**Plastic Surgery 2023**

**Scientific Abstract Presentations: Global Partners Oral Presentations**

## Implications of demographic, cultural and economic factors on symmetrization decision making during implant-based breast reconstruction in Argentina

Abstract Presenter: José Viñas MD

Abstract Co-Author(s): Tatiana Ruffa, Alejandro Coloccini, Breyner Garcia Rodriguez MD, Horacio Mayer MD

**Background:** Currently, there is a predominant trend towards implant-based reconstructions in Argentina and factors such as patient preference, lifestyle, physical habits, age at cancer diagnosis, bilateral mastectomies and cultural influences could contribute to explain it, as well as the decision to symmetrize the contralateral breast in the same procedure. The aim of this study is to identify the factors influencing the patient's decision whether or not to undergo second-stage breast reconstruction and contralateral breast symmetrization.

**Methods:** This study was conducted between January and May, 2023 in a tertiary referral center in Buenos Aires, Argentina. Patients who underwent breast reconstruction with tissue expander between 2012 and 2022 were contacted via telephone and asked to answer a questionnaire about their demographics, medical history, and the type of reconstruction performed. Ethical approval was obtained from the research ethics committee before the data collection.

**Results:** 633 patients underwent unilateral implant-based breast reconstruction between 2012 and 2022 in our Hospital. Five hundred thirty three patients (84,2%) underwent second-stage surgery to place a definitive implant. Symmetrization of the contralateral breast was performed in 409 (76.74 %) of these patients. In the group of patients of 60 years or less, 84.2% underwent symmetrization of the contralateral breast while this procedure was performed in only 50% of the patients of 60 years or more. 89.6% of patients that had symmetrization of the contralateral breast with implant placement had 60 years or less. 81.0% of patients that underwent breast reduction for contralateral breast symmetrization had Body mass index (BMI) > 25.

**Conclusions:** Symmetrization of the contralateral breast in the opportunity of second-stage breast reconstruction seems to depend on social, economic, cultural and lifestyle variables. Our findings suggest that symmetrization in breast reconstruction is determined by these factors.

## Skin Cancer Profile in Liver Transplant Patients: An Australian cohort

**Abstract Presenter:** Sally Ng MBBS, DIPSURGANAT

Abstract Co-Author(s): Evania Lok, MD, Gehan Premaratne, Charlotte Tiplady, Robert Jones, Rohan Rajaram MD

**Background:** The development of aggressive and rapidly growing cutaneous malignancies is a well-established secondary consequence of liver transplantation. Immunosuppression required post-transplant is a known risk factor for carcinogenesis however there remains a question on the impact of other contributing patient factors. Limited literature exists on the characteristics of cutaneous malignancies post liver transplant and by extension there lacks an ideal surveillance protocol and management guideline for skin cancers in this population.

**Objective:** To undertake a large scale, retrospective case control study that analyses skin
cancer data in Liver transplant recipients at a single major transplant centre in Victoria, Australia with the aim to create a decision tree to stratify the risk of developing skin cancers post liver transplant.

**Methods:** A total of 216 liver transplant recipients were identified from the Austin Health Liver transplant database from 2000 to 2020. 116 patients were found to have developed cutaneous malignancies post-transplant with the remaining patients utilised as a control group for comparison. Demographic data including Fitzpatrick skin type and skin cancer risk factors were collected. 443 individual cutaneous malignancies were identified, and further analysis of subtype, location and malignant characteristics were performed.

**Results:** Age, male sex, Fitzpatrick skin type 1-2, smoking, family and personal history of skin cancer pre transplant, increased frequency of blistering sunburn and Azathioprine use was associated with the development of skin cancer. Most skin cancers developed were SCCs in the head and neck area. These cancers were disproportionately moderately and poorly differentiated however with early detection the majority of these lesions were managed by general practitioners and dermatologists in the community.

