2021 Global Partner Oral Presentations

Novel Technique of Development of Human Derived Acellular Dermal Matrix

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Introduction: Reconstructive surgery techniques have evolved exponentially in last decades. From regional flaps to free tissue transfer, tissue movilization has become the gold standart treatment in many reconstructive procedures. Main disadvantage from these techniques lies in the possibility of sequels in donor zone. Furthermore, raising comorbidities in general population and growing indications for reconstructive surgery in elder people, have triggered the development of new biomaterials which can offer support in the reconstruction while elicit donor zone morbidity. Advances in tissue decellularization techniques have brought numerous matrices which have shown effectivity in many reconstructive procedures.

Current decellularization techniques remove the cellular component which is potentially immunogenic and preserve the extracellular matrix (ECM) leading into a biocompatible matrix that interacts with the receptor cells. These protocols include a combination of physical methods such as freeze-thaw, agitation, sonication and gamma radiation; as well as chemical methods like acid-base and enzymatic procedures.

Purpose: The aim of our study is to obtain a biocompatible ADM from cadaveric donor affordable (in economical and technical terms) for any hospital and according to international current legislation. Such a new material could be routinely used in clinical practice for general surgery, gynecology, plastic and maxillofacial surgery, odontology and other procedures.

Material and methods: Skin was harvested from altruist donors aging from 14 to 75 years old. Those candidates with an active neoplasm or infection, dermatitis, inflammatory lesions, chemical or physical poisoning, suspicious atypical nevi or

previously treated by means of radiotherapy were excluded from donation process. The anterior thigh and lumbar zones were chosen as donor areas in order to get enough dermal thickness.

All steps through our original decellularization proccess are routinely done in sterile conditions in a restricted area in our center to avoid contamination. Physical, chemical and enzymatic procedures are mixed in order to remove the cellular component of the samples. During the process several microbiological tests were routinely performed to guarantee the sterility of tissues in critical points in our protocol.

Safety tests are performed in order to ensure decellularization. ADMs are embedded in a plasma and fibroblasts gel and examined to prove cellular proliferation and lack of toxicity. An experimental animal model was developed to demostrate in vivo histocompatibility. Comparison between storage method (lyophilization and cryopreservation) was also done.

Results: Safety test and in vitro cellular growth showed optimal decellularization and integrity of extracellular matrix. Normal fibroblast growth demostrate absence of toxicity. Samples obtained after animal model experiment showed no acute nor chronic inflammatory response with an optimal integration in the receptor. No differences were obtained between storage method comparison.

Conclusions: Original protocol proposed by our group include all steps from harvesting samples from cadaveric donors till matrix storage after decellularization proccess. The result is a high valued biomaterial in terms of biocompatibility and security profile. Local production of this biomaterial leads to cost minimization derived from harvesting and manufacturing matrices in our centre and avoid out-of-stock and storage issues.

Polarization of THP-1 Derived Macrophage By Magnesium and MAGT1 Inhibition in Wound Healing

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Purpose: Among the four stages of wound healing, the inflammatory response plays important role. Because if this stage lasts for a long time the wound healing process is delayed. Neutrophils and macrophages play a major role in this stage and help to prevent infection from outside. Polarization conversion of macrophages regulates the

initiation, production, and resting period of the skin inflammation. The aim of this study is to observe whether the polarization of macrophages can be artificially regulated and to evaluate how these artificially polarized macrophages affect the proliferation of keratinocytes and fibroblasts.

Methods: After the human monocytic leukemia THP-1 cells were differentiated for 48 hours with 100 nM Phorbol 12-myristate 13-acetate (PMA) which is a traditional method. Cells were divided into 4 groups. An M1 cell group was made with 10 μg/mL of LPS and 20 μg/mL IFN-g and an M2 cell group was made with 20 μg/mL IL-4 and 20 μg/mL IL-13. As the other two groups, a group of THP-1 cells were maintained in culture medium that contained 5mM MgSO4 and a group of cells treated with siRNA to inhibit the expression of magnesium transporter 1 (MAGT1), a magnesium channel. The polarization status of each group of cells was confirmed by cell surface antigen expression and cytokine secretion. The medium of each group of THP-1 cells was collected and used as a culture medium for wound healing assay of keratinocytes and fibroblasts.

