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Safety of Platelet- Rich Plasma (PRP) Therapy for Anti- Aging in Hayandra Clinic

Karina Karina, MD, PhD, Indonesia; Johannes Albert Biben, MD, Indonesia; Patricia Marcellina Sadikin, MD, Indonesia; Agustini S, MD, Indonesia

Background: Platelet-rich plasma (PRP) is a growing trend in medical field, with the application ranging from cardiovascular to ocular disease. The use of PRP was highly popular, particularly as one of the therapies for anti-aging. With such broad popularity, the safety of PRP becomes a crucial topic. Until recently only few studies administered autologous PRP intravenously and even fewer reported its safety. Meanwhile, intravenous route of delivery provides some advantages such as the needlessness of prior activation of the end-product because of natural activation by the patient's own serum-ionized calcium and the possibility of systemic therapeutic effect for underlying disease. This paper aims to analyze the safety of intravenous autologous PRP technique performed as anti-aging therapy in Hayandra Clinic from 2016 to 2019.

Methodology: Autologous PRP was prepared and administered intravenously according to the protocol in our clinic. The medical records of patients receiving PRP for anti-aging therapy in Hayandra Clinic between January 2016 and June 2019 were evaluated retrospectively. We also explored patients' comorbidities and any recorded adverse events.

Results: From January 2016 to June 2019, there were 346 patients receiving PRP for anti-aging, consisted of 74 (21.39%) males and 272 (78.61%) females. Total number of PRP treatment received by each patient ranged from 1 to 56 (median = 6). Most patients receiving PRP therapy also had comorbid disease(s), with the top five common comorbidities were diabetes mellitus, osteoarthritis, hypertension, stroke, and post-cardiac stenting; all of them had been proven to improve as well when treated with PRP. No PRP-related side effects such as infection and development of antibovine antibodies as a reaction to the addition of calcium chloride and thrombin to the PRP was reported.

Conclusion: Intravenous autologous PRP as anti-aging therapy in Hayandra Clinic was proven safe in healthy patients and patients with underlying disease. With proper technique and clinical protocol, intravenous PRP is a promising therapy and can be performed safely without any adverse event.

Keywords: PRP, platelet, autologous, safety, therapy, aging

Revisiting Fat Graft Harvesting and Processing Technique to Optimize Its Regenerative Potential

Patricia Marcellina Sadikin, MD, Indonesia; Karina Karina, MD, PhD, Indonesia; Johannes Albert Biben, MD, Indonesia; Krista Ekaputri, MD

Background: There were numerous existed literatures discussing technical details of fat grafting procedures to optimize the viability of transferred fat cells. As the purpose of fat grafting procedure has expanded to cell and tissue regeneration, more investigations are needed to ensure the viability of stromal and mesenchymal stem cells contained in the transferred fat parcels. This study aimed to explore the effect of harvesting instrument and centrifugation to the viability of stromal cells and adipose derived mesenchymal stem cells (AD-MSCs) contained in the lipoaspirate.

Methods: The fat was harvested from patients undergoing fat grafting procedures. Two kinds of liposuction cannula were used: (1) 2.4 mm, sharp point port, multi-holes, blunt tip cannula; (2) 3 mm, 2 smooth holes, blunt tip cannula. Some of the fat harvested with cannula 1 was processed with different technique: (1) no centrifugation; (2) 300 G; (3) 600 G; and (4) 900 G centrifugation. Stromal cells isolation, cells quantification, viability evaluation were performed. AD-MSCs were isolated and cultured from the samples to confirm its survival.

Results: Lipoaspirate samples from 8 patients were included in this study. The mean of stromal cells number in samples collected with cannula 1 and cannula 2 were $0.7x10^9$/mL (viability 98.7%) and $1.3x10^9$/mL (viability 98.9%) respectively. The number of AD-MSCs isolated from the stromal cells and after two cell culture passages were higher in cannula 2 group ($p > 0.05$). Stromal cells quantification and viability were lowest in lipoaspirate group that was processed without centrifugation ($p > 0.05$).

Conclusion: Fat harvesting with less aggressive cannula seems to yield better stromal cells number, AD-MSCs number, and cell viability. Centrifugation and its speed did not affect stromal cells number and their viability significantly. Studies with larger sample size are needed to confirm these findings.

Plasma Level of Growth Factors and Anti-Inflammatory Cytokine after Administration of Systemic Platelet-Rich Plasma

Krista Ekaputri, MD; Karina Karina, MD, PhD, Indonesia; Johannes Albert Biben, MD, Indonesia; Patricia Marcellina Sadikin, MD, Indonesia

Background: Platelet- rich plasma (PRP) becomes a popular therapy to accelerate healing in plastic surgery field. Platelets in PRP can release many growth factors such as vascular endothelial growth factor (VEGF), platelet- derived growth factor (PDGF) and also anti- inflammatory cytokines, including IL- 1 receptor antagonist (IL-1ra). The aims of this study were to examine the plasma level of VEGF, PDGF and Il-1ra after intravenous administration of autologous PRP.

Methods: Nine healthy patients were divided into two groups (control and experiment group). The experiment group (6 patients) received intravenous autologous PRP treatment. PRP was prepared using 24 mL of whole blood in sodium citrate tubes then followed by plasma separation. Plasma samples were centrifuged at 3,000 rpm for 5 minutes to get PRP at the bottom of the tube. After activation, PRP were administered intravenously to patients. The control group receives no intervention. Two blood samples were collected 1 week apart. The plasma level of VEGF, PDGF and IL-1ra were measured by enzyme- linked immunosorbent assay (ELISA).

Results: The increment of growth factors plasma level in experiment group is high in some patients with low growth factors baseline. However, the fold change plasma level of VEGF, PDGF and IL-1ra (before injection and after 1 week) in experiment group was higher than the control group but was not statistically significant.

Conclusions: The present findings indicate that intravenous administrations of autologous PRP may increase plasma level of VEGF, PDGF, and IL-1ra until 1 week after PRP administration.

Keywords:
Platelet-rich plasma (PRP); vascular endothelial growth factor (VEGF), platelet- derived growth factor (PDGF), IL- 1 receptor antagonist (IL-1ra)

Safety of Stromal Vascular Fraction Therapy: From Fat Harvesting to Cell Administration

Karina Karina, MD, PhD, Indonesia; Johannes Albert Biben, MD, Indonesia; Krista Ekaputri, MD; Imam Rosadi, MS, Hayandra, Jakarta, Indonesia

Background: Stromal vascular fraction (SVF) therapy has been performed on 421 patients by our group in five clinical centers. Autologous SVF, which is a substance containing stem cells, was isolated from lipoaspirate, mixed with platelet-rich plasma (PRP), and administered to patients with various conditions including trauma and aging. This study aimed to determine the safety of SVF and PRP that were given to our patients.

Methods: The lipoaspirate was treated with a tissue-dissociating enzyme, and then, through centrifugation, SVF was isolated. In addition, blood was drawn from each patient, and PRP was isolated. Autologous PRP and SVF were administered to all subjects. The injection location was determined by each disease evaluation. The cell doses and adverse events for each patient were documented and analyzed.

Results: Cell dose that was considered to be safe was less than 10 billion SVF cells per patient at one treatment session and less than 1 billion SVF for local injection.

Adverse events were mild and treated successfully. Any observed adverse events were identified as a result of the injection procedure and were not related to the SVF or PRP.

Conclusions: Our results showed that administration of high dose of SVF up to 10 billion cells was feasible without causing major adverse events and should be further investigated in well-designed phase I-II clinical trial to address the safety and efficacy of therapy.

An up-to-Date Literature Review of Post-Explantation Outcomes for Patients with Breast Implant Illness: What Should We Tell Our Patients?

Charlotte Blau, MD, New Zealand

Background: There is a rising wealth of both literature and social media perspectives on breast implant illness (BII). The natural outcome for a patient reporting symptom they associate with BII is to request explantation. The majority of the plastic surgery community supports this decision, and many surgeons offer the service. There is minimal scientific literature on the post-explantation outcomes to discuss with patients during consent. A single 2017 article by de Boer et al has reviewed literature between 1960-2016 and concluded that there was an improvement in 75% of patient's symptoms post explantation from 622 patients. (1) Given the burst of social media coverage and increasing vogue for explantation for BII, an updated review is merited.

Methods: A literature review was undertaken using the PubMed search engine. The terms "Breast Implant Illness" and "Breast Implant Human Adjuvant Disease" were used. Articles were restricted to 2016-present, and those published in the English language. The resulting articles were sieved using their titles and abstracts to find the studies including patient evaluated for post-explantation outcomes.

Results: "Breast Implant Illness" produced 37 articles, of which 2 included explantation outcomes. "Breast Implant Human Adjuvant Disease" produced 38 articles, of which 0 included explantation outcomes. Of the 2 articles eligible for review, one was a prospective study including 50 patients (2) and the second was a retrospective study including 750 patients (3). Both demonstrated an improvement in the majority of the self-reported BII symptoms post-explantation.
Conclusions: Although there is minimal in the English literature to review since the de Boer et al paper, the current published studies support a majority positive outcome for 800 patients with self-reported symptoms of BII. This may offer reassurance to surgeons involved in removing implants; and assist both patients and surgeons with surgical consent and decision making.

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Expression of Cathepsins B, D and G in Hypertrophic Port Wine Stains

Sabrina P Koh, MBChB, Gillies McIndoe Research Institute, Wellington, New Zealand, Helen D Brasch, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Erin Paterson, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: Our recent demonstration of the presence of an embryonic stem cell (ESC)-like population within hypertrophic port wine stain (HPWS) and the expression of cathepsins B, D and G on similar ESC-like populations in other vascular anomalies, led us to investigate the presence and localization of cathepsins B, D and G in HPWS.

Methods: 15 HPWS tissue samples underwent immunohistochemical staining to investigate expression of cathepsins B, D and G. RT-qPCR and western blotting were performed on six HPWS tissue samples and three HPWS-derived primary cell lines to investigate transcript and protein expression of these cathepsins. Functional activity of the cathepsins was investigated using enzymatic activity assays on six HPWS tissue samples. Immunofluorescence dual-staining of these cathepsins with ESC markers OCT4 and SOX2, and mast cell markers chymase and tryptase, was performed to localize expression to the ESC-like population within two of the HPWS tissue samples.

Results: Immunohistochemical staining demonstrated expression of cathepsins B, D and G in all 15 HPWS tissue samples. Transcript expression of cathepsins B, D and G was demonstrated in HPWS tissue samples and primary cell lines. Western blotting detected protein expression of cathepsins B and D, but not G. Enzymatic activity assays confirmed activity for cathepsins B and D. Immunofluorescence staining showed localization of cathepsins B and D to the OCT4+ and SOX2+ ESC-like subpopulation on the endothelium and stroma of intralesional vessels, while cathepsin G was expressed by tryptase+ and chymase+ phenotypic mast cells within the stroma of HPWS.

Conclusion: This study demonstrated the expression of cathepsins B, D and G in HPWS. Cathepsins B and D were functionally active. Cathepsins B and D were expressed by the OCT4+/SOX2+ ESC-like population on the endothelium and stroma of intralesional vessels within HPWS. Expression of cathepsin G was localized to chymase+ and tryptase+ phenotypic mast cells. These novel findings offer potential novel therapeutic targeting of cathepsins in the treatment of HPWS.

Tumour Stem Cells in Schwannoma

Ethan Kilmister, MBChB, Gillies McIndoe Research Institute, Wellington, New Zealand, Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Bridget Chang-McDonald, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Dalice Sim, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Agadha Wickremesekera, MBChB, MD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: The tumour stem cell concept proposes that tumour stem cells - a small subpopulation of embryonic stem cell (ESC)-like cells - are the origin of tumours, which attribute to tumour recurrence and treatment resistance. Evidence of the presence of tumour stem cells in benign tumors is growing. Investigating ESC-like cells in Schwannoma may improve the understanding of the biology of this tumour. This study aimed to identify and characterize tumour stem cells within Schwannoma using the induced-pluripotent stem cell (iPSC) markers OCT4, SOX2, NANOG, KLF4 and c-MYC.

Methods: Immunohistochemical staining (n=20) and RT-qPCR (n=6) were performed on Schwannoma tissue samples to investigate protein and mRNA expression of these iPSC markers, respectively. Immunofluorescence staining (n=2) was performed to investigate co-localization of the iPSC markers with CD34, α-SMA and CD133.

Results: Immunohistochemical staining and RT-qPCR demonstrated protein and mRNA expression of all five iPSC markers, in all Schwannoma tissue samples investigated, respectively. Immunofluorescence staining showed expression of SOX2, KLF4 and c-MYC on the tumor cells and the endothelium of the tumor microvessels which also expressed OCT4, while NANOG was exclusively expressed on the endothelium of the tumor microvessels. The OCT4+/CD34+ endothelium expressed CD133.

Conclusions: We have identified an OCT4+/SOX2+/NANOG+/KLF4+/c-MYC+/CD133+ ESC-like subpopulation on the endothelium of tumor microvessels and an OCT4-/SOX2+/NANOG-/KLF4+/c-MYC+/CD133+ ESC-like subpopulation within

Schwannoma. The OCT4+/SOX2+/NANOG+/KLF4+/c-MYC+/CD133+ tumour stem cell population may be the origin of this tumour.

Comparison between Consecutive Anatomical Subunit Approximation Cleft Lip Repairs (Fisher) and Historical Cohort of Rotation Advancement Cleft Lip Repairs (Modified Millard)

Jonathan Wheeler, MD; Bryce Jackson, , BSc (Hons) MBChB, University of Auckland, New Zealand; Megan Sanders, NZRN , PGDip, Auckland Regional Cleft and Craniofacial Service, Middlemore Hospital, New Zealand

Aim: Review aesthetic outcomes of the Anatomical Subunit Approximation (ASA) technique at 5-years post-op and compare with a historical cohort of rotation advancement (RA) repairs.

Hypothesis: The aesthetic results of the ASA technique are equivalent to the RA repair in terms of aesthetic outcome as measured with Asher-McDade methodology.

Method: Retrospective cohort study comparing aesthetic outcomes of primary cleft lip repair between the ASA technique (10 patients, single surgeon, author) and a historical cohort (20 patients, rotation advancement technique, multiple surgeons). Photographs at age-5, cropped and flipped to left-sided. Photographs randomised and assessed by Asher-McDade criteria of nasolabial profile, nasal symmetry, nasal form and vermillion border with a score of 1-5. This was assessed by 12 blinded reviewers using previously published guides.

Results: For the demographics of the patient groups, see table 1. Across all Asher-McDade categories the summated median score (lower score = better) for the ASA technique was 6.5 (range 5-10) while the summed median score for the Millard technique was 10.5 (range 8-13). The ASA technique was superior to the Millard in the aesthetic categories of nasal form ($p=0.0058$) and nasal deviation ($p=0.0010$). In the subcategories of vermillion and nasal profile there was no statistical difference in aesthetic outcome (0.0728 and 0.1220 respectively). The histograms in figure 5 show the proportion of scores given for each category while the bar plots show the average score for each patient and both show superior outcomes for the ASA over the Millard in categories A and B.

Discussion/Conclusion: Results produced with the ASA technique by a single surgeon in this series have been shown to be equivalent or superior to the historical rotation-advancement repairs by multiple surgeons within our unit, at the time point of 5-years of age. A further comparison at maturity or with a larger cohort is required to assess long term results. A multi-centrestudy or comparison of multiple surgeons using the ASA repair would further clarify if the results presented are technique- or surgeon-specific.

Historical Bilateral Cleft Lip Repair Middlemore Hospital: The Manchester Technique

Jonathan Wheeler, MD, New Zealand

Aim: The Manchester technique for repair of bilateral cleft palate was popularised by Sir William Manchester after publication in the British Journal of Surgery 1965. This article aims to review the outcomes of this technique as used at Middlemore Hospital as a historical review.