**Conclusion:** The data demonstrates that a variety of personal risk factors increase the risk of developing cutaneous malignancies post liver transplant. Furthermore, it confirms that skin cancers developed are higher grade and more aggressive than in the normal population. This helps to stratify patient risk profiles to identify a high-risk liver transplant recipient cohort who are likely to develop skin cancers and helps to determine future protocol development for skin cancer surveillance in the post liver transplant population.

## Trapezius flap: a forgotten option for reconstruction of the head and neck

**Abstract Presenter**: Rado Zic MD

**Abstract Co-Author:** Zlatko Vlajcic MD, PhD

**Introduction:** Although the trapezius flap is a useful reconstructive option in the head and neck reconstruction it is often not utilized do the popularity of microsurgery and the need for lateral or prone surgical positioning. Because it is not used regularly surgeons are not familiar with its anatomy which can be variable and are reluctant to use it.

**Anatomy:** Anatomical studies describe two main patterns of vascular supply to the trapezius and that the muscle is principally supplied by three vascular sources: the transverse cervical artery, the dorsal scapular artery, and the posterior intercostal arterial branches. The flap can also be raised as a propeller flap based on the perforators.

**Patients:** The authors will present a case series using the trapezius flap to cover the posterior occipital and skull base defects.

**Conclusion:** The trapezius flap is a reliable and low morbidity option for reconstruction of head and neck defects, and not only when microsurgical procedures cannot be performed due to a lack of expertise, equipment, or comorbidities of the patient.

## Interest of a 3D custom-made implant in the reconstruction of bone defects of the cranial vault

**Abstract Presenter:** Franck Duteille MD

The authors report five cases of a patient managed for severe cranial vault depression following combined neurosurgery and radiotherapy (4 cases) or post trauma (1 case). This situation caused major aesthetic discomfort and was potentially dangerous due to the mechanical weakness of the bone flap. Patients were also very anxious about this situation and acknowledge to limit some activities (riding horse). But the main concern was their aesthetic appearance.

There was 3 women and two men, the average year was 48 years old.

The authors had a CAD (computer aided design) silicone elastomer custom-made implant made to fill perfectly the depression.

Beforehand, an expansion was performed in two cases and local flap in one case to cover the implant after removal of the radiated or bruised skin. This was made to avoid the post-surgical dehiscence risk and silicone elastomer infection
The mean surgical time was 72 mn. The surgery and post-operative course raised no concerns.

After minimum 6 months (6 to 19 months) of follow-up, the result is very good and the patient very satisfied, proving that this technique certainly has its place in the therapeutic arsenal when faced with a tissue defect of the cranial vault.

**Fully Telemetric Robot-Assisted Microsurgery: First Clinical Experience**

**Abstract Presenter:** Maximilian Kueckelhaus MD

**Background:** Recently, there is an ongoing trend in plastic surgery with robotic-assisted microsurgery and supermicrosurgery devices being developed. Combining a telemetrically controlled robotic microscope with an also telemetrically controlled microsurgery robot unlocks synergistic effects with complete disconnection of the operating surgeon from the operating field. Here, we report the first clinical free flap reconstructions using this setup.

**Methods:** Twenty-three surgeries were performed with the combined remote approach using the Symani® Surgical System and the RoboticScope® in open microsurgery procedures. The time to complete the anastomosis and ischemia time were recorded. The surgical performance for anastomoses was assessed using the modified Structured Assessment of Microsurgical Skills (SAMS) score. Subjective satisfaction was evaluated by the surgeons in comparison to conventional microsurgery. For learning curve evaluation, the senior authors first four (first group) and last four (last group) procedures were compared.

**Results:** Overall, flap survival was 95.7%. The average arterial anastomosis time was 36.7 ± 10.9 minutes. Total time of surgery was 277.7 ± 63.8 minutes and ischemia time was 100.6 ± 24.9 minutes. Most SAMS score parameters were significantly higher in the last group of surgical procedures compared to the first operations. Subjective satisfaction was equal or better with the combined robotic-assisted approach in most categories.