Results: We characterized that MgSO 4 treatment not only enhanced the surface expression of CD11c and CD86 but also increased CD163 and CD206 which is similar to the M2 group. On the other hand, the expression of CD80 and HLA-DR was increased in the group treated with MAGT1 siRNA which is similar to the M1 group. Finally, functional assays demonstrated mg treated group secreted higher levels of IL-10 and magt1 siRNA treated group secreted higher levels of IL-6 cytokines. Additionally, the conditional medium of mg treated group had enhanced migration of fibroblast.

Conclusions: THP-1 derived macrophages were polarized to a phenotype with characteristics similar to M2 when subjected to a low level of mg overload but differentiated into a phenotype with characteristics similar to M1 when treated with magt1 siRNA. Taken together, the data show the potential for artificially modulating the differentiation of macrophages.

The Association of Antihypertensive Medication with Severity of Dupuytren Disease

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PURPOSE: Transforming growth factor beta 1 (TGFβ1) plays an important role in the disease mechanism of Dupuytren disease (DD).[1] Angiotensin II was discovered to modulate TGFβ1 production and systemic secretion.[2] As angiotensin receptor blockers (ARB) and ACE-inhibitors (ACE-i) were demonstrated to antagonize TGF-β1 expression

and reduce plasma levels in rats[3,4], the purpose of this study was to investigate whether use of ARBs and ACE-i is associated with lesser severity of DD. In addition, we aimed to study the influence of genetic variants that increase TGFβ1 plasma concentration on the association of ARB or ACE-I with DD severity.

METHODS: This retrospective study used our database with data of 890 DD patients on patient's clinical characteristics, medication use, flexion deformity clinimetrics, and genotype data. Ordinal logistic regressions were performed in R to study the association between ARBs or ACE-i and DD severity, defined in Tubiana stages. Genetic variants that increase TGFβ1 plasma concentration were added to the regression analysis as an interaction term with ARB.

EXPERIENCE: ARB use had a significant negative association with severity of DD (p=0.02), but ACE-i were not significantly associated (p=0.29). Subjects using ARBs had an odds ratio of 0.53 for having more severe DD compared to subjects not using ARBs. Genetic variants known to increase TGFβ1 plasma concentration nullified the association of ARB on DD severity. As a sensitivity analysis for hypertension, beta-blockers, diuretics and calcium antagonists were also associated with DD severity. Only beta-blockers showed a significant positive association (p=0.045).

SUMMARY: ARBs are significantly and negatively associated with DD severity, meaning that patients using angiotensin receptor blockers have less severe DD. Simultaneously having genetic variants that increase TGFβ1 plasma concentration and using ARB nullifies the effect ARBs on DD severity, implicating that the blocking of angiotensin II by ARBs likely effects DD severity through decreasing TGFβ1 production and secretion. Use of diuretics and calcium antagonists is not associated with severity of DD, indicating that the association of ARB and DD severity is not a resultant of the disorder hypertension itself. Use of beta-blockers is significantly associated with more severe DD, underlining the inverse association of ARB with DD severity.

CONCLUSION: Our results provide new insights into the effects antihypertensive medications have on DD, and indicate starting points for future research.

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The Management of Bilateral Facial Paralysis

Presenter: Georgios Psaras, MD, Cyprus

Introduction: Bilateral facial paralysis is a very rare condition that occurs more commonly in the congenital type of facial paralysis i.e. Moebius Syndrome. (The traumatic and iatrogenic forms of bilateral paralysis are exceptionally rare)
It is supremely debilitating for the affected individual since facial expression is absent, speech is impaired and lagophthalmos with paradox epiphora are present in varying degrees.