Methods: A retrospective review of patients with Bilateral Cleft Lip and Palate who had a Manchester-style repair over a 50-year period from 1952. The surgical technique involved preserving a wide central prolabial segment with cupid's bow preserved with the mucosal element adding to the vermillion reconstruction. The muscle was not repaired as it was considered to create too much tension across the pre-maxilla.

Results: 62 patients were identified who had their primary surgery between 1952 to 1980 with a further follow-up period to 2005, giving an over 50-year period with a minimum 25-year follow-up. Demographics were Gender: male 81%, female 19%, Ethnicity: European 32%, Maori 8%, not recorded 60%, Relatives affected: 34%, Associations: syndromic 8%, Cleft palate: present in 84%. Average age at primary procedure was 5-7 months. Complications out of the 62 patients, 4 had dehiscences, 2 haematomas, 2 necrosis of premaxilla. Aesthetic outcomes showed features considered typical of the Manchester technique, inclusion of the prolabial vermillion producing absent white roll centrally, widened prolabium due to the unopposed lateral pull of orbicularis oris with inclusion of everted prolabial mucosa, which is not an ideal aesthetic match for lateral segment vermillion. However, in the historical context, this was the first single staged bilateral cleft lip repairing was seen as superior to prior repair techniques.

Conclusion: The Manchester technique was widely used in its era to for bilateral cleft lip repair, although it is largely of historical interest now. It had the advantage of simplicity of design & achieved reasonable aesthetic outcomes. It has been superseded by techniques that include midline orbicularis muscle reconstruction.

Embryonic Stem Cell-like Population Is Present in Extracranial Arterio-Venous Malformation

Claire S Luke Krishnan, BSc; Helen D Brasch, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe

Research Institute, Wellington, New Zealand; Erin Paterson, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: Arterio-venous malformation (AVM) is a high-flow vascular malformation consisting of a tangle of poorly formed vessels with low resistance (*nidus*) in place of a functional capillary network. Management of AVM remains challenging. Understanding of the pathogenesis of AVM may lead to improved treatment. The role of somatic mutations in embryonic stem cells (ESCs) and in other vascular anomalies have led us to investigate the presence of an ESC-like population in extracranial AVM.

Methods: Extracranial AVM tissue samples from 11 patients were stained for induced pluripotent stem cell (iPSC) markers OCT4, SOX2, NANOG, KLF4 and c-MYC using immunohistochemical staining. *In-situ* hybridization was performed on six AVM tissue samples to determine transcript expression of the iPSC markers. Western blotting and RT-qPCR were performed on two AVM-derived primary cell lines to determine protein and transcript expression of these iPSC markers, respectively. Immunofluorescence staining was performed on two of the AVM tissue samples to investigate co-localization of these iPSC markers.

Results: Immunohistochemical staining demonstrated expression of OCT4, SOX2, KLF4 and c-MYC but not NANOG on the endothelium and media of the lesional vessels and cells within the stroma of the *nidus* in all 11 AVM samples. *In-situ* hybridization and RT-qPCR confirmed transcript expression of all five iPSC markers. Western blotting showed protein expression of all iPSC markers except NANOG. Immunofluorescence staining demonstrated an OCT4+/SOX2+/KLF4+/c-MYC+ ESC-like population within the endothelium and media of the lesional vessels and cells within the stroma of the AVM *nidus*.

Conclusions: This study demonstrated an ESC-like population within the AVM *nidus.* Understanding the precise role of this primitive population in AVM may lead to improved treatment of this challenging condition.

EARLY and Recent Development of Reconstructive Microsurgery Subspecialty in DR. Cipto Mangunkusumo National Hospital, Universitas Indonesia (1983-2020)

Nadhira Anindita Ralena, MD, Reconstructive Micrsorugery Section. Division of Plastic Surgery, Faculty of Medicine Universitas Indonesia, Dr. Ciptomangunkusumo National Hospital, Jakarta Pusat, Indonesia
Jakarta Pusat, Indonesia; Mohamad Rachadian Ramadan, MD, Division of Plastic Surgery, dr. Ciptomangunkusumo Hospital, Jakarta Pusat, Indonesia; Sara Ester Triatmoko, MD, Reconstructive Micrsorugery Section. Division of Plastic Surgery,

Faculty of Medicine Universitas Indonesia, Dr. Ciptomangunkusumo National Hospital, Jakarta Pusat, Indonesia

Background: Plastic surgery in Indonesia was pioneered and developed by Moenadjat Wiratmadja, MD., in 1958. This specialty developed and improved over time with more specific subspecialties to facilitate the advancement of the science of plastic surgery, including the reconstructive microsurgery subspecialty.[1] In this article, we would like to review the development of reconstructive microsurgery subspecialty in Dr. Ciptomangunkusumo National Hospital (RSCM), Jakarta, Indonesia.

Methods: We did review on surgery history books, articles about history of plastic surgery in Indonesia, as well as articles and presentations on the past cases of reconstructive microsurgery in Dr. Ciptomangunkusumo National Hospital (RSCM), Jakarta.

Results: The reconstructive microsurgery service in the plastic surgery division Dr. Ciptomangunkusumo National Hospital (RSCM), Jakarta, Indonesia was first initiated by Sidik Setiamiharja, MD., an amid self-learner reading from the textbooks. Late 1985, following the success of conducting the first basic microsurgery course in Jakarta, the plastic surgery team in RSCM which consisted of Sidik Setiamihardja, MD, Chaula L. Sukasah, MD and Gentur Sudjatmiko, M.D. pioneered many of the first microsurgery cases, including the first major upper-limb replantation, first penile replantation, first free flap and the first vascularized bone flap.[1,2] Overtime, the reconstructive microsurgery subspecialty in RSCM-FKUI has been growing significantly. In 2019, the number of free flap cases at RSCM reached the highest number in Indonesia with 90 free flap cases with 94% success rate.

Conclusion: The development of reconstructive microsurgery subspecialty in RSCM-FKUI from 1983 pioneered by Sidik Setiamihardja, MD, Chaula L. Sukasah, MD and Gentur Sudjatmiko, M.D. with several novel procedures in Indonesia, such as the first penile replantation, first major upper-limb replantation, first free flap and first vascularised bone flap. At presents many graduates from FKUI dedicate their careers and perform reconstructive microsurgery services across Indonesia.

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Drainless Lipoabdominoplasty

Gustavo Jimenez-Muñoz-Ledo, MD, PhD, Plastic Surgery, Phi Aesthetics, Leon, GJ, Mexico
Hector Ortiz-Martinez, MD, Plastic Surgery, UNAM, Hospital General de Mexico "Dr, Eduardo Liceaga", Ciudad de Mexico, DF, Mexico

Introduction: The abdominoplasty is one of the most common procedures performed by plastic surgeons worldwide. Surgical techniques have changed over time involving more aggressive liposuction nowadays in combination with fat grafting.

Material and Methods: We present our personal surgical technique that has been useful in achieving superior results and also helps to have a lower downtime and improve the comfort of our patients.
First, we make a dynamic marking of the patient, asking them to wear one of the smaller underwear they usually wear, to make sure the scar get hidden inside the underwear , we mark the areas where we will make liposuction (usually the contour) and the areas of lipo-grafting.

By surgery time, under general anesthesia, we infiltrate tumescent solution (combination of Hartmann, epinephine and ropivacaine), we performed a super wet liposuction. The harvested fat we prepare with antibiotics, in case of we want to use it for lipofilling of the buttocks. Then we incide our marking and rise the flap making a small tunnel going up to the xiphoid, we performed the
rectus abdomini fascia plicature with “X” inverted separated stitches, we tailored the skin flap and excise the excess of the skin. Marking the belly button, we use an inverted v incision for it. Finally, we fix the flap to the abdominal sheath with quilting sutures on the muscular borders of the rectus and linea alba as showed in the figure.
With these sutures, we fix the flap to the abdominal wall, avoiding the negative space and reducing the tension to the closure because it distributes on the stitches, giving a superior result. Also with this maneuver we don't need to use a drain, performing the incision line in 3 layers (scarpa's fascia, dermis and skin). The belly
button gets exteriorized through the inverted “V” incision and we performed a vertical bottom incision on the original belly button to fit.
Finally, we do fat grafting of the buttocks and hips in the subcutaneous space if it is the case.
We encourage the patient to walk in the first hours post-surgery. The next day, they take a shower in the hospital and use soft compression garments and foam. The reviews are at 8, 14, 30 and 60 days postop and we send them to external ultrasound and manual lymphatic drainage with a therapist beginning on the fourth day postop.

Conclusion: We found this technique reproducible, and help us to improve the comfort of our patients during the postop period, ensuring superior scar results and avoiding the use of a drain

Cathepsins B and D Are Expressed by Cancer Stem Cells in Head and Neck Metastatic Malignant Melanoma

Adam Sangster, Helen D Brasch, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Erin Paterson, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: We have previously demonstrated cancer stem cell (CSC) subpopulations in head and neck metastatic malignant melanoma (HNmMM). Cathepsins B, D and G are involved in carcinogenesis. This study investigated the expression and localization of these cathepsins in relation to these CSCs.

Methods: Immunohistochemical staining for cathepsins B, D and G was performed on HNmMM sections from 20 patients. Immunofluorescence staining was performed on two of these HNmMM tissue samples to determine the localization of these cathepsins in relation to CSC subpopulations. RT-qPCR and western blotting were performed to investigate transcript and protein expression of these cathepsins in six HNmMM tissue samples and four HNmMM-derived primary cell lines. Enzyme activity assays were used to determine their functional activity of cathepsins B and D in six HNmMM tissue samples.

Results: Immunohistochemical staining demonstrated expression of cathepsins B, D and G in all 20 HNmMM tissue samples. Immunofluorescence staining demonstrated expression of cathepsins B and D by the OCT4+ and SOX2+ CSCs. Cathepsin G and was expressed by cells within the peritumoral stroma (PTS). Western blotting confirmed the presence of cathepsins B and D in the HNmMM tissues and HNmMM-derived cell lines. RT-qPCR showed transcript expression of cathepsins B, D and G in HNmMM tissues, but only for cathepsins B and D in the HNmMM-derived cell lines. Enzymatic activity assays demonstrated cathepsins B and D were active in HNmMM tissues.

Conclusions: This study demonstrated expression of cathepsin B and D by CSCs, and cathepsin G by cells within the PTS, in HNmMM. Cathepsins B and D were active in HNmMM tissue samples. These findings open the possibility of targeting CSCs using existing inhibitors of these cathepsins.

Breast Lipoframing

Gustavo Jimenez-Muñoz-Ledo, MD, PhD, Plastic Surgery, Phi Aesthetics, Leon, GJ, Mexico
Hector Ortiz-Martinez, MD, Plastic Surgery, UNAM, Hospital General de Mexico "Dr, Eduardo Liceaga", Ciudad de Mexico, DF, Mexico; Elizabeth Hall-Findlay, MD, PhD, Banff Plastic Surgery, Canmore, AB, Canada

Introduction: The breasts represents sexuality in women and play an important role on women self image and confidence.

The ideal breast shape and contour of it, varies widely depending on geographic areas, cutural, religious issues, and fashion tendencias.

The breasts are not a fix structure on thorax, they have movement and change their sha pe according to it. Every woman have natural asymetries that make their own thorax uni que, depending on thorax cage configuration and the frame fat deposits around the brea st[1].
Our traditional landmarks for breast surgery will change depending on these conditions.

We describe the breast frame as everything around the it that directly impacts on its aes thetics, mainly the fat deposits, like preaxilar, lateral and inferior.

We sholud consider to adress these fat deposits to achieve a better aesthetic result.[2,3].

Our main purpose is to describe these fat deposits and how we manage them to achiev e a better aesthetic result when we perform a breast surgery.

Patients and Methods: We selected patients between 2014-
2019 who underwent breast surgery plus liposuction of the breast frame during the proc edure. We included patients for reduction, mastopexy, mastopexy-augmentation , augmenation with implants and breast reconstruction.

We use super humid technique of liposuction on areas marked previously with the patient standup and Dynamic exploration. Starting with the infiltration, then the breast surgery and finally the liposuction with a blunt cannula on every specific need for each patient.

Results: We have a
total of 554 patients, divided in breast augmentation with implants 228
(41.1%), breast reconstructions 129 (23.2%), mastopexies with augmentation 102
(18.4%), mastopexies 63 (11.3%) and breast reductions 32
(5.7%).The range of age was 18-
62 years, mean of 32 years. We used traditional liposuction on every case, using the tu mescent solution described, the approach was individialized on each case following the image pattern by Deep and superficial plane, Deep plane,
posible lipofilling and don´t touch area.

Discussion:
An integral approach to the patients should include the evaluation of the breast frame. When the fat pads are more evident and the breast aesthetics are affected, we sholud a chieve a
more atractive and pleasant look of the breast in harmony with the whole thorax.

Conclusión:
The breast frame sholud be analized in preoperative consultation and when exist a disto rsion of the breast aesthetics, we sholud plan a liposuction and contouring on them to a chieve a superior aesthetics result, giving harmony to the thorax as a unit.

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Microsurgical Reconstruction of Lower Extremity Nerve Injuries at a Referral Center in Mexico City.

Jose Eduardo Telich-Tarriba, MD, Plastic and Reconstructive Surgery Division, Hospital General "Dr. Manuel Gea Gonzalez", Mexico City, DF, Mexico
Alexander Cardenas-Mejia, MD, Plastic and Reconstructive Surgery Division, Hospital General "Dr. Manuel Gea Gonzalez", Mexico City, DF, Mexico

Lower extremity nerve injuries alter sensitivity and motion, limiting an individual's ability to ambulate, exercise or work, deeply diminishing quality of life. Interest in nerve reconstruction in this anatomical area has not been as widespread as for facial paralysis or brachial plexus injury due to a notion that nerve repair in the lower extremities results in negative outcomes due to the long distances between injury site and target organs. The aim of this work is to describe the management of lower extremity nerve injuries ove a ten-year period at a Plastic and Reconstructive Surgery referral center in Mexico City.

Methods: A retrospective cross-sectional study was performed, evaluating clinical records of patients with lower extremity nerve injuries managed in our center between 2010 and 2020. Evaluated data was age, gender, injured nerve, mechanism of injury, treatment pre and postoperative muscle strength according to the Medical Research Council scale.

Results: Twenty-two patients were included, 14 males (63.6%) and 8 females (36.3%); mean age was 36.75 ± 15.33 years. Right and left-sided injuries were equally prevalent.

The most common etiologies were gunshot injuries (27.7%) and iatrogenic nerve injuries (13.6%). The most frequently affected nerves were the peroneal and sciatic nerves (40.9%), followed by the tibial (13.6%) and femoral nerves (4.5%). Nerve transfers (9, 40.9%) and autologous nerve grafts (7, 31.8%) were the preferred techniques for injury management four patients only received neurolysis (18.1%) and one case was managed exclusively by rehabilitation (4.5%). After six months 71% of patients with nerve transfers achieved M4 muscle activity, against 28.5% of those with nerve grafts.

Conclusions: Repair of lower extremity nerve injuries has not been popularized; however, our study shows that several microsurgical reconstructive strategies are available. Patients with nerve transfers showed better outcomes than those with nerve grafts.

Cathepsins B, D and G Are Expressed in Metastatic Head and Neck Cutaneous Squamous Cell Carcinoma

Felix Humphries; Helen D Brasch, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Erin Paterson, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: We have previously demonstrated the presence of two cancer stem cell (CSC) subpopulations within metastatic head and neck cutaneous squamous cell carcinoma (mHNcSCC), which express components of the renin-angiotensin system (RAS). The RAS promotes tumorigenesis. Cathepsins B, D and G are enzymes that provide bypass loops for the RAS. In this study we investigated the expression and localization of cathepsins B, D, and G in relation to CSC subpopulations within mHNcSCC.