**Conclusions:** Our data demonstrates safety and feasibility of the use of a combined remote approach. Robotic systems for microsurgical procedures may hold promising potential for improvement of surgical quality and open up new frontiers in microsurgery.

**Development of a Machine Learning-Devised Plasma Extracellular Vesicle Proteomic Signature for Differentiating Primary from Metastatic Melanoma**

**Abstract Presenter:** Stephanie Bollard MD

**Abstract Co-Author(s):** Jane Howard**,** Cristina Casalou, Brendan Kelly, Kelsey ODonnell, Gary Fenn, Robert Milling MD, Martin Shields, Kieran Wynne, Pamela Kelly, AMANDA MCCANN, Shirley Potter

**Introduction:** Melanoma, accounting for most skin cancer fatalities, is increasing in incidence. Current melanoma management primarily uses Breslow Thickness, a largely subjective prognostic indicator. Extracellular Vesicles (EVs), lipid bilayer-bound particles that facilitate intercellular communication, could serve as novel biomarkers for melanoma when circulating in plasma. The objective of this study was to employ machine learning to generate proteomic EV signatures from plasma to distinguish between melanoma stages, with potential prognostic implications.

**Methods:** Plasma from 36 melanoma patients (24 primary, 12 metastatic) and 13 healthy controls was used to isolate Extracellular Vesicles through Size Exclusion Chromatography. Post-characterization, these EVs underwent mass spectrometry using data-dependent acquisition for protein identification. Differential expression analysis across study groups informed feature selection via machine learning, resulting in an EV proteomic signature for group differentiation. Signature accuracy was evaluated with unsupervised hierarchical clustering and identified proteins were cross-referenced with tumor tissue gene expression using The Cancer Genome Atlas (TCGA) data.

**Results:** Across all study groups, over 200 unique proteins were identified from plasma derived EVs. Notable variances in proteomic profiles between metastatic and primary melanoma patients were observed, as were differences with healthy controls. Two proteins, HIST1H1E & ANKHD1, were unique to melanoma patients' EVs. A distinguishing proteomic EV signature (comprising SERPIND1, VWF, TNC, and PLG) was developed. This classified the groups with 76% accuracy, and all four proteins have been previously implicated in melanoma progression. Of these, VWF and SERPIND1 had significantly higher expression in plasma EV samples from those with metastatic disease, and in gene expression analysis of metastatic tumours using TCGA data. No notable differences in concentration, size, or protein:particle ratio were detected across groups.

**Conclusion:** This study highlights the potential of machine learning-enabled proteomic EV signatures as an innovative tool for accurate melanoma staging. Identified proteins unique to metastatic melanoma suggest potential prognostic and predictive value. Further validation is required to confirm these findings.

## The ergonomic FALD flap for one-stage total breast reconstruction

**Abstract Presenter(s):** Benedetto Longo MD, PhD

**Background:** The Fat-Augmented LD (FALD) flap combines this pedicled flap with immediate intraoperative fat transfer. Very little is described concerning its inset at mammary site. Our efforts have concentrated on seeking the best flap orientation and skin-adipose paddle molding, in order to refine the aesthetic outcome and obtain a complete breast reconstruction (BR) in one-stage.

**Methods:** We conducted a prospective clinical study between December 2020 and March 2022, comparing patients in which we designed an ergonomic inset of the FALD flap with vertical orientation of the skin adipose paddle (Group-A) with a traditional horizontal orientation of the paddle (Group-B). The study endpoints were the difference in aesthetic outcome through a subjective and objective evaluation and the difference in terms of complications.

**Results:** 32 FALD flaps (23 patients) was performed for the Group-A and 31 FALD flaps (25 patients) for Group-B. The two groups were homogeneous in terms of demographic and surgical data ($p>0.05$). Global rate of complications was homogeneous among the groups, without statistically significant differences ($p=0.973$). The mean global score of surgeon's assessments showed a statistically significant superior aesthetic outcome in Group-A ($p<0.00001$). Regarding patients' satisfaction, Group-A was superior in terms of breast size ($p<0.00001$), shape ($p=0.00179$) and overall satisfaction ($p=0.00014$).