Materials and methods: Fourteen patients with Moebius syndrome and bilateral facial paralysis received 21 gracilis free flaps for reanimation. Seven patients received only unilateral flaps whereas 7 received bilateral reanimations. The muscle was innervated through coaptation to the masseteric nerve. The lagophthalmos was treated in the major- ity of cases with either a gold weight or a platinum/iridium chain placed in the pre-tarsal space. The technique will be described in detail.
The success of this technique and the superior results compared to cross facial nerve grafting, lead us to perform this technique to most unilateral congenital/ traumatic/iatrogenic and other long standing facial paralysis in addition to the bilateral forms.

Conclusion: A total of 61 free flaps were performed with no flap losses from 2003 till today. We believe the Gracilis muscle is an ideal muscle for this type of reanimation. It is long, thin, expendable, and easy to harvest. It’s anatomic location facilitates a si- multaneous two-team approach. The single stage procedure and one nerve coap- tation allow a stronger muscle contracture and more symmetrical smiles. In the young a significant element of brain plasticity leads to spontaneity in smiling, in- dependent from teeth clenching.

Tips and Tricks in Free Flap Transfer Management.

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Introduction: Free tissue transfer always is demanding surgery, many times multidisciplinary approach and apparently minor neglected aspects can easily ruin the final result.

Material and method: We analyze 102 free flap transfer in one center in 5 years period of time. There were used 10 different types of flaps for 86 patients (5 patients needed 2 flaps and 3 patients needed 3 flaps) We consider preop investigations, options of treatment, image recorded, informed consent, operating time, postop monitoring, medication, complications and results. Total flap loss were 2 and partial loss 1, and another 2 with early venous insufficiency were saved!

Discussions: The diversity of free flaps is important, and all over major complication rate (percentage of total and partial loss) is comparable with literature data.[1] Preop and postop steps are also similar. [2] Close flap monitoring is of most value in the first 48 hours postoperatively.[1]
Perioperative management is quite diverse and sometimes different from best practices, identified from the available.[3]Average number of free flap transfer per year is less than 24 which may be considered low volume![4]

Conclusions: Increasing number of same flap transfer may improve operating time and probably functional and cosmetic results with lower complication risk.

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Rectus Amplification By Fat Transfer (RAFT): The Extra Mile in High Definition Tummy Tuck

Presenter: Stefan Danilla, MD, MSc, Sociedad Chilena de Cirugía Plástica, Chile

Objective: To describe a new technique to achieve a finesst-look in lipoabdominoplasty

Methods: Patients with a body mass index under 26 and of both genders scheduled for abdominoplasty or body lift were selected for this procedure. Fat was transferred directly to the rectus abdominis muscle after flap elevation during lipoabdominoplasty.

Results: A total of 90 patients were operated with this technique. No complications attributable to the fat grafting have been noticed. All patients had a high satisfaction level with the procedure. Demonstrative cases are shown.

Discussion: The RAFT technique is a useful and effective technique to improve results in standard lipoabdominoplasty. Its main limitation is the adequate selection of the patient. The RAFT technique can be incorporated easily to common day practice.

The Microvascular Free Abdominoplasty Flap in Breast Reconstruction - the Untold Story of the Australian Contribution

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 forty third anniversary of the first use of a microvascular 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.[1] Understandably, it was not often performed. The first microvascular free abdominoplasty flap operation, performed in Gothenburg, Sweden in 1979 changed all that.[2] 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, transforming the lives of tens of thousands of women suffering from breast cancer. This is all part of recorded history. What is not known is the major Australian contribution to this pioneering work. Dr Bernard O'Brien had established a Microsurgery Research Unit at St Vincent's Hospital in Melbourne in 1969.[3] O'Brien and others in Melbourne pioneered the first ever free island groin flap procedures for leg reconstruction in 1973.[4] Following this the whole microvascular abdominoplasty flap for breast reconstruction operation was planned in Melbourne Australia. All the anatomical research was carried out in the St Vincent's cadaver laboratory, and both microsurgeons who were to perform the operation, one Australian and one Swedish

were trained there at the O'Brien Institute. 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 later take place, did not even have a microsurgery unit. On the forty third anniversary of the operation, it is time to finally acknowledge Australia's contribution to its success and to breast reconstruction following mastectomy for breast cancer.