Methods: Immunohistochemical staining was performed to determine the expression and localization of cathepsins B, D and G in mHNcSCC tissue samples from 20 patients. Two representative mHNcSCC tissue samples underwent immunofluorescent staining of these cathepsins with embryonic stem cell markers OCT4 and SOX2 to determine the localization in relation to the CSCs, in two of the mHNcSCC samples. Western blotting and reverse transcription quantitative polymerase reaction (RT-qPCR) was performed on five mHNcSCC samples and four mHNcSCC-derived primary cell lines, to determine protein and transcript expression of these cathepsins, respectively. Enzyme activity assays were performed to determine whether these cathepsins in mHNcSCC were active.

Results: Immunohistochemical staining demonstrated the presence of cathepsins B, D and G in all 20 mHNcSCC samples. Cathepsins B and D were localized to OCT4+ CSCs within the tumor nests (TNs) and peri-tumoral stroma (PTS). Cathepsin B was occasionally expressed by the SOX2+ CSCs in the TNs and the PTS. Cathepsin G was localized to the chymase+ mast cells within the PTS. RT-qPCR demonstrated transcript expression of all three cathepsins, although cathepsin G was expressed at lower levels. Western blotting showed protein expression of cathepsins B and D only. Enzyme activity assays showed that cathepsins B and D were functionally active.

Conclusion: The presence of cathepsins B and D on the CSCs and cathepsin G on the phenotypic mast cells suggest the presence of bypass loops for the RAS which may be a potential novel therapeutic target in the treatment of mHNcSCC.

High-Definition Liposuction: Reinforcing Results with the Use of n-Butyl-2-CA. a Case Report.

Sergio Francisco Gonzalez Lazzeri, MD, Plastic Surgery, ABC Medical Center, Mexico City, DF, Mexico
Diego Colin Vega, MD, Plastic Surgery, ABC Medical Center, Mexico City, DF, Mexico; Esteban Limón Hernández, MD, General Medicine, ABC Medical Center, Mexico City, DF, Mexico

The purpose of this work is to present one case of a high-definition liposuction in a male patient within the fifth decade of life using n-butyl-2-CA at the last step of the surgery to reinforce the results and make them more durable. We will show the efficacy and easiness of this technique.

Initially, the patient was examinated and evaluated in a plastic surgery consultation. Considering that this type of surgical procedure is created to be a sculpting procedure rather than a debulking technique, an appropriate patient selection is necessary. A good muscle tone without an excessive amount of fat or skin laxity is expected (body mass index < 30). [1]

During this procedure, an abdominal liposuction was performed with an ultrasound-assisted tumescent technique and when the abdominal marking was finished, n-butyl-2-CA was applied using a 35 cm Duplocath cannula between the muscle fascia and the skin under the negative spaces, leaving just a little of the material from distal to proximal and posteriorly making external pressure.

N-butyl-2-CA is a liquid tissue adhesive, which polymerizes in contact with heat and humidity and becomes a solid and resistant material that presents complete absorption after one year by cellular mechanisms, phagocytosis by macrophages and giant cells. [2]

The use of the postoperative compression garments and all the postoperative care were not different from that of the other patients who underwent a conventional high-definition liposuction.

Our experience in this procedure is limited to a case in which this technique was performed with a significant improvement in the result due to the avoidance of seroma in the negative spaces. The general postoperative evolution was satisfactory at 6 months with any minor or major complications.

The fundamental technique and technology of liposuction have changed only slightly during the past 30 years. However, due to these improvements in liposuction, patients more frequently request greater definition in their results to obtain an athletic and sculpted appearance. [3]
That is why it is very important to always try to improve our techniques to optimize results thereby make them last longer and reduce complications. Of course, initially the correct selection of the patient is of utmost importance.

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Cathepsins B, D and G Are Expressed in Extracranial Arterio-Venous Malformation

Lauren Hansen; Helen D Brasch, MBChB, FRCPA, Gillies McIndoe Research Institute, Wellington, New Zealand; Erin Paterson, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Josie Patel, BSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Nicholas Bockett, MSc, Gillies McIndoe Research Institute, Wellington, New Zealand; Paul Davis, PhD, Gillies McIndoe Research Institute, Wellington, New Zealand; Swee T Tan, MBBS, PhD, FRACS, Gillies McIndoe Research Institute, Wellington, New Zealand

Purpose: We have previously identified an embryonic stem cell (ESC)-like population within extracranial arterio-venous malformation (AVM) and demonstrated expression of cathepsins B, D and G on ESC-like populations in other vascular anomalies. This study investigated the expression of cathepsins B, D and G, and their localization to the ESC-like population in extracranial AVM.

Methods and Materials: Immunohistochemical staining was performed on 13 extracranial AVM tissue samples to demonstrate expression of cathepsins B, D and G. Western blotting was performed on four AVM tissue samples and three AVM-derived primary cell lines to confirm expression of cathepsins B and D proteins. RT-qPCR was performed to demonstrate mRNA expression of cathepsins B, D and G, and enzymatic activity assays were performed to investigate the functional activity of cathepsins B and D, on three AVM-derived primary cell lines. Localization of the cathepsins was investigated on two AVM tissue samples by immunofluorescence dual-staining of cathepsins B and D with ESC markers OCT4 and SOX2; and cathepsin G with mast cell marker chymase.

Results: Immunohistochemical staining demonstrated expression of cathepsins B, D and G in all 13 AVM tissue samples. Western blotting confirmed expression of cathepsins B and D proteins in all four AVM tissue samples and all three AVM-derived primary cell lines. RT-qPCR demonstrated mRNA expression of cathepsins B, D and G and enzymatic activity assays showed that cathepsins B and D were functionally active, on all three AVM-derived primary cell lines. Immunofluorescence staining showed expression of cathepsin B on the OCT4+ and the SOX2+ cells on the endothelium, the media and the stroma in AVM *nidus*. Cathepsin D was expressed on the endothelium of the lesional vessels and the OCT4+ cells within the AVM *nidus*, and cells that expressed cathepsin B. Cathepsin G was expressed on the chymase+ phenotypic mast cells.

Conclusions: This study demonstrated the novel finding of the expression of cathepsins B, D and G in AVM. Cathepsins B and D were expressed by the ESC-like population and cathepsin G was localized to mast cells, within the AVM *nidus*. Further research may lead to novel therapeutic targeting of the ESC-like population in the treatment of AVM.

Delayed Microsurgical Reconstruction in a Case of Acute Hand Necrotic Arachnidism during Pregnancy.

Erika De la Concha Blankenagel, MD, Plastic Surgery, Hospital General Manuel Gea Gonzalez, Mexico City, DF, Mexico
Mario A Moran-Romero, MD, Plastic and Reconstructive Surgery, Hospital General Manuel Gea Gonzalez, Mexico City, DF, Mexico; Patricio Correa, MD, Hospital Dr. Manuel Gea Gonzalez, Division of Plastic and Reconstructive Surgery, Universidad Nacional Autonoma de Mexico, Mexico City, DF, Mexico

Introduction: Bites from the Loxosceles genus cause necrotic skin degeneration, renal failure, and hematological disturbances. Upper extremity affection accounts for 21.5% of the reported cases, and devastating complications can arise. There is no established treatment algorithm and controversy after optimal time to debridement is also present. (1) Herein, we report the case of a pregnant patient with acute hand necrotic arachnidism,

successful delayed reconstruction was performed with a free anterolateral thigh flap (ALT).

Methods and materials: A 32-year-old female patient at 26 weeks of pregnancy was referred to our unit with a history of suspected loxoscelism. Initial treatment was performed in a different hospital. The extremity showed edema and erythema up to the proximal third of the forearm. Computed tomography angiogram showed thrombosis of the ulnar artery and deep palmar arch. The abdominal structural ultrasound revealed a live 25-week fetus with dysmorphism, suggesting craniosynostosis. However, the patient decided to continue with the pregnancy.

Initial management include empiric antibiotic therapy, radical debridement, and application of vacuum assisted closure (VAC). After obtaining a clean wound, reconstruction was performed with a 25 x 10 cm free suprafascial ALT flap. Arterial and venous anastomosis were performed in an end-to-end fashion from the flap to a lesser saphenous vein graft and subsequently in and end-to-end fashion to the ulnar artery 2 cms below the elbow where the vessel was found viable, and to the basilic vein. Subcutaneous enoxaparin 60 mg once daily was used for thromboprophylaxis. She underwent C-section delivery of a 38-week-old full-term baby with craniosynostosis. The patient can perform daily living activities, including breastfeeding.

Summary of results: Early referral of patients with loxoscelism specialized centers is essential. Clinical monitoring will allow timely intervention. Serial debridement allows re-examination of the tissue, necrosis is an ongoing process and reconstruction should be delayed until a clean wound is achieved.

The flap allowed coverage of the volar aspect of the hand and weight bearing areas. The residual dorsal defect was covered through skin grafting. The free flap transfer allowed preservation of limb length, and maintenance of a healthy radio-carpal joint and carpometacarpal joints. Reconstruction of the pinch will be performed upon patient's request.
Anastomotic hypercoagulability during early trimesters of pregnancy has been described. (2) In our case anastomosis was performed uneventfully and venous thromboprophylaxis with enoxaparin was effective to prevent thrombosis of the anastomosis.

Conclusion: In the hand loxoscelism produces extensive injury by disruption of vascular flow. Serial debridement allows control of infection and removal of necrotic tissue. Free flap transfer allows coverage of exposed structures. Microsurgical procedures can be performed in a safe manner in pregnant patients.

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Abdominal and Perineal Hernia Rates Following Vertical Rectus Abdominis Myocutaneous (VRAM) Flap Reconstruction - a Supraregional Experience

Eric Kim, MBChB, New Zealand, Chris Fernando, BBioMedSci, MBChB; Andrew McCombie, BSc, BA, PhD; Frank Frizelle, MBChB, MMedSc, FRACS; Tamara Glyn, MBChB, FRACS; Chris Porter, MBChB, FRACS; Chris Wakeman, MBChB, MMedSci, FRACS; Terry Creagh, MBChB, FRACS

Background: Vertical rectus abdominis myocutaneous (VRAM) flap has proven to be a robust reconstruction method following radical pelvic surgery. Radical pelvic surgery is associated with high morbidity due to pelvic complications and non-healing perineal wounds, as a result of non-collapsible pelvic dead space and pre-operative adjuvant radiotherapy insult. VRAM flap reconstruction addresses both issues by obliterating the dead space and introducing healthy non-radiated tissue. However, flap reconstruction complications can include donor site hernias (abdominal wall), perineal hernias and flap specific complications. This study aimed to evaluate the abdominal and perineal hernia rates, as well as radiological evidence of flap vascularity post-operatively.

Methods: We conducted a retrospective analysis of patients who underwent a VRAM flap reconstruction following radical pelvic surgery at Christchurch hospital between April 2011 and March 2019. We identified the presence of donor site hernias (abdominal wall hernias), perineal hernias and flap vascularity (deep inferior epigastric artery [DIEA]) on a computed tomography (CT) scan at 6 to 36 months post-op. Patients who did not have a post-operative CT were excluded.

Results: Sixty-seven patients underwent a VRAM flap reconstruction of which 52 patients met the inclusion requirements for the study, (mean age 61 years [range 26 – 89], 28 male and 24 female). Eighteen patients underwent an APR and 34 underwent a partial or a complete pelvic exenteration and the majority of them (77%) were for rectal adenocarcinomas. Available imaging were on average 14.9 months post-op (range 6 – 36 months). The donor site hernia rate was 15% and perineal hernia rate was 2%. VRAM flap appeared to have DIEA flow in 94% of the patients.

Conclusion: VRAM flap reconstruction in radical pelvic surgery is associated with a relatively low risk of donor site or perineal hernias and excellent evidence of sustained vascularity.

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Dissection, Drains and Dead Space Closure: The 3D'S to Improve Patient Comfort and Reduce Early Bruising and Late Fibrosis in Rhinoplasty

Gisella Nele, M.D. Plastic Surgeon, Valerio Finocchi, M.D. Plastic Surgeon, Italy; Baris Çakır, M.D. Plastic Surgeon

In this report, we present a triad of maneuvers aimed at reducing early postoperative swelling and bruising, as well as late postoperative edema and fibrosis in rhinoplasty: dissection, drain placement and dead space closure (3D's).

Methods:

Dissection: Subperichondrial-subperiosteal dissection is performed to help reduce swelling and bruising during open and closed rhinoplasty [1].
As described by Finocchi, there is the possibility during preservation rhinoplasty in selected patients to avoid dissection of the dorsal soft tissue envelope, decrease further invasiveness and thereby improve recovery [2].

Dead space closure: Subperichondrial dissection also helps to preserve the Pitanguy ligament. Its preservation or reconstruction is mandatory in order to prevent supratip dead space and unpleasant fibrosis. Infact, as described by Guyuron et al [3], supratip deformity can be avoided if no dead space is present at the level of the supratip.
As it concerns the scroll ligament complex (SLC), it is preserved and later repaired at the end of surgery.
Through this approach, various benefits can be observed including 1) higher definition of the supra-alar line 2) avoidance of fluid buildup and postoperative fibrosis, and 3) restoration of transversalis muscle function [4].

Drains *:* At the end of surgery, a drainage system obtained with a 25-gauge cannula needle is inserted bilaterally along the osteotomy line, therefore creating a drainage system.

Patients: In a study of 650 patients (male-female ration of 1:10), the majority of patients experienced minimal early and late postoperative problems.

Results: No patient experienced drain dislocation or inhalation.

A week after surgery, each patient was asked to complete the first 4 items of the FACE-Q scale regarding early recovery, symptoms and the degree of bother felt in the prior two days. Lower results corresponded to minimal early postoperative edema and bruising in the patient. Eighty percent of patients scored a total of 4; 12%, between 5-7; and only 8%, above 7. These findings are suggestive of fewer issues during the early postoperative period.
Similarly, **in a one-year follow-up,** using the modified Rodnan skin score (mRSS), the nose of each patient was analyzed to evaluate skin fibrosis. Ninety-two percent of patients presented with no thickening of the nose skin; 7%, mild thickening; and 1%, moderate thickening. Neither supratip deformity nor infection were registered

Conclusion: Although careful dissection, dead space closure and drains (3D's) placement can increase mean operating time, edema, swelling and late fibrosis may be avoided during both early and late postoperative periods. Patients may also report higher levels of satisfaction during the same time frames.

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Plastic Surgery Emergency Surgical Care during the COVID-19 Lockdown at a Mexico City Academic Center.

Jose Eduardo Telich-Tarriba, MD, Plastic and Reconstructive Surgery Division, Hospital General "Dr. Manuel Gea Gonzalez", Mexico City, DF, Mexico
David Felipe Navarro Navarro Barquin, MD, Hospital General Manuel Gea Gonzalez Plastic Surgery, Universidad Nacional Autonoma de Mexico, Mexico City, DF, Mexico

Background: Recent literature has shown an important decline in elective procedures during lockdown, with slow uptake after reopening. Hospitals have turned their attention towards the management of COVID-19 patients; however several institutions continue to provide specialized care for emergency situations such as hand trauma or burns. Information about plastic surgery-related emergency procedures during lockdown is scarce.

Objective: compare emergency care productivity before and during lockdown at a plastic surgery referral center in Mexico City.

Methods: A retrospective review was performed including patients treated by a plastic surgeon at our institution's emergency department during the fourteen-week lockdown period in Mexico City (March 23rd to June 28th 2020), and compared those results with the same date period from the previous year.

Results: In 2019, 1114 patients were treated, while only 393 cases were seen in 2020. Upper extremity trauma was the most common type of injury (712 cases in 2019 and 228 in 2020), followed by facial trauma (348 cases in 2019 vs 131 in 2020). The distribution of minor injuries requiring repair under local anesthesia did not differ much (75.3% in 2019 and 73.3% in 2020), however the proportion of procedures requiring admission to the operating room rose from 3.11% in 2019 to 8.11% in 2020. Interestingly, during the lockdown period consultations for pressures sores rose from 0.1% to 1% of the total consultations.

