of Surgery, Taichung Veterans General Hospital, Taichung, Taiwan

Introduction: Oropharyngeal patient who had received multiple surgeries such as wide excision and free flap reconstruction, and radiation therapy sometimes suffered from total flap failure, partial flap loss, or poor wound healing, given to its poor tissue quality and disruption of vascular supply. The commonly used pedicle or free flap may become bulky when the defect was small. In this case, we present a recurrent tongue cancer

patient receiving multiple surgeries and radiotherapy, suffered from intraoral wound dehiscence, and was reconstructed with rotated nasolabial flap. Case presentation: The patient is a 40-year-old male with medical history of right tongue cancer status post hemiglossectomy and right neck lymphadenectomy. Tumor recurrence over oral cavity and oropharynx was noted, and wide excision, functional neck dissection, and mandible osteotomy were performed. Mandible was reconstructed with metal plate and defect reconstructed with ALT flap. Intraoral wound dehiscence at oral base was noted after the surgery. Debridement and rotated nasolabial flap reconstruction were performed. Wound healed well with inevident scar after the surgery. Discussion: Total flap failure, partial flap loss, or poor wound healing were sometimes observed in oropharyngeal patient, due to their poor quality of tissue and compromised vascular supply caused by multiple surgeries and radiotherapy. Commonly used flaps may be too bulky for small defects from partial flap loss or wound dehiscence. According to previous studies, nasolabial flap may be a good choice of flap selection in covering defect about 2 to 3cm in diameter, or 5x5cm defect with bilateral flaps. Even though the blood supply of nasolabial flap was attributed from facial artery, which is often ligated during neck dissection, study shows no adverse effect on the flap¡¦s survival, presumably because of its rich subdermal plexus. It is relatively easy to approach and had cosmetic benefit with an inevident scar.

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Experience of a Practical Method with Double or Triple Rotation Flaps Forreconstruction of the Complicated Wound

Presenter: Yen-Wei Chen, MD, Division of Plastic and Reconstructive Surgery, Department of Surgery, Taichung Veterans General Hospital, Taichung, Taiwan

Purpose: Closure of surgical or traumatic defects offers several challenges to the reconstructive surgeon. An ideal flap is able to close the primary defect yet minimize the subsequent secondary defect. A local flap matches most of the skin color and texture to the recipient site. A method, which can be widely applied for all the defect, which procedure is easily performed, and which successful rate is high is rare. We present a practical method with double or triple rotation flaps for reconstruct all the surgical wound combined with implant exposure or traumatic soft tissue loss combined with bone exposure. Materials and methods: Fourteen patients with complicated wounds, including defect with vital organ or implant exposure, in the trunk, limbs or scalp were

studied over the period from April 2017 to December 2018. Eight defects were located in skull (57%), two defects in sacrum (14%), two defects in legs (14%), one defect in back(7%) and the last one in perineum(7%). Nine patients were female (64 %) and five patients (36 %) were male. Age from 18 to 90 years old, average was 54 years old. Eleven defects were reconstructed with double rotation flaps and another three defects were reconstructed with triple rotation flaps. Result: All patient with surgical defect or traumatic soft tissue loss received reconstruction with local double or triple rotation flaps. All cases were reported no flap failure, wound dehiscence, or infection. All patients returned to normal daily work within one week after removal of stitches according to surgical site. The follow-up period was from two months to 22 months with an average vital organ- or implant explosure-free interval of 15 months. Conclusion: We describe a practical method for repairing all the defects, even complicated wound, with a double or triple rotation flaps that are not only low complication rates but also easy application. The flap may be performed anywhere that tissue is available on opposing sides surrounding an approximately circular defect. There are many manners that a complicated defect can be closed: by regional flap, distant flap or free flap. However, the procedures except our method need both high surgical technique and long learning curve. Moreover, they were always complicated with higher flap failure rates and poor cosmetic results. We believe our method of closure is simple, good color and texture match, high survival rate and lower complication rates. Reference: 1. Utku Can Dölen & Nezih Sungur & Uur Koçer, V-Y rotation advancement flap: A metanalysis and systematic review.