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Augmentation Rhinoplasty and Tip Plasty in Indian Noses: Tips and Tricks to Achieve Consistently Good Results.

Presenter: Kapil Shriniwas Agrawal, MBBS, MS, MCH, GSMC & KEM Hospital, Mumbai, India

Purpose: To achieve consistently good results in thick skin Indian noses.

Material and methods: Typical Indian noses- short, depressed, bulbous tip with thick and sebaceous skin.

A strong structural support is the first and foremost requirement for cosmetic enhancement in the thick-skinned Indian noses[1,2]. Stretching the nasal tip skin over a stiff, differentially carved, and slightly larger skeletal framework improves surface definition by tightening and adjusting the variable thickness of the skin over differentially carved skeleton without the need of surgical thinning. Occasional need of supratip subcut suture to obliterate dead space and a compression dressing to mould the tip.

Results: 66 pts underwent rhinoplasty & tip plasty (45 primary and 21 secondary) in last 10 years. Consistently good results are being achieved in these cases by removal of only fat from the tip and supratip region without damaging the subdermal plexus of vessels and techniques described above.

Discussion: In India, skin is dark, thick, and sebaceous. This thick skin reduces nasal definition by masking the underlying skeletal framework. Under thick skin there is a weak and underprojected cartilage framework, which only serves to exacerbate the loss of surface highlights. The size and shape of the underlying nasal skeleton plays an important role in defining nasal shape up to maximum extent. However, because the skeletal framework is covered by skin, SMAS and fat, the ultimate reflection of the shape of the nasal skeleton largely depends upon the thickness and pliability of this soft tissue cover. While the skin itself is seldom modified in cosmetic rhinoplasty, the surgical importance of the outer "skin-soft tissue envelope" cannot be understated.

Conclusion: Inadvertent skin thinning in thick skin noses may jeopardize the tip skin. Only fat removal, skeletal strengthening and differential carving may achieve best of the results by accommodating the thick skin inside the nose.

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Artificial Intelligence-Assisted Risk Assessment for Preventing Complications in Esthetic Surgery

Presenter: Williams Erik Bukret, MD, EMBA, BA Plastic Surgery, Buenos Aires, Argentina

Background: Prevention of complications to reduce morbidity, mortality, and improve patient satisfaction is of paramount importance to plastic surgeons. This study aimed to evaluate the predictive risk factors for complications and to validate a novel risk assessment model using artificial intelligence.

Methods: A retrospective review of esthetic surgery procedures performed by the author between 2015 and 2020 was conducted. The Pearson correlation test was used to analyze the risk factors and complications. Differences in the mean risk scores among the three risk groups were tested using one-way analysis of variance (ANOVA). Risk scoring was validated using a machine learning process with a support vector machine (SVM) in a Google Colaboratory environment.

Results: Of the 372 patients, 28 (7.5%) experienced complications. The Pearson correlation coefficients between the risk score and body mass index (BMI: 0.99), age (0.97), and the Caprini score ≥ 5 (0.98) were statistically significant ($p < 0.01$). The

correlations between the risk scores and sex (-0.16, p = 0.58), smoking habit (-0.16, p = 0.58), or combined procedures (-0.16, p = 0.58) were not significant. Necrosis was significantly correlated with dehiscence (0.92, p = 0.003) and seroma (0.77, p = 0.041). The accuracy of the predictive model was 100% for the training sample and 97.3% for the test sample.

Conclusions: BMI, age, and the Caprini score were risk factors for complications following esthetic surgery. The proposed risk- assessment system is a valid tool for improving eligibility and preventing complications.