Discussion: Emergency surgical productivity showed a 65% reduction during lockdown. This reduction can be partially explained by an overall decrease in work-related accidents, as well as a reduction in outdoor physical activities and motor vehicle accidents. Another factor could be that the largest public hospitals in Mexico City were turned into COVID-19 attention centers, driving people with emergency needs away from them.

Conclusions: Plastic surgery related emergencies decreased dramatically during the lockdown perood in Mexico City. During this difficult time education programs should promote learning by adopting new telecommunication and simulation technologies. As reopening is implemented the need for emergency surgical procedures will surely rise, and plastic surgeons in Mexico and abroad should be ready to meet the demand, while following national and international safety guidelines..

Comparing the Medial Sural Artery Perforator Versus Radial Forearm Flaps for Tongue Reconstruction

Adrian Ooi, MBBS, MRCS, Plastic, Reconstructive and Aesthetic Surgery, Singapore General Hospital, Singapore, Singapore

Background: For tongue reconstruction, the radial forearm flap (RFF) is commonly used. In the last decade, the medial sural artery perforator flap (MSAP) has been successfully used with reportedly superior donor site outcomes. Our study is the first to directly compare the RFF and MSAP for reconstruction of partial glossectomy defects (<50% of tongue).

Methods: A retrospective review of 20 patients with partial glossectomy defects reconstructed by a single surgeon. Patient demographics, peri-operative data, post-operative complications were analyzed. Objective speech and dietary outcomes were recorded along with subjective patient satisfaction.

Results: 10 RFF and MSAP were each used, with a mean glossectomy defect of 40.5% and 43.5% respectively. Overall flap survival rate was 100% with the MSAP achieving significantly less donor site complications compared to the RFF (10% versus 70%, $p < 0.05$). Donor site healing was faster in the MSAP group (3.3 weeks versus 3.5 weeks). Both groups have comparable functional outcomes, with a total of 13 patients achieving normal speech and diet after 3 months. All patients were extremely satisfied after the surgery with the MSAP having a marginally higher score. The MSAP was significantly thicker than the RFF (7.8 mm versus 4.3 mm, $p < 0.05$) with a longer harvest time due to a more extensive intramuscular dissection (122.5 minutes versus 75.0 minutes, $p < 0.05$)

Conclusion: Both the RFF and MSAP are great options for partial glossectomy reconstruction. The MSAP has become our first choice given its superior donor site outcomes and good functional results.

Outcomes after Tumor Resection with Reconstruction of Facial Skin Cancer: A Prospective Cohort Study

Juan Carlos B Marzan, MD, Department of Plastic & Reconstructive Surgery, Vicente Sotto Memorial Medical Center, Cebu City, Philippines
Jesusito S Zubiri, MD, FACS, Department of Plastic & Reconstructive Surgery, Vicente Sotto Memorial Medical Center, Cebu City, Philippines

Introduction: The goal of plastic surgery is to achieve aesthetically and functionally acceptable surgical outcomes without oncologic compromise. Outcome measurement is therefore important to specifically know the impact of surgical treatment in the appearance, quality of life and tumor recurrence to the patients treated in VSMMC.

Methods: The study employed a prospective cohort study that ran for 2 years where a follow-up of up to 1 year was conducted on each patient. Data were gathered through a questionnaire - FACE-Q scales while other patient data were obtained from medical charts. Complications were assessed every study visit while tumor recurrence were monitored at 6-, 9- and 12-months post-op intervals.

Results: 5 (15%) of the 33 patients underwent direct closure (DC), 4 (12%) underwent skin graft coverage (SG), and 24 (73%) underwent local flap(LF). Theres is no significant difference on the characteristics of patients across three groups. All showed significant improvement of scores in aesthetically and functionally wise over time in all groups. The interaction of the variables - score and period of follow-up, were not

significant except for psychological function, early life impact of treatment, and recovery early symptoms with statistically significant differences across time periods. Minor complications were noted in the study but these did not affect satisfaction scores . There was no tumor recurrence noted among all the patients in the study up to 1 year of follow-up.

Conclusion: Direct closure, skin graft and local flap coverage as means of facial resurfacing do not differ in terms of aesthetic, function and recurrence outcomes in this subset of patients.

Keywords: ***outcomes, reconstruction, facial malignancy***

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The Posterior Arm Flap for Reshaping the Post bariatric Breast.

Vincenzo Vindigni, MD, PhD, Plastic and Reconstructive Surgery, University of Padua, Padova, Italy
Franco Bassetto, MD, Plastic and Reconstructive Surgery, University of Padua, Padova, Italy

Post bariatric surgery, either by itself or in association with other procedures, tries to correct physical defects and body deformities. Because of the intrinsic complexity of massive weight loss (MWL) patients, more than a single procedure is, most of the time, required. We report a combined surgical method able to improve arms' and breasts' contour that aims to obtain a satisfying functional and aesthetic result by reducing surgical times and costs.

Methods: 6 female MWL patients with proper body mass index were clinically evaluated and considered suitable for surgery. While authors performed a modified Pascal-Le Louarn brachioplasty for the upper arm, a standard McKissock mastopexy followed by a Wise pattern skin closure was selected to obtain the breast lift. By sparing the proximal pedicle, the fasciocutaneous flaps were harvested on both posteromedial sides of the arms. The posterior arm flaps (PAF) were tunneled and transposed below the subcutaneous skin bridge across the axilla and finally used to increase the breast mound.

Results: In the immediate postoperative follow-up, no complications were reported. After the 6-month and 1-year follow-up, both arms' silhouette was documented as healthy and symmetric. Breasts were soft, without any signs of ptosis and/or contracture. No skin disorders or scar hypertrophy or lymphedema were reported.

Conclusions: PAF in breast contouring procedures is an interesting surgical option, but more patients need to be treated to validate the effectiveness of the procedure. This technique should be considered when there is a need for simultaneously improving arm's contour and breast's volume and shape.

Outcomes of Post Burn Flexion Contracture Release Under Tourniquet Versus Tumescent Technique in Children

Hussan Birkhez Shami, MS, Plastic Surgery, King Edward Medical University, Lahore, Pakistan
Mustehsan Bashir, PhD; Saadia Nosheen Jan, FRCS, Plastic Surgery, King Edward Medical University, Pakistan; Muhammad Sohail Bashir, FCPS, Plastic Surgery, King Edward Medical University, Lahore, Pakistan

The use of tumescent technique without a tourniquet is 30 gaining acceptance because it avoids complications associated 31 with tourniquet use, establishes a blood less surgical site, and 32 decreases operative time by limiting long general anesthetic 33 protocols [5]. A high dose of epinephrine (1:1000) does not 34 cause necrosis of fingers, and the use of tumescent anesthesia 35 often results in better surgical outcomes with prolonged 36 postoperative analgesia.

Objective: To our knowledge, no study has compared the tumescent 50 technique with tourniquet and examined outcomes during 51 and after release of post burn flexion contractures under 52 general anesthesia.
To compare the clinical outcomes of release of flexion contractures after burn of the hand in children using tourniquet or tumescent technique in terms of operative time, postoperative pain score, and percentage of graft take.

Methods: Patients aged 3 to 12 years who required release of post-burn flexion contractures involving volar aspect of palm and fingers were enrolled from outpatient clinic. Patients were randomized in 1:1 ratio to the use of either tumescent technique or tourniquet during contracture release. Duration of procedure, postoperative pain score, percentage of graft take, and any complications were assessed and analyzed in both groups by a blinded observer.

Results: Of the 160 patients randomized in the study (80 in each group), 84 (52.5%) were males. The mean±SD age of participants was 7.84±3.49 years, with no statistically significant difference in gender and age distribution between the groups. Similarly, there was no statistically significant difference in duration of surgery in both groups. However, there was a statistically significant difference in percentage of graft take at the 14th postoperative day; significantly more graft take was noted in the tumescent group (8.97±3.7cm vs. 7.26±2.6cm; P=0.001). Mean analgesia consumed in the tumescent group was significantly less than that of the tourniquet group (6.26±1.9mg vs. 9.41±2.2mg; P≤0.001). Similarly, statistically significant difference in the mean FLACC pain score was noted, with remarkably low pain score in the tumescent group.

Conclusion: We found that the use of the tumescent technique for the release of flexion contracture resulted in better graft take, lower pain scores, and lesser consumption of analgesic than the use of tourniquet.

Keywords: Burn; Contracture; Hand; Tourniquet; Tumescent.

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Developing a Patient Focused Acute Hand Service

Rebecca McLean, MD, New Zealand

Objectives: Optimal care in a teaching hospital requires surgery in a timely manner and with adequate supervision. Our acute hand surgery service is currently run separately by Plastics and Orthopaedics both sharing a general acute theatre with other specialties. We aim to analyse our acute hand surgery management to inform service improvement.

Methods: Acute hand operations performed under the Plastic Surgery service from 1st June 2018 to 31st May 2019 in a single tertiary centre were included. A detailed analysis of the injury, the operation, delay to theatre, level of supervision and complications was performed from the electronic medical record.

Results: Acute hand operations were predominantly for injuries in males (75%) of a working age. Of 273 operations, 170 patients (62%) had a delay to theatre with a median delay of 1 day (mean = 1.9 days). Only 30% of operations had Consultant supervision in theatre. 18.3% of operations were completed after hours (1700-0800), 6% of these were supervised. The overall complication rate was 11% with only 2.6% needing further surgical intervention.

Summary: The majority of patients with acute hand conditions had delayed operative treatment and the minority of these operations had Consultant supervision, particularly after hours. This analysis assists design of a patient focused surgical hand service by optimising available theatre capacity aligned with consultant supervision. A change to daily planned acute operating sessions with regular Consultant oversight should improve the service. This should benefit both surgical training and most importantly, the surgical management of our patients' acute hand injuries.

Appropriate Anticoagulation Advice before a 'See and Treat' Skin Cancer Clinic

Rebecca McLean, MD

Background: Patients are sent instructions to remain on all anticoagulation before attending the 'see and treat' local anaesthetic skin cancer clinic at Burwood Hospital, Christchurch. The authors assessed whether this was appropriate advice or resulted in surgery deferments.

Method: 64 clinics over 3 months were audited to review the rates of surgery deferment due to anticoagulation which included 888 patients.

Results: 728 (81.98%) of patients had immediate operations and 3.15% (N=28) had surgery deferred for any reason. The average age of patients operated on was 70.16 and 54.73% were male. Of those patients deferred, 8 patients were due to anticoagulation (28.57% of all deferments, 0.90% of total patients seen). 62.50% of these patients (n=5) were on warfarin, 1 patient was taking Dabigatran and Clopidogrel

and one patient taking Clopidogrel only. Other reasons for deferment included patient or surgical factors that made a general anaesthetic or main theatre more appropriate, patients going overseas close to surgery, needle phobia and not enough time in the clinic to complete surgery. Of note, 6.31% of patient Did Not Attend (DNA) clinic and 7.09% patients were seen and discharged without needing surgery.

Discussion: There is a long wait time (up to 5 months) to be seen in this clinic due to limited resources and high demand in Christchurch. The authors wanted to assess whether there were high rates of deferments due to departmental device which would put strain on our service.

Conclusion: The authors conclude that advice given resulted in the relatively low number of deferments due to anticoagulation (0.90% of total patients). Further improvement could be made in reducing the number of patients that do not attend clinic.

Palliative Care Involvement in the Death of Plastic Surgery Inpatients

Rebecca McLean, MD

Background: Deaths among patients admitted under Plastic Surgery are relatively rare events in Christchurch Hospital. The authors wanted to review all recent mortalities and evaluate whether the patient received appropriate input and advice from Palliative Care specialists.

Method: Patients who died while an Inpatient admitted under the care of a Plastic Surgeon from May 2013 to April 2018 were identified via medical coding and notes retrieved and read by the author.

Results: Over the 5 years reviewed, 11 patients died while they were admitted under Plastic Surgery, an average of 1.83 per year. 72.7% of patients had Plastics Ward based care. Male patients accounted for 63.6% of deaths. the total 11 patients, five (45.5%) had formal Palliative Care team input which ranged from 2-10 days per patient prior to death with an average of 4 days spent with each patient and their family. This included discussion with the patient about ongoing wishes, medication management, family meetings and Multidisciplinary team co-ordination.

Discussion: In the last days of life there can be significant physical, emotional and social distress and the use of Palliative Care Specialists and care plans can reduce suffering and improve end of life care. Patients and their families can be supported in their last days while optimizing medication management and communication with medical teams.

Conclusion: Situations including sudden unexpected death and ICU care of a patient mean that Palliative Care input is not always required. Less than half of patients had

Palliative Care input who died under Plastic Surgery in the last 5 years despite 72.9% having ward-based care which can be improved on by early identification and referral of palliative patients to improve end of life care.

Anatomical-Surgical Comparison of Supra- High SMAS Face- Lift VS Face-Lift with Plication in 3 SMAS Vectors

David Roland De Rungs Brown, MD, Plastic Surgery, AMERICAN BRITISH COWDRAY MEDICAL CENTER, Mexico City, DF, Mexico
Martin Manzo, MD; Eduardo Alegre Tamez, MD; Adolfo Zamora Madrazo, MD

Introduction: Descriptions have been provided for multiple rhytidectomy techniques. However, it has not been identified which surgical technique provides the best results. The scientific approach to improving results in facial rejuvenation surgery has required a better understanding of the surgical anatomy than has been provided by the descriptions for classical rhytidectomy. During the past 40 years, major advances in understanding the anatomy of facial soft tissues have resulted through the involvement of plastic surgeons in cosmetic surgery. We describe the anatomical points of the superficial musculoaponeurotic system according to our surgical experience.

Objective: We describe the comparison of the results of rhytidecotmia with the supra-high technique- Superficial Aponeurotic Muscular System in contrast to rhytidectomy with plication of the Superficial Aponeurotic Muscular System in three vectors in a period of one year.

Material and Methods: 40 patients in 6 months with a diagnosis of facial rhytidosis were studied. 20 patients underwent a supra-high rhytidectomy superficial aponeurotic muscular system and 20 underwent a rhytidectomy with application of the superficial aponeurotic muscular system in three vectors. Tests were carried out to homogenize data on the variables. All surgeries were preformed by the same surgeon. The aesthetic variable was valued by the conformity of the patien on a 1-10 grade been 10 the best qualification for aesthetic conformity. The Chi-square to determine the pre and postoperative variables aesrhetic aproval as well as the binomial test for complications; Kolmogorov-Smirnov for age. For each variable we analyze with RR (95% CI), PPV, and NPV.

Results: A sample size (n) of 39 subjects was determined, who were classified by restrictive randomization, with a fixed proportion of 50%, in both treatment groups: Supra High SMAS (20 subjects) and SMAS plication (19 subjects). (GRAPHIC 1)

For this main analysis, two hypotheses are made:

- Null hypothesis (H0): there are no significant differences between:
    - Independent variable: rhytidectomy technique used.

○ Dependent variable: postoperative recovery after 1 year.

● Alternative hypothesis (H1): there are significant statistical differences between the previously mentioned variables.

Limited to the longest survival time, means and medians for survival time are estimated:

● Supra High SMAS: 7,050 (5,037-9,063, 95% CI)

● Plication of SMAS: 1,421 (1,044-1,798, 95% CI)

On the other hand, the analysis of the variable percentage of postoperative satisfaction was carried out according to the rhytidectomy technique used. Depending on the nature of the variables, it is used in Pearson's Chi-square test and contingency coefficient. However, if the value of 0.05 is taken as alpha, it is not possible to reject the null hypothesis for this second association. In other words, we cannot rule out chance. (GRAPHIC 2)

Conclusion and discussion: Regardless of the surgical time and the wide dissection of the Superficial Aponeurotic Muscular System, the aesthetic results are similar in the short and long term.

Evaluation of Intra-Abdominal Pressure after Standardized Plication in Circumferential Fleur-De-Lis Abdominoplasty in Postbariatric Patients

Martin Morales Olivera, MD, Guest Nation Abstract, Mexico City, Mexico

BACKGROUND: Intra-abdominal pressure (IAP) can rise for different reasons and cause tissue damage when it is severe. When muscle plication is performed in the abdominoplasty, the IAP always rises, but at levels that don’t represent a risk. The post bariatric patients have particular tissue characteristics, so it is necessary to assess whether the plication increases this pressure and its relevance on postoperative evolution.