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A Low-Cost Training Model Using Pig Belly Meat for Harvesting of Deep Inferior Epigastric Artery Perforator Flap

Presenter: Kenta Tanakura, MD, Plastic and Reconstructive Surgery, Mitsui Memorial Hospital, Tokyo, Japan
Co-Authors: Tomoyuki Yano, MD, PhD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital of Japanese Foundation for Cancer Research, Tokyo, Japan; Tomohiro Imai, MD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital, Japanese Foundation for Cancer Research, Tokyo, Japan; Hiroki Miyashita, MD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital, Japanese Foundation for Cancer Research, Tokyo, Japan; Yukiko Kuramoto, MD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital, Japanese Foundation for Cancer Research,

Tokyo, Japan; Hidehiko Yoshimatsu, MD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital of Japanese Foundation for Cancer Research, Tokyo, Japan; Tomoyoshi Shibata, MD; Masayuki Sawaizumi, MD, Plastic and Reconstructive Surgery, The Cancer Institute Hospital, Japanese Foundation For Cancer Research, Tokyo, Japan

Objectives: In breast reconstruction, deep inferior epigastric artery perforator (DIEP) flap is one of the most popular flaps due to its versatility. However, the dissection of perforators is difficult and complex for beginners. Here we propose a DIEP flap elevation model using pig meat.
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Methods: We use a portion of the pig belly with rind. In the pig abdominal wall, there are rectus abdominis, internal oblique muscles and external oblique muscles similar to humans. The anterior sheath tends to be slightly thinner than humans. There are cutaneous muscles on the anterior sheath.

The trainee places the lateral side (the rib side) in front, cuts off the skin from the middle of the external oblique muscle, and cuts the cutaneous muscle down to the deep fascia. The subsequent steps are almost the same as the actual DIEP harvesting. The trainee identifies the skin perforator while pulling the tissue to the median direction, dissects the anterior sheath, splits the rectus abdominis muscle, and reaches the DIEA main vessels. Overall satisfaction was high. When the blood was drained very well, there was a tendency for the difficulty to harvest because the blood vessels collapsed and there was no coloration.

Discussion: The dissection of the perforator requires a certain skill. There are training by human cadaver and living animals, both of which are highly effective but expensive. The pig meat training proposed here is low cost and highly useful, for the purpose of giving trainees successful experiences and removing the barrier to clinical practice.

Ceiling culture-derived preadipocytes (ccdPAs) keep higher adipogenic potential than ASCs because of epigenetic status of DNA methylation and histone modification.

Presenter: Yoshitaka Kubota, Kentaro Kosaka, Yoshihisa Yamaji, Yoshitaro Sasahara, Takafumi Tezuka, Shinsuke Akita, Nobuyuki Mitsukawa
Department of Plastic Surgery, Chiba University

Background: Two types of cells can be harvested from subcutaneous adipose tissue. The one is adipose-derived stem cells (ASCs) and the other is ceiling culture-derived preadipocytes (ccdPAs). We previously reported that ccdPAs keep higher adipogenic differentiation potential than ASCs even after seven weeks of culture. Little is known

about the epigenetic differences, which may contribute to differences in adipogenic potential, between these cell types.

Purpose: The purpose of this study was to address the adipogenic potential and underlying epigenetic status of ASCs and ccdPAs.

Materials and Methods: ASCs and ccdPAs were cultured from abdominal subcutaneous fat tissues of three metabolically healthy, lean females. To evaluate the adipogenic potentials of undifferentiated ASCs and ccdPAs, two types of epigenetic assessment were performed using next generation sequencing: DNA methylation assays with a 450K BeadChip; and chromatin immunoprecipitation assays (ChIP-Seq) for trimethylation of histone H3 at lysine 4 (H3K4me3).

Results: Focusing on the promoters of adipogenic master regulator peroxisome proliferator activated receptor gamma (PPARG) gene, we found that CpG methylation levels of PPARG transcript variant 1 (PPARG v1) promoter were higher in ASCs than in ccdPAs in. In contrast, H3K4me3 levels of PPARG v1 promoter were higher in ccdPAs than in ASCs. Both results were consistent with cellular functional difference between ASCs and ccdPAs.

Conculusion: Epigenetic status of PPARG promoter of ccdPAs is in status in which transcription proceeds more easily than ASCs. Our results enhance our understanding of these cell populations and will facilitate further application of ASCs and ccdPAs in regenerative medicine.