Importance of TOTAL Platysma Muscle Transection to Improve the LONG-TERM Outcomes of the Face Lifts

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Determining which face-lift technique provides the best long-term rejuvenation results and the best stability over time is a major question in cosmetic surgery: does radical and invasive surgery produce the best long-term results? In our team’s experience , the combination of multiple techniques (liposuction, lipectomy, myotomy, myectomy, , SMAS flap , SMAS plication, salivary glands resection , lipofilling, tissue induction techniques), has been proven to provide significant and long-lasting results. We hereby present a series of 77 combined facelifts which have benefited from total transection of the platysma muscles. These patients were operated on in our hospital by the same surgeon between 2015 and 2018.

For the evaluation of the cosmetic outcomes, we used the objective face assessment scale developed by our team. The scores calculated by 3 blind evaluators before surgery and 12 months postoperatively were compared using a matched T-Test. A p value of < 0.05 was considered significant. The results were satisfactory, with a significant improvement in the overall appearance of the treated areas. A significant difference between the pre- and post-operative scores was observed ($p<0.00001$). The combined technique that we use to rejuvenate the lower third of the face and neck targets all the factors contributing to the aging of the face. Regarding the cases presented in this study, long-term results were satisfactory with a low number of complications.

Ergonomics and the Learning Curve Associated with 3D Monitor Assisted Microsurgery Using a Digital Microscope for Reconstructive Microsurgery.

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Background: The use of digital microscopy, generally refer to as exoscope or video microscope, for microsurgery is becoming prevalent and has great expectations of providing ergonomic advantages for surgeons. However, it remains unclear if this approach does provide ergonomic benefits, and whether transitional difficulties will be encountered when using it in place of conventional optical microscopy. Therefore, the purpose of this study was to clarify both the subjective and objective ergonomic advantages and the learning curve associated with 3D monitor assisted microsurgery (3DMAM) using a digital microscope for a reconstructive microsurgery.

Methods: Seventeen cases of head and neck reconstruction by the method of 3DMAM using digital microscopy were compared with those using conventional optical microscopy in terms of the time required for vascular anastomoses, microvascular complications, and ergonomics of the surgeon. The surgeons' learning curve was evaluated by comparing the time required for the transitions during the vascular anastomoses in each series. An objective ergonomics study was conducted by evaluating muscle fatigue using electromyography during simulated vascular anastomosis.

Results: The time required for vascular anastomosis transitions in 3DMAM group was gradually decreased in a linear fashion. 3DMAM was found to provide an ergonomic advantage for surgeons; however, this was not statistically significant compared to conventional optical microscopy.

Conclusions: At present, 3DMAM using a digital microscopy provides modest ergonomic benefits to surgeons and requires a certain amount of time to learn, but this new technology has enough potential to be replaced with the conventional optical microscope.

Minimally Invasive Robotic and Endoscopic Abdominoplasty

Presenter: Marco Faria Correa, MD, Dr Marco Faria Correa Plastic Surgery, Singapore, Singapore

Pregnancy may cause varying degrees of rectus diastasis, localized lipoadiposity, stretch marks and skin laxity. Rectus Diastasis affects the core muscle function causing important physicals issues like back pain and pelvic floor dysfunction. Restoration of the beautiful abdominal contour and the rectus diastasis is the desire of every young mother. While traditional open abdominoplasty is appropriate for patients with moderate to severe degrees of skin excess, the lengthy scar is a deterrent for patients with rectus diastasis and minimal skin laxity. Since 1989 the author started to work with a new concept in mini abdominoplasty, the "Minimal Scar Abdominoplasty": with the aid of long light source retractors repairing rectus diastasis in its whole length, from the pubis to the xiphoid process and treating lipodystrophy just by using the previous "C session" scar without removing any skin. Attentive to the advantages of video-endoscopy in the others surgical fields and the possibility of working through minimal incisions, in 1991 the author started a research project for adapting endoscopic methods to the subcutaneous territory, to allow to performing rectus plications through minimal incisions, in patients without previous "C session " scar. The long-term follow-up of more than 100 cases of "Minimal Scar Abdominoplasty" and more than 400 cases of "Endoscopic Abdominoplasty" gave to the author enthusiasm of using Robotic Surgery to facilitate performing rectus plication. Robotic Surgery is the Gold Standard of minimally invasive surgery, presenting with many advantages when compared with laparoscopy: it gives a fantastic 3D and HD view, the range of motion of the robot wrist is more than the human wrist, the robot eliminates the tremor of the surgeon and assistant, the surgeon works seated in a console in an ergonomic position reducing the surgeon's physical stress. In 2015, the author performed his inaugural case of robotic rectus aponeurotic plication successfully and has subsequently gone on to perform a series of cases. In this presentation, the author describes his journey in development of this exciting new technique and shares his technical experience and results with the audience.