PURPOSE: Measure IAP in the pre and postoperative period of patients undergoing circumferential Fleur-De-Lis abdominoplasty, and its relationship with general recovery.

MATERIAL AND METHODS: By means of transvesical catheterization, the measurement of the IAP was performed in patients who underwent circumferential Fleur-De-Lis abdominoplasty, with 10-cm muscle plication (performed by the same surgeon). Measurements were made at 3 different times: before plication, after total closure and 24 hours postoperatively. The relationship of these results with general function was evaluated using the Barthel´s function scale in the postoperative (one week).

RESULTS: We included 42 patients of which 92.8% (39) were female; the average age was 45.30 years (29 to 61). 16.66% (7) were Obese grade I, 23.8% (10) Grade II, and

59.5% (25) Grade III. All had a history of gastric bypass; the average weight loss was 63.61kg (39 to 122).

In patients with a history of Grade I Obesity, the pre-surgical IAP was 4.85cm/H2O; in the immediate postoperative period it was 14.57, already representing an Intrabdominal Hypertension (IAH) Grade I, and 17.42 at 24 hours (HIA Grade II), with a general function recovery score of 28.57 (Severe dependent) in the first postoperative week.

In Obesity Grade II, the pre-surgical IAP was 4.6cm, in the immediate postoperative period 13.3 (HIA Grade I), and at 24 hours 11.7cm (HIA grade I). The recovery score was 69.5 (mild dependent).

Finally, in Grade III, the pre-surgical IAP was 4.8, the immediate postoperative 12.16 (HIA Grade I), and at 24 hours 9.76 (Normal), with a recovery score of 70.6 (Mild dependent).

DISCUSSION: IAP increased in all patients after plication. However, there were differences according to the degree of obesity that they previously presented: in patients with Obesity Grade II and III, the IAP tended to decrease in the first 24 hours, this due to the fact that their tissues are more lax and tolerate better muscle closure. This has a direct impact on their general recovery, where they had almost independence to perform their functions seven days after the procedure. On the contrary, in those who were Obese Grade I, the IAP rose in the first 24 hours reaching a grade II of HIA, without generating systemic repercussions, but with an evident decrease in daily functions at one week, probably due to the fact that the quality of its tissues has less distensibility.

CONCLUSIONS: Performing a 10-cm muscle plication in the circumferential Fleur-De-Lis abdominoplasty in post bariatric patients is effective and safe, although it represents a slower general recovery in patients who presented a lower degree of obesity (Grade I), due to lower abdominal tissue compliance, compared to Grades II and III.

Congenital Bilateral Upper Eyelid Coloboma with Corneopalpebral Adhesions & Exposure Keratopathy Secondary to Poor Bell's Phenomenon

Juan Carlos B Marzan, MD, Department of Plastic & Reconstructive Surgery, Vicente Sotto Memorial Medical Center, Cebu City, Philippines
Jesusito S Zubiri, MD, FACS, Department of Plastic & Reconstructive Surgery, Vicente Sotto Memorial Medical Center, Cebu City, Philippines

Congenital eyelid coloboma is part of a spectrum of various eye defect with a deduced approximation of incidence that is between 1:12000 to 1:57000 live births. The exact disease burden of uncorrected eyelid coloboma remains to be unreported but worldwide, it is an important cause of vision loss in children. We report a documented

case of an 8-month-old baby girl with congenital upper eyelid coloboma with corneopalpebral adhesions and exposure keratopathy secondary to poor bell's phenomenon. The coloboma defect size is more than half of the total length of the upper eyelid. Upon initial consult, patient is borderline malnourished with a Z score of -2. Surgery was delayed until nutritional status was improved (above Z score -2) . During the interim, ample lubrication of the exposed cornea was ensured using eyedrops / eye lubricants. Eyelid colobomas may be classified as small, moderate, and large. In this case, the defect is classified as a large size upper eyelid coloboma, a lid sharing technique is therefore recommended. Lid-sharing procedures are of two types - advancement flap (Cutler-Beard) and switch flap (Abbe-like Flap), we opted to do an Abbe-like flap procedure, which is a staged procedure, with 3 weeks flap division and insetting interval to minimize the risk of occlusion amblyopia. Postoperatively, patient was well and stable, with acceptable results. Hopefully, the reporting of this case will bring increased awareness of this condition and that reconstructive measures can be achieved in our institution.

Keywords: *eyelid coloboma, lid-switch procedure, Abbe-like flap, exposure keratopathy*

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Breast Upper Pole Diaphragm Release and Retrofascial Pocket Dissection in Breast Augmentation

Cristian Radu V Jecan, MD, PhD, FEBOPRAS, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania
Toma T Mugea, Professor, MD; PhD, Plastic Reconstructive and Aesthetic Surgery, Oradea faculty of Medicine and Pharmacy, Oradea, Romania; Dinu G Dumitrascu, PhD, MD, Department of Anatomy, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

Background: The Breast Upper Pole Diaphragm is the surgical keystone of the breast and pectorals fascia anatomy, revealed after years of research and clinical intraoperative studies [1], which can't be compared with the cadaver dissection, even fresh ones. At the upper breast near the second rib space, the pectoral fascia tightly

connects with the superficial fascia of the breast, and it is difficult to dissect bluntly [2]. Here is the meeting point of three fascia, hanging to the clavicle. At the upper and middle pectoral fascia, many thin fibres are found between the pectoral fascia and the deep layer of the superficial fascia of breast [3]. The breast suspensor ligaments [4] will be in continuity and will support the breast over the implant [5]. Only the deep layer of the pectoralis fascia adheres to the clavicular periosteum, whereas its superficial layer continues with the superficial lamina of the deep cervical fascia, which surrounds the sternocleidomastoidian muscle [1,2].

Material and Methods: The Breast Upper Pole Diaphragm represents the thin fibrotic connections between this fascia as they appear during the breast development.This new and revolutionary concept fill naturally the space between the deep cranial ligament and deep medial ligaments described by Würinger.

Releasing this BUP diaphragm [7] with a single horizontal incision, like a window in the upper pole of the retrofascial plane of pectoralis muscle, corresponding to the second intercostals space, you may fill the soft tissues expanding.

Results: The anatomical macroscopic difference between retrofascial plane of pectoralis muscle and soft tissue from infraclavicular region is easy noticed, allowing a spectacular enlargement of the pocket, with 2-3 cm, on its vertical diameter. Using this technique, pectoralis fascia are lifted like a courtain in front of the implant, allowing it to expand the lower pole of the breast. This small refinement is very useful in cases with thin, soft tissue cover, small pinch test (below 1,5 cm)

Clinical results: The subfascial placement of breast implants have many of the advantages of the submuscular position without lifting the muscle attachments from the ribs. Subfascial breast augmentation has less morbidity.

Conclusion: Implant dislocation is also reduced when the Breast Upper Pole Diaphragm is released and the implant upper pole placed in a space without tension. The implant shape and volume selection must correspond to the patient measurements and breast score.

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Revision Surgery after Breast Augmentation Changing the Retropectoral to Prepectoral Pocket Position with Pectoralis Muscle Reattachment – Our Technique

Cristian Radu V Jecan, MD, PhD, FEBOPRAS, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania
Toma T Mugea, Professor, MD; PhD, Plastic, Reconstructive and Aesthetic Surgery, Oradea Faculty of Medicine and Pharmacy, Oradea, Romania; Dinu G Dumitrascu, PhD, MD, Department of Anatomy, Iuliu Hatieganu University of Medicine and Pharmacy, Cluj-Napoca, Romania

Background: The authors present their experience with three cases of revision surgery after breast augmentation, done by the same surgeon, using retromusculo-glandular dual plane technique, Tebbets II, with anatomical implants, textured, silicone gel filled, cases done between 15-18 years before revision. During the time, all of them become pregnant and had kids, with breast feeding and body weight variation between 15-25 Kg. They come for the revision surgery because the shape of the breast changed, the volume looks too small, and the device aged. All the preoperative tests including MRI looks normal.

Pacient and methods: Intraoperatively the periprosthetic capsule looks thin, with minimal synovial like fluid inside, and the device in the normal position, the marking point being at the IMF level, at the middle. We explant the device, examine it macroscopically for shell integrity, took specimens for bacteriology and histopathology from de dome and base of the periprosthetic capsule and decide to exchange the pocket position into the prepectoral, retroglandular one. We released the pectoralis inferior margin, and progress with the dissection into the retroglandular plane, up to the level of the second intercostal space, about 13-14 cm high. We wash the old pocket with betadine solution, resect the excess of capsula from the inferior edge of pectoralis and reattached it to the inframammary fold level, with drains for 24 hours. In front of the pectoralis, we create the new pocket as usual.

Discussion: Indication for this technique: retropectoral pocket, well defined inferior margin of pectoralis, able to be reattached to the chest wall, good soft tissue coverage in the prepectoral plane.

Conclusion: The advantage is: preserving the normal movement for pectoralis muscle, allow the anatomical implant insertion with a natural look and allow future revision surgeries easier.

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Does an in-House CAD/CAM Approach Contribute to Accuracy and Time Shortening in Mandibular Reconstruction?

Toshiaki Numajiri, MD, PhD, Departments of Plastic and Reconstructive Surgery, Kyoto Prefectural University of Medicine, Graduate School of Medical Sciences, Kyoto, Japan
Daiki Morita, MD., Department of Plastic and Reconstructive Surgery, Kyoto Prefectural University of Medicine, Kyoto, Japan; Ryo Yamochi, MD., Department of Plastic and Reconstructive Surgery, Kyoto Prefectural University of Medicine, Japan; Yoshihiro Sowa, MD, PhD, Department of Plastic and Reconstructive Surgery, Kyoto Prefectural University of Medicine, Japan

Mandibular reconstruction using computer-aided design and computer-assisted manufacturing (CAD/CAM) techniques has received recent attention. This technique has theoretical advantages, although this approach can be commercially used in the limited area of the world.

The aim is to describe our experience using in-house CAD/CAM guides and the situations in which CAD/CAM may present benefit in the region where commercial guides are unavailable.

We developed our In-house CAD/CAM approach for mandibular reconstructions with a free fibular flap [1,2]. Patients were divided into two group: CAD/CAM and conventional groups. In the CAD/CAM group, reconstructions were planned virtually using CAD/CAM; these CAD/CAM guides were used in the surgery. In the conventional group, free hand cutting and fitting of the fibular segments were performed as reconstructions. Later, the bone computed tomographic image was compared with the plan. The averaged deviations and the percentages of the points within 1 mm, 2 mm, and 3 mm deviations were recorded. Total and ischemic time were also recorded.
Reconstruction points within 1mm deviation were 58% of CAD/CAM group (n=14) and 42% of conventional group (n=10, p = 0.04), within 2mm 82% and 69% (p = 0.03). Total time were 975 and 911 minutes, while flap ischemic time were 159 and 175 minutes (p = 0.04), respectively.

In-house CAD/CAM mandibular reconstruction also supported accuracy and shorter flap ischemic time. For a detailed accurate reconstruction, CAD/CAM showed superiority than conventional method. Use of the In-house CAD/CAM guides might be an option where commercial guides are not available.

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Upper-Limb Amputation for Life-Threatening High-Flow Arteriovenous Malformation: Case Report

Corina Maria Stefan, MD, Department of Plastic and Reconstructive Surgery, Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Bucharest, Romania
Cristina Nicoleta Marina, MD, Assistant, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania; Laura Raducu, MD, Department 11 Plastic and Reconstructive Microsurgery and Pediatric Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; Adelaida Avino, MD, Department of Plastic and Reconstructive Surgery, Doctoral School, Carol Davila University of Medicine and Pharmacy, Discipline of Plastic and Reconstructive Surgery; Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Bucharest, Romania; Daniela Elena Gheoca Mutu, MD PhD, Department of Plastic and Reconstructive Surgery, Carol Davila University of Medicine and Pharmacy, Discipline of Anatomy; Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Plastic Surgery, Bucharest, Romania; Valentin Laurentiu Stoian, MD, Orthopedic and Trauma Surgery, Agrippa Ionescu Clinical Emergency Hospital, Bucharest, Romania; Oriana Elena Moraru, MD, Vascular Surgery, Agrippa Ionescu Clinical Emergency Hospital, Bucharest, Romania; Cristian Radu V Jecan, MD, PhD, FEBOPRAS, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

Background: Arterio-venous malformations are high-flow lesions representing direct connections between an artery and vein. They are defects of the circulatory system that arise during fetal development or immediate after birth. Peripheral arterio-venous malformation presents a lot of clinical symptoms, such as pain syndromes, swelling, edema, nerve palsies or severe hypertension. Hemodynamically compromising lesions of the limb are rare, and they involve high-flow arterio-venous fistulas with marked arterio-venous shunting. An arterio-venous malformation consists of a blood vessel nest (nidus) through which arteries and veins are connected. Complete excision of the malformation is the best recommendation, subtotal resections are requiring many surgeries due to the high rate of recurrence. Preoperative embolization is often used, but it has to be followed shortly with operative resection. Simple ligation or embolization is contraindicated for arterio-vascular anomalies because the rapid development of the collateral arterial flow [1].

Material and Methods: A 49-year-old woman presented to us with pain, sudden increase in preexisting swelling around the left arm and forearm, with skin necrosis on

the posterior aspect of the arm and forearm and ulceration around the left elbow after subclavian vessels ligature in other medical service. Examination revealed an arteriovenous malformation with signs of median nerve paresis and radial nerve paralysis, multiple engorged veins extended distal, to the distal phalanx and proximal, to the left shoulder, palpable and audible continuous machinery murmur. X-ray revealed erosion of the bone in the upper and the lower humeral bone. CT/MR angiography revealed numerous high-flow arterio-venous fistulas extended to the whole upper left limb.

Results and discussions: Due to the extension of the high-flow fistulas, the very high risk hemorrhage and fracture, which can be catastrophic in this case, and because the patient have had multiple surgeries and embolization procedures through the past 20 years, the surgical team (vascular surgeon, orthopedic surgeon and plastic surgeon) agreed to do the amputation of the proximal third of the left arm, with the preservation of the proximal humeral bone with associated soft tissue reconstruction, preserving both the shoulder width and axillary contour, with good results and increasing the quality of life.
Arterio-enous malformations are difficult to treat and very complex. For diffuse lesions that are life-threatening, amputation is the best choice, even with the advances in embolic agents and microcatheter techniques. Surgical excision must be performed in a systematic manner, involving steps to minimize the risk of uncontrollable intraoperative bleeding and difficult postoperative complications. In this case, the successful amputation was achieved having a multidisciplinary team who performed each step of the surgery.

Conclusion: We emphasize that this form of presentation as a high-flow malformation around the elbow with skin necrosis, osseous changes and nerve paralysis is a rare case in the literature. A multidisciplinary approach is paramount for the effective management of arterio-venous malformations.

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Quality of Life, Pain, of Prepectoral and Subpectoral Implant-Based Breast Reconstruction Following Mastectomy: A Systematic Review and Meta-Analysis

Ann Hui Ching, Yong Loo Lin School of Medicine, National University of Singapore Kimberley Lim, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore; Adrian Ooi, MBBS, MRCS, Plastic, Reconstructive and Aesthetic Surgery, Singapore General Hospital, Singapore, Singapore

Introduction: Implant-based breast reconstruction (IBBR) is the most common form of breast reconstruction following mastectomy in the United States and the world. Despite decades long preference for subpectoral placement, recent evidence enabled by advancements in surgical technique has reignited discussion over implant placement. Patient reported outcomes (PROM) comparing prepectoral and subpectoral placement of implants following mastectomy has not been studied. This systematic review and meta-analysis aims to compare operative as well as patient-reported outcomes between prepectoral and subpectoral approaches to IBBR. The primary PROM was measured with the BREAST-Q, a widely used and rigorously validated patient-reported outcome measure, while the secondary outcomes were post-operative pain scores, and complication rates.

Methods: A comprehensive literature search of the PubMed library was performed with no limits on publication period, included various combinations of the following key words “prepectoral”, “implant”, “direct-to-implant”, “expander”, “ADM”, “Mesh”, “breast reconstruction”. All studies on patients undergoing IBBR after mastectomy with breast cancer diagnosis, with explicit description of pre-pectoral placement, and patient reported outcomes reported in the form of BREAST-Q, post-operative pain, aesthetic outcomes. In the systematic review, 1059 and 430 patients received prepectoral and subpectoral implants respectively are represented. In the metanalysis, 245 and 401 patients who received prepectoral and subpectoral implants respectively were included for analysis.

Results: A total of 3789 unique studies of which 18 publications with a total of 1489 patients were included. Using the MINORS guidelines, quality of articles was high, ranging from 11 to 16 in non-comparative studies and 21 to 24 in comparative studies. 14 studies present data from at least one module of the BREASTQ with a total of 990 patients. Overall, patients who received prepectoral implants (range 57 – 98) had higher BREASTQ scores across the modules than patients who received subpectoral implants (range 48.3 – 92). These differences were statistically significant for satisfaction with outcome (mean difference, 6.80; 95% CI; 0.53 to 12.97; Z = 2.16; p=0.03) and psychosocial wellbeing (mean difference, 14.52; 95% CI; 1.67 to 27.27; Z = 2.21, p=0.03). There were insignificant differences in the satisfaction with breast, sexual wellbeing and physical wellbeing modules.
7 studies with a total of 820 patients presented post-operative pain score at day 1, 7 after reconstruction. Pain was lower in patients with pre-pectoral implants on both day 1 (mean difference, -1.64; 95% CI; -2.32 to -0.96; Z = 4.74; p<0.01) and day 7 (mean difference, -0.64; 95% CI; -0.96 to -0.32; Z = 3.93; p<0.01).

Conclusion: With the increasing popularity of prepectoral breast implant reconstruction, this systematic review and meta-analysis is timely to compare outcomes with subpectoral IBBR. Our primary finding were that patients undergoing prepectoral IBBR had higher satisfaction with outcomes, and psychosocial wellbeing, with lower postoperative pain. This would suggest that in appropriately selected patients, prepectoral implant placement with ADM coverage, whether it be primary placement of

an implant or placement of a tissue expander before definitive implant placement, should be the modality of choice in patients who choose IBBR.

Upper Extremity Venous Ulcer and Hypertension Related to Arteriovenous Fistula Thrombosis

Sorin Viorel Parasca, MD, PhD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
Maria Magdalena Smeu, MD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; Andrei Dumitrescu, MD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

Background: Venous hypertension is a rare complication of arteriovenous fistulas of the upper limb and may cause venous ulcers.

Case-report: We report a case of a 43-year-old woman, with end-stage renal failure due to type 2 diabetes mellitus, in dialysis treatment for 18 years, presented with a varicose ulcer on the dorsal and volar aspect of the left hand which had developed during admission for a SARS-CoV 2 infection in the Department of Infectious Diseases of another hospital. A left forearm radiocephalic arteriovenous fistula was created in 2012 for dialysis access. Fistula thrombosis occurred 6 years later and a left brachiobasilic fistula was performed. While waiting for fistula maturation, a left subclavian central venous catheter was used for haemodialysis. During the admission for the SARS-CoV 2 infection, the patient developed progressive left upper limb edema, celulitis and an ulcer of both volar and dorsal aspects of the left hand. A Doppler echography was performed which revealed a thrombosis of the brachiobasilic arteriovenous fistula and multiple left subclavian vein stenoses. Surgery was performed, an aneurysmal dilatation due to the radiocephalic fistula was excised and the brachiobasilic fistula was ligated, the ulcer was excised and then was grafted at a later date. Compression therapy was set in place and the symptoms gradually resolved.

Discussion: As far as we know, this is the first case-report of a patient who developed upper limb venous ulcer during admission for COVID-19. The hypercoagulable state which occurs during the SARS-CoV 2 infection might have had an impact on the acute imbalance which led to the ulceration of the hand but we believe that catheter-associated venous stenosis with subsequent venous hypertension led to chronic ischemia by venous congestion and trophic lesions of the upper limb. Pressure therapy is a key component in the treatment of such patients and should be continuously maintained in order to achieve long-term symptom resolution.

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The Impact of Sars-COV-2 (Coronavirus) Pandemic on the Emergency Plastic Surgery Repair and Burn Clinical Hospital

Maria Magdalena Smeu, MD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
Andrei Dumitrescu, MD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; Sorin Viorel Parasca, MD, PhD, Plastic Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; Teodor Panzan, MD, PhD, Plastic Surgey, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

The peculiarity of SARS-COV-2 pandemic, the late diagnosis of the patients and the long asymptomatic period made the whole medical world reorganize and make important changes for hospitals and patient management.
Due to each country's government-imposed conditions by the onset of the SARS-COV-2 pandemic, both from an epidemiological point of view and from the specialized medical assistance approach, the addressability of the patients and the characteristics of the emergencies have suffered some changes that deserve to be highlighted. Eventually some suggestions to help improve prevention and establish protocols in the management of chronic and acute diseases in such conditions can be made, analyzing all the data.

Materials and methods: A retrospective study of acute and chronic hospitalization cases was performed both in the burn section and in the plastic surgery department during the emergency and alert period. The obtained results were compared with those from the same period of previous years when there were no pandemic restrictions.

Results: The total number of cases in 2 months of emergency state (15.03-15.05.2020) was 115, compared to 418 in the same period of 2019 (over time there is a constant number of admissions in the years previous to the pandemic).
The changes consisted in decreasing the total number of hospitalizations by approximately 73%, with a significant decrease in the number of hospitalizations for chronic diseases during the state of emergency by approximately 80%. Given that, the number of hospitalizations for plastic surgery emergencies increased by 13% and the number of burns decreased by 18%, with the predominance of domestic accidents admissions.
These changes regarding both the number and the type of hospital admissions appeared in the conditions of restricted hospitalizations as well as in-hospital coronavirus infection prevention protocols imposed by the government.

Discussion: We aim to raise awareness by the results of the study so that decision makers and the media can carry out education programs for the prevention of plastic surgery and burns accidents in similar conditions, pandemic or not.
We also want to emphasize the importance of a national protocol for patients' admission and emergency management and healthcare in other times like this, pandemic or not.

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In the Eyes of the Beholder: Preferences Regarding the Aesthetically Pleasing Female Face Among Filipinos

Anthony Philip Patawaran Calimag, MD, Department of Surgery, Section of Plastic Surgery, University of Santo Tomas Hospital, Manila, Philippines
Ma. Minerva Patawaran Calimag, MD, MSc, PhD, Faculty of Medicine and Surgery, Department of Clinical Epidemiology, University of Santo Tomas, Manila, Philippines

Purpose: To define quantitatively and qualitatively what constitutes an aesthetically pleasing female face from the perspective of the Filipino.

Patients and methods: A purposive sample of Filipinos aged 18 and above were included in the study. The study is a cross-sectional sequential exploratory mixed-methods study with a quantitative rank-order choice-based conjoint analysis part and a qualitative part. Respondents were stratified according to sex and generational age. Respondents completed a task that will elicit their preferences for the aesthetically pleasing female face from 12 composite images of the Filipino female face at random. Respondents were interviewed further and were asked probing questions regarding their definition of beauty, and how they arrived at their individual rankings for their most preferred and least preferred composite images. The respondents were also asked if any of the images remind them of someone they know or if any of the composite images is similar to himself/herself or a significant other.

Results: The study showed that across all age groups of both genders concurred that the eyebrows, the face shape, the eye slant, and the jaw line affected their perception of attractiveness of the female face. More specifically, they preferred a straighter eyebrow configuration more than highly arched eyebrows; a more oval face shape was considered more attractive than other face shapes; straight eyes were more attractive than slanted eyes; and regular (i.e., smoothly contouring vs angular or round) jaw lines

were more attractive. Perfectly symmetrical faces were not considered particularly more attractive, as was those faces with higher Golden Ratio scores.

Conclusion: Faces are processed both by its component (i.e., by individual features) and configural (i.e., as a whole) properties, and these events are not mutually exclusive and can take place concurrently. The preferences of a group regarding what is beautiful depends on a multitude of factors and may change across time and geographic location.

Keywords: Beauty, Aesthetic Preferences, Filipino, Perception, Plastic Surgery

The Management of Complications after Ischemic Limb Amputation - a Multidisciplinary Approach

Adelaida Avino, MD, Department of Plastic and Reconstructive Surgery, Doctoral School, Carol Davila University of Medicine and Pharmacy, Discipline of Plastic and Reconstructive Surgery; Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Bucharest, Romania Laura Raducu, MD, Department 11 Plastic and Reconstructive Microsurgery and Paediatric Surgery, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania; Daniela Elena Gheoca Mutu, MD PhD, Department of Plastic and Reconstructive Surgery, Carol Davila University of Medicine and Pharmacy, Discipline of Anatomy; Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Plastic Surgery, Bucharest, Romania; Corina Maria Stefan, MD, Department of Plastic and Reconstructive Surgery, Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Bucharest, Romania; Cristina Nicoleta Marina, MD, Assistant, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania; Cristian Radu V Jecan, MD, PhD, FEBOPRAS, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania

Introduction: Acute limb ischemia is considered to be a major vascular emergency, due to a rapid decrease in tissue perfusion. The most important fact is that there is not enough time for local angiogenesis to compensate the loss of perfusion, therefore the skin, muscles and nerves are affected. The main causes are thrombosis of a main artery of a limb, embolism, arteriopathy, arterial dissection, and trauma. The first step in the therapeutic management is prompt diagnosis and revascularization, reducing the risk of limb loss and mortality. Unfortunately, complications occur frequently in patients with acute limb ischemia, and despite early revascularization, 30-day mortality and amputation rates are up to 15%. The amputation of the limb is performed in patients with irreversible damage, mostly above the level of the knee [1]. This paper aim is to present the therapeutic management of a patient with sepsis after above-the-knee amputation performed after acute limb ischemia.

Method and Results: We report the case of a 50-year-old female patient, with history of acute myeloid leukemia, who presented with sepsis in the Plastic Surgery

Department of Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”. Limb amputation was performed in another hospital, which was a consequence of a failed attempt of revascularization after acute limb ischemia. At admission in our unit she presented wound dehiscence and significant tissue necrosis. Positive results of wound swab cultures revealed multidrug resistant Escherichia coli and Candida albicans. An aggressive debridement was performed with re-amputation of the right thigh. Negative pressure wound therapy was applied for 7 days. The defect was covered using secondary wound suture.

Conclusions: We highlight this case due to the fact that wounds associated with amputation of the thigh continue to be a devastating, potentially life-threatening condition, especially in patients with co-existing medical pathologies. Wound healing results for amputees can be improved by a multidisciplinary team.

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Prepectoral Breast Reconstruction with ADM – First Year Experience

Andreea Carmen Meruta, MD, Bucharest, Romania; Breast Surgery, Breast Institute - Monza Hospital, Bucharest, Romania
Mihail Roznovanu, MD, Breast Surgery, Breast Institute - Monza Hospital; Cristian Viisoreanu, MD, Breast Surgery, Breast Institute - Monza Hospital

Introduction: Breast reconstruction is a common topic in plastic surgery and there have been described many reconstructive methods with implants and autologous tissue. One of the newest methods is prepectoral breast reconstruction with acellular dermal matrix (ADM). The ADM for breast reconstruction became available in Romania in April 2019. In August 2019 our team was the first to perform prepectoral breast reconstruction with ADM. Due to reduced operating time, rapid postoperative recovery and superior aesthetic results, this method became the preferred approach in implant breast reconstruction for our practice.

Methods: A retrospective study recruited patients that had prepectoral immediate breast reconstruction from August 2019 to August 2020. The ADM was used to cover the implant on both sides. In delayed breast reconstruction an abdominal advancement flap was used. In skin reduction breast reconstruction, the Goldilocks technique was associated with the nipple areola complex conservation as a full thickness skin graft. The type of surgery, age, type of cancer, incision position, immediate and delayed complications, association of radiation therapy and breast reconstruction failure or surgical reintervention were registered.

Results: 63 breasts were reconstructed in 47 patients (16 bilateral and 31 unilateral reconstructions), seven (11.11%) of which were delayed reconstructions and 56 (88.89%) immediate reconstructions. Five breasts had immediate breast reconstruction with breast skin reduction and nipple areola conservation as a skin graft. The implants used were anatomical in 62 breasts and round in only one reconstruction. The size of the implants varied between 260 cc to 475 cc. The average age was of 45.8 years. The average hospital stay was 2 days. The complications encountered were hematoma in one (1.58%) breast, seroma in nine (14.28%) breasts, necrosis that required surgical intervention under local anaesthesia in four (6.35%) breasts, necrosis that required major surgery without regional flaps in five (7.93%) breasts of which three required reintervention and two were lost due to pressure to start chemotherapy. Two (3.17%) breasts were lost in one patient due to skin necrosis after mastectomy. There were no infections recorded and one red breast with seroma and no other general symptoms that subsided after seroma aspiration and antibiotics.

Conclusion: In our practice prepectoral implant breast reconstruction with ADM provides very good aesthetic results with very fast recovery after surgery, small reconstruction sequelae and low complication rates, similar or lower than in the case of submuscular breast reconstruction.

Local Anesthesia in Non-Melanocytic Skin Cancer Surgery – One Center Experience

Ruxandra Diana Sinescu, MD, PhD, Professor of Plastic Surgery, Department of Plastic Surgery, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania
Ioana Dumitrescu[1]; Vlad Petre Atanasescu[1]; Andrea Anghel[1]; Andrei Ludovic Porosnicu [1,2]; Ioana Ghiurco[1]; Ruxandra Diana Sinescu[1,2] 1. Department of Plastic and Reconstructive Surgery, “Elias” Emergency University Hospital, Bucharest, Romania, 2. Department of Plastic and Reconstructive Surgery, Faculty of Medicine, “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Introduction: According to the World Health Organization (WHO), the incidence of Squamous Cell Carcinoma (S.C.C) and Basal Cell Carcinoma (B.C.C) is 2 to 3 million new cases per year. Exposure to UV radiation is the main cause of skin cancer, and the carcinogenic effect is directly linked to cumulative exposure. A ten percent decrease in the ozone layer is estimated to increase the number of diagnosed SCCs and BCCs with 300.000 new cases per year worldwide.
The surgical treatment of skin cancer must respect the curative, functional and aesthetic principles widely applicable in plastic surgery. The use of local anesthesia in oncologic skin surgery raised questions about the possibility of dissemination of the tumor cells in the blood stream for decades. Newer studies show that by blocking the voltage gated sodium channels found in tumoral cells, local anesthetics lower the mobility and

invasiveness of malignant cells at a vascular level, preventing both local recurrence as well as tumoral vascular dissemination.

Methods and Results: We conducted a retrospective study on 571 patients with non-melanocytic skin cancers, treated in our department in the last 5 years. There were 357 men and 214 women, aged between 23 and 91years old. We performed surgery under local intumescent anesthesia for 506 patients (group 1) and under regional or general anesthesia for the rest 65 patients (group 2). We usually prepare the local anesthetic by combining 50 ml saline with 50 ml lidocaine 1%, 5 ml of sodium bicarbonate and adrenaline 1/100.000. We found a number of beneficial effects for this cocktail, as follows: it can be used for large areas without the risk of exceeding the maximum dosage of lidocaine admissible; it generates minimum discomfort for the patient; it shortens the operating time due to the fact that less hemostasis is needed; and it decreases the need of analgesic medication after surgery because the cumulative action of the substances used lengthen the analgesic effect for up to 6 hours. The operating time ranged between 35 and 180 minutes for group 1 versus 65 to 240 minutes for group 2. The number and severity of postoperative complications did not differ in the two groups of patients. We also compared the hospitalization length between the two groups, and we found that the patients operated under local anesthesia were discharged at least 24 hours earlier.