Effect of a See and Treat Clinic on Skin Cancer Treatment Time

Presenter: Katie Nolan, BSc, MB, BCh, BAO (NUI, RCSI), LRCP & SI, PhD, Dept of Plastic and Reconstructive Surgery, Mater Misericordiae University Hospital, Dublin, Ireland
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Introduction: In the face of increasing referral numbers and repercussions of the COVID pandemic, lengthy waiting times for skin cancer surgery have been

compounded [1]. Departments with increasing workloads without commensurate increases in resources must develop innovative means of ensuring effective, cost-efficient treatment in a timely manner. The aim of this study was to determine if a See and Treat skin cancer clinic could provide a faster skin cancer treatment pathway with comparable clinical outcomes, reduced healthcare costs and acceptability to patients.

Methods: This was a prospective observational study of patients treated through the See and Treat clinic at The Mater Misericordiae University Hospital, with a retrospective control cohort. The prospective 'See and Treat' cohort included a consecutive series of 100 patients, while the retrospective cohort also included a consecutive series of 100 patients. Patient demographics, time from referral to surgery, rates of complete excision and histological subtypes were analysed. Patients in the prospective cohort further completed an anonymous satisfaction survey regarding their treatment.

Results: The average time from referral to surgery was reduced significantly from 134 days in the retrospective control cohort to 61 days in the See and Treat cohort ($P < 0.05$). Rates of complete excision of malignant and pre-malignant lesions were not significantly different between the two groups, being 93% and 95%, respectively. Financial analysis demonstrated that the See and Treat clinic saved €11500 for the See and Treat 100 patient cohort. Analysis showed that patients were very satisfied with the See and Treat service.

Conclusion: We show that a significant reduction in the time between referral and surgery can be achieved through a See and Treat clinic without compromise of the success of surgical treatment. Healthcare spending reduction was demonstrated to be considerable. Based on 2020 Plastic Surgery outpatient waiting list figures of 15,166 patients from the National Treatment Purchase Fund (NTPF) there is a potential reduction in healthcare spending of €1.7 million [2]. While these figures are forecasted savings, they highlight the benefit of the See and Treat service. Moreover, such a treatment pathway has been shown to be satisfactory, and largely preferable to patients.

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Anatomical Study and Clinical Application of a Free Flap Based on the Superficial Palmar Branch of Radial Artery (SUPBRA)

Presenter: Michela Schettino, MD, Plastic and Reconstructive Surgery, Brugmann University Hospital, Brussel, Belgium
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INTRODUCTION: The purpose of this study was to provide anatomical information for the repair of small tissue defects in the hand using a superficial palmar branch of radial artery (SUPBRA) free flap and the appropriate veins following the relative angiosoma.

MATERIALS AND METHODS: For the anatomical studies, twenty human fresh cadaveric upper extremities were dissected, and injection studies were used to delineate the vascular territories. The cutaneous territory of a distally based SUPBRA free flap was determined using methylene blue injection in sixteen of the specimens.