Conclusion: In our practice, the use of local anesthesia not only improves the operative time, but also lowers the risks associated with other types of anesthesia, especially in elderly and debilitated patients. It is cost-effective and safe for the vast majority of non-melanocytic skin cancer patients. All these beneficial effects come together without having to sacrifice the curative, functional or aesthetic outcome.

The Use of Negative Pressure Wound Therapy for Complicated Wounds Closure – One Center Experience

Ruxandra Diana Sinescu, MD, PhD, Professor of Plastic Surgery, Department of Plastic Surgery, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania, Vlad Petre Atanasescu[1]; Andrea Anghel[1]; Andrei Ludovic Porosnicu [1,2,3]; Ioana Ghiurco[1,3]; Ruxandra Diana Sinescu[1,2]

1. Department of Plastic and Reconstructive Surgery, “Elias” Emergency University Hospital, Bucharest, Romania
2. Department of Plastic and Reconstructive Surgery, Faculty of Medicine, “Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania
3. Doctoral School, “Carol Davila” University of Medicine and Pharmacy, Faculty of Medicine, Bucharest, Romania

Introduction: Negative pressure wound therapy (NPWT) or vacuum assisted closure is a wound dressing system that applies continuous or intermittent negative pressure

which in turn assures positive pressure to the surface of the wound. Nowadays, NPWT is increasingly used in many surgical specialties.
Due to the surge in patients with diabetes, hypertension and obesity, complex wounds with poor healing capabilities are seen more often. Also, wounds that arise from large procedures, radiation therapy and severe infections add to this medical problem seen worldwide. NPWT systems are composed of a porous polyurethane ether foam sponge with a pore size of 400-600 micrometers, a semi occlusive adhesive cover, a fluid collection system and a suction pump that can generate up to 175 mm Hg continuous or intermittent negative pressure.

Methods and Results: We reviewed all the charts of patients with complicated wounds treated with NPWT in our service for a 24-months period. We included a number of 21 patients, 19 females, 2 males, with a median age of 63 (40-72) years. The duration of vacuum treatment varied from 10 to 36 days and the dressings were replaced at first at every 48-72 hours and then even every 96 hours depending on the drainage in the canister. We usually programmed the device on the intermittent setting (5 minutes on, 2 minutes off) at 125 mm Hg. An improvement in wound characteristics was first noted in all patients on day 3 after applying the vacuum device. We were able to control the surgical site infections by using the silver-impregnated sponge with bactericide effect. We obtained definitive secondary closure in 20 patients. One patient was discharged with a remaining 10 square centimeters trochanteric wound that responded well to conservative treatment.

Conclusions: Negative pressure wound therapy was of great value in both the setting of acute and chronic complicated wound management and also for skin-graft bed preparation, increasing the graft take at 48 hours.
The specific structure of the porous polyurethane sponge in combination with the adhesive cover and the suction system make up a well-established apparatus that is positively influencing the local wound factors responsible for normal healing.
NPWT is of great help in dealing with numerous complicated wounds and knowledge on the materials employed may assist the surgeon to better comprehend the effects and benefits of this very useful tool. Although the single-use dressings and disposables are quite expensive, vacuum closure is a cost-effective and comfortable alternative to conservative wound therapy.

Epithelioid Hemagioendothelioma of the Distal Phalanx – a Case Report

Ruxandra Diana Sinescu, MD, PhD, Professor of Plastic Surgery, Department of Plastic Surgery, "Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Introduction: Epithelioid hemangioendothelioma (EHE) is an exceedingly rare vascular tumor with borderline behavior, part of the vast category of soft tissue sarcomas. It typically occurs in young patients, between 20 and 50 years old, practically anywhere in the human body. The therapeutic options include surgical excision with or without

adjuvant radiotherapy – chemotherapy is not yet standardized. There are arguments that EHE of the hand may have a more benign evolution than other localizations, but sometimes the radical treatment involves amputation of the affected segment.

Method and results: We report a case of EHE of the middle finger's distal phalanx in a 24-years-old man. The patient presented with a palpable painful mass, inflammatory signs, and minimal nail bed alterations after two episodes of trauma at this level in a three month-interval. The X-rays showed no bone changes. Intraoperatively, we found a tumor with macroscopic venous aspect that was totally excised. The histopathological diagnosis with immunohistochemistry confirmed the EHE diagnosis with borderline malignancy markers. The oncologist that consulted on the case did not recommend any additional treatment at that time. The patient came back two months after the initial excision with local recurrence, a significantly enlarged distal phalanx, extreme pain and high grade osteolysis at this level. At this point, we decided to perform partial digit amputation with preservation of the superficial flexor tendon's insertion on the middle phalanx. The 48-month follow-up showed no recurrence of the malignancy.

Conclusion: Although EHE is a very rare and usually low-grade tumor, sometimes it can manifest aggressive expansion. That is the reason why any kind of borderline tumor must benefit from immunohistochemistry examination in addition to the pathological diagnosis. In the limbs, local recurrence of EHE shows its malignant character and dictates large surgical excision, sometimes even amputation.

Dual-Plane Retro-Pectoral Versus Pre-Pectoral DTI Breast Reconstruction: An Italian Multicenter Experience

Diego Ribuffo, MD; Ugo Redi; Federico Lo Torto, MD, Italy

BACKGROUND: The use of conservative mastectomies has risen significantly during the last few years. The reconstructive choice of direct-to-implant reconstruction has become more practicable
with modern mastectomy techniques. The initial trend in Italian centers was to use dual-plane hybrid reconstruction. However, a high level of complications has been registered. From 2015
onwards, in our centers, a pre-pectoral approach has been adopted. The authors sought to describe the Italian trend to gradually discard the sub-pectoral technique with lower lateral pole coverage of
the prosthesis using ADMs comparing it with the pre-pectoral approach with ADMs, without any muscle dissection, in terms of complication rates.

MATERIAL AND METHODS: A multicenter retrospective clinical study was performed from January 2010 to June 2018. The enrolled patients were divided into two groups: cases with an
ADM-only coverage pre-pectoral reconstruction made up the first group (Group 1).

Those with the retro-pectoral muscular position + ADM implant coverage comprised the second one (Group 2).
Complications such as seroma, hematoma, wound dehiscence, surgical-site infection, reconstruction failure, animation deformity and capsular contracture were recorded.

RESULTS: We performed 716 direct to implant reconstructions: 509 were partially sub-pectoral and 207 were pre-pectoral. Minimum follow up was one year. Incidence of complications was
higher in dual-plane reconstructions. There were statistically significant differences in the rates of seroma and hematoma.

CONCLUSION: Using the pre-pectoral approach the authors have experienced favorable aesthetics and superior clinical and functional outcomes. Retro-pectoral muscular ADM implant coverage has
to be considered only in specific complicated second stage surgeries.

Lipofilling in the Treatment of Facial Scleroderma: Assessmeny through Multispectral Investigation By Antera 3D

Domenico Parisi, MD; Vincenzo Verdura, MD, Department of Plastic and Reconstructive Surgery, University of Foggia; Luigi Cagiano, MD, Plastic and Reconstructive Surgery, University of Foggia; Fedele Lembo, MD, Plastic Surgery department, University of Foggia; Liberato Roberto Cecchino, MD, Plastic surgery department, University of Foggia; Aurelio Portincasa, MD, Plastic surgery department, University of Foggia

INTRODUCTION: Patients with facial scleroderma constantly complain of severe aesthetic and functional limitations. There are limited treatment options for microstomia and the fat grafting, in addition to a filling effect, improves mouth opening and reduces facial fibrosis [1]. Moreover, the absence of a objective method for the outcomes evaluation of fat transfer makes more difficult to compare the results [2].
In our study, the treated area were evaluated by clinical examination, ultrasound investigation and Antera 3D® dermal digital device (A3D).

MATERIALS AND METHODS: Two female patients with an average age of 49 years, affected by scleroderma with facial involvement were enrolled. They had a: reduced mouth opening, a score ≥9 (EULAR/ACR 2013), a concomitant medical therapy for vasculopathy, and a Mouth Handicap in Systemic Sclerosis score ≥20. The quantity of administered fat ranged from 15 to 30 ml per patient into the subcutaneous tissue of perioral, upper and lower lip, mouth corners and chin areas. The two patients were evaluated at preoperative time, and at 15 and 45 days after the lipofilling (respectively T0, T1 and T2). The data were recorded, grouped according to the anatomical site and then compared.

RESULTS: Skin parameters mean value' variations were:

Haemoglobin: +18,625%
Melanin: -2,695%
Medium protrusion: -7.245%
Index fine wrinkles: -18.43%
Index medium wrinkles: +1.95%
Index large wrinkles: +14.75%
Fine texture: -9.26%
Fine texture: -7.896%
Fine pores: +67.605%

DISCUSSION: According to literature [3], the functional improvement through the lipofilling can be ascribed to the presence of adult stem cells and tissue regeneration.
A3D regulates and translates all possible skin parameters better than the other detection instruments [4], except for the tactile property. It compares pre and post-therapeutic treatment images and is operator-independent.
A interesting benefit is the increase in local hemoglobin and, the reduction in the percentage of melanin. Unexpectedly an increment of the large roughness index after the operation at T1 and T2 was observed. The only limit of A3D is the lack of information about the the direct composition of the subcutaneous tissue: however, allows us to indirectly know it.

CONCLUSION: Lipofilling improves sensitivity, functionality, vascularization and district trophism as shown by multispectrophotometrical analysis. A3D is able to define a standard treatment/therapeutic success through specific parameters and scores. Many clinical cases are needed to reach A3D standardization's analysis.

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Utility of a New Artificial Dermis As a Successful Tool in Face and Scalp Reconstruction for Skin Cancer: Analysis of He Efficacy, Safety, and Aesthetic Outcomes

Domenico Parisi, MD; Fedele Lembo, MD, Plastic surgery department, University of Foggia; Liberato Roberto Cecchino, MD, Plastic surgery department, University of Foggia; Aurelio Portincasa, MD, Plastic Surgery department, University of Foggia

INTRODUCTION: Radical ablative surgery is the gold standard treatment of head skin cancer. The authors expose their experience with a new artificial dermis[1] (Pelnac®), analyzing retrospectively the overall morbidity and aesthetic outcomes.

MATERIALS AND METHODS: 16 consecutive patients underwent two surgical procedures under local anesthesia. The first involved the tumor removal and application of the ADM [2].
In the second, the exposed tissue was covered with a split-thickness skin graft. On follow-up (6 months), tumor recurrences, quality of scars (using the Vancouver Scar Scale), and patient reported outcomes (using FACE-Q Skin Cancer Module) were evaluated. 10 were males and 6 females, with a mean age of 73 years (61–89). The follow-up ranged from 12 to 48 months (mean: 30). The sites of skin tumor were scalp (12 cases), forehead (2), cheek (1), and zygomatic area (1).
Nine patients underwent previous local surgery; two received radiotherapy. The average length of hospital stay was 3.2 days. The mean surface area of the defect was 59.15 cm2 (16.9–89.5). In three cases, the surgical bed was bone without periosteum. The malignant tumors excised were basal cell carcinoma (68.75%), squamous cell carcinoma (18.75%), malignant melanoma (6.25%), and sarcoma (6.25%). The mean operating time was 41 minutes for the first operation (25–55) and 34 for the second (25–48).

RESULTS: No significant problems were observed, and 15 patients (93.75%) had 100 percent intake of graft. The mean time of healing was 39 days (32–45). At 6 months post-op, no tumor recurrence. Satisfactory cosmetic and functional results were obtained in all patients as shown by the VSS Scale and FACEQ[3] skin cancer module mean scores.

CONCLUSIONS: We believe that the artificial dermis is a reliable alternative to flaps and should be considered an excellent option in head reconstruction for skin cancer, especially in critical patients (old, with large and deep defects, with recurrent tumors, required radiotherapy).

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New Animal Experimental Model in Functional Perforasome Study

Maria Eliza Nedu, MD, Romania

INTRODUCTION: One of the most undesirable complications of perforator flap is partial necrosis due to the lack of available/efficient methods to assess preoperatively the perforasome. Nowadays there are preoperative and intraoperatory methods to evaluate perforators location.

The aim of our study is to develop a protocol to evaluate the functional perforasome on rat model.

MATERIALS AND METHODS: Fourteen males Wistar rats, weighting between 400-500 mg, were used for the study.

The perforasome was studied by injecting methylene blue saline solution with the minimal concentration needed to properly evaluate the borders of the perforasome, using an intraarterial port on the femoral artery targeting the medial superficial epigastric branch territory. Briefly we dissect the femoral vessels and their branches until 1 cm distal of superficial epigastric artery origin and the two branches of superficial epigastric artery. We clamp all branches except the medial branch of the superficial epigastric artery and inject the dye. This permits the identification and marking of the borders of the functional perforasome. Based on these marks the flap is raised on the medial branch and then saturated on place. The flap was visually inspected daily in the first week and then in the 14^{th} day.

RESULTS: All the flaps raised within the marked territory showed no necrosis. When a flap was designed outside the marked territory necrosis was registered on the border out of the marked area. None of the rats presented ambulation difficulties or limb necrosis after the procedure.

DISCUSSION: One of the most accessible methods is the thermal imaging, for which a low-cost solution is to connect a thermal camera to a smartphone. Other methods are also available, but the majority of them are used to detect the perforators not to evaluate the functional perforasome. Most of perforator studies aimed to achieve a mapping of an entire branch of the perforator without characterizing the functional perforasome. The use of methylene blue permits direct view of the skin area perfused by the performant.

CONCLUSION: In conclusion intraarterial injection of methylene blue solution during surgery, before flap design, enabling an efficient flap design, minimizing the risk of necrosis while having no side effect on the post-operative flap evolution.

The Risks of Having a High Division of the Median Nerve with an Ulnar Trans-Muscular Component in the Carpal Tunnel

Luliu A Kadar, MD; Alexandru Georgescu, MD, PhD, Romania

Introduction: Release of carpal tunnel syndrome (CTS) is considered by many a reasonably simple procedure, often having been performed by trainees, inexperienced surgeons or surgical specialties other than hand surgeons.
With the widespread use of minimally invasive limited incision technique and endoscopic carpal tunnel release procedures, information on the high degree of variability of the anatomy of the median nerve (MN) may become dissipated, especially for young surgeons/trainees. The purpose of this poster is to present our experience on two very rare MN variants, also rarely mentioned in the literature and with no such known mention in current textbooks of hand surgery.

Material and methods: The two variants have in common a trans-muscular course of a high division of the MN, a thinner division situated ulnar, through the flexor digitorum superficialis (FDS) muscle and differences in the distal branching pattern. Review of the existing literature was done.

Results: A small number of almost identical case reports was identified regarding the trans-muscular course of the ulnar division. One variant might be an even rarer entity, having distally conjoining branches with the ulnar nerve and the radial division. Unwanted scenarios in such cases may include misdiagnosis, undertreatment, need for reintervention or iatrogenic nerve injury. The following possible errors or risk factors are highlighted and explained: solitary intramuscular compression of the trans-muscular branch, omitting decompression of the trans-muscular branch in double compression, ulnar situated branch in ulnar placed incision/decompression, concomitant injury of the FDS muscle/tendons or other complex trauma in this region.

Conclusion: No surgery is without risks and risks should not be over- or underestimated. The only chance to minimize human error is through knowing all possible scenarios, including the ones presented here, and by special care taken. Imagistic screening for such variants is costly, time consuming and in requirement of trained staff. There is no evidence of the influence of imagistic studies on the overall outcome in CTS surgery. The latter should remain reserved for cases where the diagnosis is unclear or anatomical variation is suspected. Otherwise, knowledge, vigilance, and experience remain key requirements while operating in this region.