RESULTS: The SUPBRA was founds in all specimens; the average diameter of the branch measured at its bifurcation site was 1.5 ± 0.5 mm. the constant area nourished of the SUPBRA was approximately 4x3 cm located on the skin underlying the proximal parts of the opponens pollicis muscle and the anatomical snuff box. The mean length of the SUPBRAfrom its origin as it branches from the radial artery to the insertion point into the thenar muscles was 4.2 ± 4.1 cm. In the event of nerve or tendons loss, the medial antebrachial cutaneous nerve or the palmar cutaneous branch of the median nerve and/or palmaris longus tendon could be incorporated in the flap.

CONCLUSIONS: These anatomics finding provide that the ideal free SUPBRA flap should be raised using a vein of the radial side of the wrist. We suggests that in addiction of the other commons strengths such us excellent tissue match, minimal donor site morbidity with an excellent camouflaged scar in the mid palmar crease, one operation field, no sacrifice of a major vessel, this flap is useful for the reconstruction of both side of the finger the dorsal side with the hairy skin on the radial side of the flap and the palmar side with the glabrous szkin.

KEYWORDS SUPBRA; Free tissue transfer; Reconstruction; Digits; glabrous skin

Temporomandibular Joint Innervation: Anatomical Study and Clinical Implications

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Temporomandibular disorders and related pain are commonly seen in clinical practice.

They seriously affect social life since they are mostly recurrent.[1-3] Current knowledge concerning temporomandibular joint (TMJ) innervation is unclear and is insufficient to perform the appropriate treatments for the underlying pathophysiology in these patients.[4-5] The aim of our study is to elucidate the pathophysiology of orofacial pain of temporomandibular origin by revealing the TMJ innervation topography, its variations and its relationship with surrounding anatomical structures. This will help us create a guide for treatment interventions to be planned in the light of these data. A total of 20 cadaver half-heads, 10 fresh frozen and 10 embalmed, were dissected. TMJ nerves were dissected together with the associated surrounding anatomic structures. TMJ innervation topography and variations were demonstrated. We showed that TMJ is mainly innervated by the auriculotemporal nerve posteriorly, as well as the masseteric nerve anteriorly, the posterior deep temporal nerve anteromedially, and by a TMJ branch coming directly from the mandibular nerve medially and their frequency with several variations. In addition, we emphasized how these nerves might be affected in certain clinical conditions based on anatomical relationships and pathophysiological mechanisms. To our knowledge, this is the first study in the literature to show the existence of a branch of the mandibular nerve that directly innervates TMJ. In the light of our findings, explaining TMJ pain based on anatomical characteristics of the region will result in precise treatment algorithms and better clinical outcomes in the management of these disorders. Based on this study, new clinical studies and interventions can be designed to reduce the healthcare costs and to alleviate the burden of TMJ pains in these patients.

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Recurrent Gigantomastia after Inferior Pedicle Reduction Mammoplasty

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The Inferior Pedicle Technique of Breast Reduction has been used in the management of gigantomasia and is considered safe and effective while maintaining function and cosmesis. Gigantomasia is defined as , a breast volume in excess of 1500 c.c. in each

breast (recently 1800 c.c.), in response to a hypersensitivity of breast tissue to estrogen. Recently a new definition based upon the contribution of the breast to body mass index (BMI) was proposed. Gigantomasia was diagnosed if both breasts were 3% or more of the total body weight of the patient. This should, however, be distinguished from Pseudogigantomasia, which is commoner, and occurs in women with a high BMI.

The types of gigantomasia are Juvenile, Gestational (pregnancy), Medicational (drug induced), or Idiopathic without a known cause. The Juvenile and gestational types are sometimes collectively called Hormonal, and a recently suggested classification according to etiology is; Hormonal, Drug Induced and Idiopathic (Autoimmune).
The exact pathophysiology of the Idiopathic variety is unclear, but an autoimmune role has been mentioned by some authors. This is due to the association of gigantomasia with a variety of autoimmune diseases such as systemic lupus, inflammatory mastitis of diabetes, rheumatoid arthritis, myasthenia and thyroiditis.
The author’s experience with the Inferior Pedicle Technique in gigantomasia and recurrent gigantomasia shall be presented.