Applied Anatomy of the Perioral Region for Injectable Dermal Fillers

Daniela Elena Gheoca Mutu, MD PhD, Department of Plastic and Reconstructive Surgery, Carol Davila University of Medicine and Pharmacy, Discipline of Anatomy; Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Plastic Surgery, Bucharest,

Romania
Laura Raducu, MD, PhD, Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Department of Plastic and Reconstructive Surgery, Carol Davila University of Medicine and Pharmacy, Discipline of Plastic and Reconstructive Surgery, Bucharest, Romania; Adelaida Avino, MD, Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Department of Plastic and Reconstructive Surgery, Doctoral School, Carol Davila University of Medicine and Pharmacy, Discipline of Plastic and Reconstructive Surgery, Bucharest, Romania; Cristina Nicoleta Marina, MD, Assistant, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania; Corina Maria Stefan, MD, Department of Plastic and Reconstructive Surgery, Clinical Emergency Hospital “Prof. Dr. Agrippa Ionescu”, Bucharest, Romania; Cristian Radu V Jecan, MD, PhD, FEBOPRAS, Plastic Surgery, University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania; Florin Mihail Filipoiu, MD, PhD, Anatomy, “Carol Davila” University of Medicine and Pharmacy, Bucharest

Introduction: The facial aging process leads to the loss of volume of the lips and nasolabial folds due to soft tissue redistribution and bone resorption[1]. When it comes down to rejuvenating the perioral area, there are techniques that enhance the volume through filler injections. Safe and effective aesthetique maneuvers rely on a clear understanding of the facial anatomy, as insufficient knowledge of this aspect can lead to improper administration of the substances and consequently to complications[2].

Method and results: We performed thorough layer-by-layer planar dissections of the perioral region on ten freshly formalinized cadaveric heads. The dissections were performed in the dissection laboratory of the Anatomy Discipline, where the ethical conducts are regulated by Carol Davila University and fall under its jurisdiction. The dissections were digitally photographed and edited, without altering the scientific content.
By performing detailed dissections, a considerable amount of attention has been paid to the trajectory and caliber of the superior and inferior labial arteries and their relationship with the surrounding structures (Fig. 1). We demonstrated the presence of the fibro-muscular compartment above de philtrum where the superior labial artery has its course and gives the collumelar and septal branches (Fig. 2), where it can be compressed in cases of migration of the filler or rapid, bolus injections of high quantities of substances.

Conclusions: Safe and complication-free procedures in terms of facial rejuvenation require exact knowledge of the main neuro-vascular bundle of each facial region and their anatomical variability should be emphasized.
The presented clinically relevant anatomical observations and descriptions of landmarks will serve as crucial information for plastic, reconstructive and aesthetic surgeons. Cadaver dissection for anatomy training provides an opportunity to understand the precise nature of human tissues with their clinical and structural relationships.

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High-Throughput Determination of Aminoglycoside Antibiotics in Human Plasma By Uplc-Q-Tof-MS

Sawa Minohara**;** Rikako Suminaga, MD, PhD, Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan; Ayako Aoki, MD, Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan; Kenta Miyabe, MD, PhD, Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan; Nobuhiro Sato, MD, PhD, Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan; Tomoaki Kuroki, MD, PhD, Department of Plastic and Reconstructive Surgery, Showa University, Tokyo, Japan; Mari Hashimoto, MD, Department of Legal Medicine, Showa University, Tokyo, Japan; Masaya Fujishiro, DD, PhD, Department of Legal Medicine, Showa University, Tokyo, Japan; Takaaki Matsuyama, MD, PhD, Department of Legal Medicine, Showa University, Tokyo, Japan; Koichi Kadomatsu, MD, PhD, Plastic and Reconstructive Surgery, Fujigaoka Hospital Showa University School of Medicine, Kanagawa, Japan

Background: Aminoglycoside antibiotics are quite useful antibiotics with a wide spectrum, covering *extended-spectrum β-lactamase producing bacteria* and *Carbapenem-resistant Enterobacteriaceae*, in concentration-dependent killing and post-antibiotic effect. Their use requires therapeutic drug monitoring (TDM) because of significant side effects including nephrotoxicity and ototoxicity. In present study, we established a high-throughput method to analyze aminoglycosides in human plasma using ultra-performance liquid chromatography (UPLC)-quadrupole time-of-flight (Q-ToF) mass spectrometry (MS).

Methods: Plasma (100 µL) samples spiked with five aminoglycosides (streptomycin, spectinomycin, amikacin, kanamycin, and gentamycin) and an internal standard (ribostamycin) were diluted in formic acid and acetonitrile. After centrifugation, the clear supernatant extract was evaporated and reconstituted in the mobile phase, and an aliquot was injected into UPLC-Q-ToF MS system. Drugs were separated on a multi-mode octadecylsilyl (ODS) column and identified and quantified by Q-Tof-MS in position electrospray ionization mode.

Results: Distinct peaks were observed for the drugs within 3 min. Recoveries of five aminoglycosides from plasma samples were 92.6-120%. Regression equations showed excellent linearity within the range of 1.0-100 µg/mL, with the detection limits of 0.5-2.0

μg/mL. Intra- and inter-day coefficients of variations for five drugs were greater than 11.8%. The present method was successfully applied to the TDM analysis of streptomycin in real plasma samples from three health volunteers after intramuscular injection (1 g).

Conclusion: We established a high resolution, high precision, and practical procedure for analyzing aminoglycosides in human plasma samples using UPLC-Q-Tof-MS analysis. This method can be applied to the high-throughput routines used for multiple drugs and poisons in the clinical.

Feasibility of a One-Stage Procedure in the Management of Basal Cell Carcinoma in the Head and Neck: A 5-Year Review of Frozen Section and Final Histopathology Report of Patients with Basal Cell Carcinoma in a Tertiary Institution

Joana Marie Cecilia S. Pajarillo, MD, Plastic and Reconstructive Surgery, De la Salle University Medical Center, Cavite City, Philippines
Karen Kaye Casida, MD, Plastic and Reconstructive Surgery, De la Salle University Medical Center, Cavite, Philippines

Introduction: Moh's micrographic surgery, the gold standard for treatment of basal cell carcinoma in the face, is not readily available in most institutions. Resection with intra-operative or post-operative complete circumferential, peripheral and deep margin assessment (CCPDMA) is an acceptable alternative.[1] This study aims to determine whether a 3mm grossly negative circumferential margin, on frozen section and final histopathology report, is adequate; and demonstrate that immediate reconstruction is feasible as a one-stage procedure while foregoing frozen section biopsy.

Methods: The authors performed a retrospective chart review for patients histologically diagnosed with Basal Cell Carcinoma, seen and managed in their institution from January 2015 to June 2019. Statistical significance of surgical margins among groups who had one-stage procedure, and those who had two-staged delayed reconstruction was determined using the independent t-test. Statistical significance of margin status between the two groups was computed using the chi-square test

Results: There were thirty patients diagnosed with Basal Cell Carcinoma included in this study: sixteen (53.3%) were males while fourteen (46.7%) were females. The mean age was 60.06 years (SD ± 8.69). The mean size of the lesion was 1.87cm (SD ± 0.61), and the mean surgical margin was 2.33mm (SD ± 0.79). All patients who underwent a one-staged procedure had negative margins on both frozen section and final histopathology report. In contrast, two patients (14.29%) from those who underwent a two-staged procedure had positive margins after wide excision. Nevertheless, no significant difference was noted between the two groups regarding margin status ($p = 0.21$; CI = -32 – 4.04, at $p<0.05$ level of significance).

Conclusion: No significant difference was noted between the two groups regarding margin status of basal cell carcinoma on final histopathology reports in specimens excised with at least 3mm peripheral margins. A one-staged procedure that is, wide excision with at least 3mm surgical margin and immediate reconstruction is feasible.

Keywords: *Basal Cell Carcinoma, Face, Moh's surgery, immediate reconstruction, delayed reconstruction*

A Case of Simultaneous Bypass Surgery and Free Flap Transfer:Anastomosing the Bypass Vessel Using Ipsilateral Great Saphenous Vein Graft Directly to the Free Flap for Open Femoral Fracture of GustiloⅢb with Traumatic Arteriovenous Fistula

Masaya Aoyama, MD, Plastic Surgery, Kakogawa Central City Hospital, Japan, Hiroatsu Iwatani, MD, Plastic Surgery, Kakogawa Central City Hospital; Toshihito Sakamoto, MD, Cardiovascular Surgery, Kakogawa Central City Hospital; Takahiro Waki, MD, Orthopedic Surgery, Akashi Medical Center

We present the case of a 62-year-old male who suffered an open fracture of the left tibia (Gustilo3b) in a car accident. Extensive skin and soft tissue defects were observed, and it was determined that free flap transfer was necessary. Considering the size of defect, damaged area, and flap handling, we chose free latissimus dorsi musculocutaneous flap for donor site and the posterior tibial artery and vein (PTA-V) as a first choice of the recipient vessels. However, preoperative diagnostic imaging showed traumatic arteriovenous fistula between distal site of PTA-V. High internal pressure in the deep site of veins was to be expected and the condition was unsuitable for vascular anastomosis.
Therefore, we used the great saphenous vein (GSV) as the drainage vein, and the peripheral side of GSV as vein graft to make a bypass vessel. The proximal PTA was bypassed at the anastomosis site to serve as the recipient vessels for free latissimus dorsi musculocutaneous flap. In the surgery, orthopedic surgeons performed debridement around the exposed bones, cardiovascular surgeons took a GSV graft and made a bypass vessel and plastic surgeons performed flap harvest and vascular anastomosis. Post-operatively, the flap has caused no trouble and enabled the patient to walk unaided.

Discussion: Reconstruction of the lower extremity with a free skin valve has a high risk of complications such as skin valve necrosis due to its anatomy and pathophysiology. Furthermore, Posttraumatic Vessel Disease (PTVD) is often complicated in post-traumatic tissue. Vein Graft is often used when there is a problem with the recipient vessel during free tissue transfer. It has been reported to increase the risk of thrombosis, but in animal studies, there is no significant difference in risk compared to a normal vascular anastomosis. When using a vein graft, complications can be prevented

by careful preoperative planning and selection of the recipient vessel, appropriate timing and skill in reconstructive surgery, and thorough postoperative blood flow management. In this case, the patient had an open fracture of Gustilo3b at the lower extremity that required a free flap transfer. by performing bypass surgery with the ipsilateral GSV graft and free flap transfer simultaneously, 1.we got a better handle on free flap, 2.the vascular anastomosis site could be kept away from the zone of injury with a traumatic arteriovenous fistula as a PTVD, 3.vascular anastomosis could be performed superficially rather than deeply, which simplified the procedure, 4.the surgery could be performed in the same area, so no tissue was wasted, 5.cooperative surgery by surgeons in orthopedic, cardiovascular and plastic departments who were familiar with trauma, bypass, and tissue reconstruction procedures, respectively, enabled technical sharing and a reduction in operating time.

Biological Evaluation of Commercially Available Decellularized Matrices

Nicola Zingaretti, MD, Clinic of Plastic and Reconstructive Surgery, University of Udine, Udine, Italy
Lindsey Alejandra Quintero Sierra, PhD student, Department of Neurosciences, Biomedicine and Movement Sciences, Anatomy and Histology division, University of Verona, Verona, Italy; Giamaica Conti, PhD, Department of Neurosciences, Biomedicine and Movement Sciences, Anatomy and Histology division, University of Verona, Verona, Italy; Andrea Sbarbati, MD, Department of Neurosciences, Biomedicine and Movement Sciences, Anatomy and Histology division, University of Verona, Verona, Italy; Pier Camillo Parodi, MD, Department of Plastic and reconstructive Surgery, University of Udine, Udine, Italy

During silicone breast implants for aesthetic and reconstructive purposes peri-prosthetic capsule formation is considered part of the local reparative process as a means of rejection of the foreign material in which are involved diverse inflammatory cells[1,2]. After mastectomy, the accumulation of a serous fluid (seroma) frequently appears under the skin flaps. Infected seroma combined with peri-prosthetic capsule lead to the formation of breast contracture[3] an important and persistent cause of women morbidity.
In recent years, researchers have been focused the studies on the use of acellular matrices (ACM) obtained from human or animal tissues, properly treated and deprived of any resident cell population[4], as a coating material for silicone implants in order to prevent periprosthetic capsule and breast contracture formation.

In this research we performed *in vitro* and *in vivo* tests on three commercially available ACM (two acellular dermis, X1 and E1, and an acellular pericardium, M1) in order to identify their capacity to improve the tissue healing process. Adipose-derived stem cells were used for 7 and 14 days in culture with the membranes and evaluated with Scanning Electron Microscope (SEM) and Trasmission Electron Microscope (TEM) images, as well as Oil Red O staining technique through Optical Microscopy. *In vivo* studies were carried out in female mice and analyzed with MRI images.

Results indicated that membranes X1 and E1 stimulate cells differentiation into adipocytes which are related to skin health and wound healing, being a higher stimulation in those cells in contact with X1 membrane. As a consequence, both membranes provoke an intensification of the tissue healing process which ultimately reduce patient recovery and pain by creating an adipose-like tissue that can resemble natural breast appearance. In the case of M1 membrane, the results showed that this material generate changes in cells morphology that may affect their natural behavior.

Keywords: acellular matrices, periprosthetic capsule, Adipose-derived stem cells

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Adaptation of Plastic Reconstructive Surgery Practice in the Developing Country to the COVID-19 Pandemic: A Case Series

Prasetyanugraheni Kreshanti, MD, Department of Surgery, Cleft and Craniofacial Center Cipto Mangunkusumo Hospital Plastic Reconstructive and Aesthetic Surgery Division, Department of Surgery Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia; Nandita Melati Putri, MD, Department of Surgery, Plastic Reconstructive and Aesthetic Surgery Division, Department of Surgery Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia; Indri Aulia, MD, Department of Surgery, Plastic Reconstructive and Aesthetic Surgery Division, Department of Surgery Faculty of Medicine Universitas Indonesia; Narottama Tunjung, MD, Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Dr. Cipto Mangunkusumo Hospital, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia, Division of Plastic Reconstructive and Aesthetic Surgery, Department of Surgery, Dr. Cipto Mangunkusumo Hospital, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia, Jakarta, Indonesia; Eva Chintia Yessica, MD, Department of Surgery, Plastic Reconstructive and Aesthetic Surgery Division, Department of Surgery Faculty of Medicine Universitas Indonesia; Chaula Luthfia Sukasah, MD, Prof, Department of Plastic and Reconstructive Surgery, Cipto Mangunkusumo General

Hospital, Faculty of Medicine, Plastic Reconstructive and Aesthetic Surgery Division, Department of Surgery Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

Background: The increasing number of COVID-19 cases has begun to overlap hospital capacities. Despite the exhaustion of hospital and human resources, the continuity of surgical services is paramount. This study aims to present the adaptations in managing essentials plastic reconstructive surgery cases during the pandemic.

Methods: Four cases of burn, craniomaxillofacial trauma, malignancy, and complicated wound undergoing surgeries at our national referral hospital during the COVID-19 pandemic were reported. The obstacles, the strategies of the surgeries, and the outcome were reviewed.

Results: Standardized protective equipment is obligatory. Surgeries for burn patients aim to shorten the operative time, minimize blood loss, and reduce the length of hospital stay. Surgeries for craniomaxillofacial trauma cases should focus on obtaining good functional result and minimizing the risk of aerosol transmission. Malignancy cases and complicated wounds which may develop into complications such as systemic infection and septic shock should be treated promptly, followed by practical methods of reconstruction.

Conclusions: Adaptation of plastic reconstructive surgery practice to the COVID-19 pandemic is needed to ensure personnel and patients' safety and mitigate the risk of virus transmission. Efficiency in the surgical procedures should be prioritized to conserve available resources while still aiming for the best outcome possible.

Keywords: COVID-19, Plastic surgery, Burn, Craniomaxillofacial, Oncology, Complex wound