**Conclusion:** The ergonomic vertical FALD flap allowed us to achieve a one-stage total BR, with excellent breast projection and upper pole fullness. These refinements in flap shaping and molding could help surgeon to achieve a brilliant totally autologous BR, without the need for microsurgical experience.

### Difference in lymphedematous change between inguinal lymphadenectomy and inguino-pelvic lymphadenectomy in patients with skin cancer of the lower extremity

**Abstract Presenter:** Taku Maeda MD

**Background:** Surgical intervention to restore lymphatic drainage pathways is more effective in the earlier stages of lymphedema. Therefore, it is important to accurately predict the severity of lymphedema following lymph node dissection. There is currently little evidence to support the notion that inguino-pelvic lymphadenectomy is associated with greater morbidity than inguinal lymphadenectomy, although it is believed that the difference in the extent of surgery results in a difference in severity of lymphedema. In this study, we compared the difference in lymphedematous change between inguinal lymphadenectomy and inguino-pelvic lymphadenectomy in patients with skin cancer of the lower extremity.

**Patients and Methods:** Twenty-nine patients with skin cancer of a lower extremity who

underwent lymphadenectomy were classified into an inguinal lymphadenectomy group and an inguino-pelvic lymphadenectomy group. The ratio of the circumference of the affected extremity to that of the unaffected extremity at 20 cm and 10 cm above the upper edge of the patella, and at 10 cm and 20 cm below the lower edge of the patella was calculated on computed tomography images.

**Results:** There were 16 men and 13 women, with median age of 68.2 (range 17–85) years. There were 21 cases of melanoma, 5 cases of squamous cell carcinoma, and 1 case each of invasive extramammary Paget's disease, porocarcinoma, sebaceous carcinoma, and liposarcoma. Fourteen patients underwent inguinal lymphadenectomy, and 15 underwent inguino-pelvic lymphadenectomy. The mean circumference ratios in the inguinal lymphadenectomy group and inguino-pelvic lymphadenectomy group were respectively 1.09 and 1.26 at 20 cm and 1.13 and 1.31 at 10 cm above the upper edge of the patella, showing statistically significant differences at both positions. One the other hand, the mean circumference ratios were respectively 1.07 and 1.05 at 10 cm and 1.11 and 1.04 at 20 cm below the lower edge of the patella, showing no statistically significant differences at either position. The incidence of lymphedema was 5 of 14 patients (35.7%) in the inguinal lymphadenectomy group and 10 of 15 patients (66.7%) in the inguino-pelvic lymphadenectomy group.

**Conclusions:** Inguino-pelvic lymphadenectomy was associated with more severe lymphedematous change than inguinal lymphadenectomy. Although a statistical difference in lymphedematous change was demonstrated between inguinal lymphadenectomy and inguino-pelvic lymphadenectomy in the thigh, the difference was not significant in the lower leg. When lymphedema gradual worsens without proper treatment, the lymphoscintigraphic findings also change, reflecting the severity.* In terms of the severity of lymphoscintigraphic findings, our results were similar to type II (comparatively mild type: dermal backflow apparent in the thigh but not the lower leg). Considering the high incidence and severity of lymphedema after inguino-pelvic lymphadenectomy, early surgical intervention to restore lymphatic drainage pathways may reduce the deterioration of lymphedema in these cases.

**References**:

∗ Maegawa J, Mikami T, Yamamoto Y, Satake T, Kobayashi S. Types of lymphoscintigraphy and indications for lymphaticovenous anastomosis. Microsurgery 2010;30(6):437-442.

**Complete Preservation of Scrotal Skin in A Case Of Fournier's Gangrene Involving The Inguinoscrotal And Perineal Region**

**Abstract Presenter:** Shamala Durairajanayagam MD

**Abstract Co-Author:** Murali Sundram

Fournier's gangrene is defined as a polymicrobial necrotizing fasciitis that involves the inguinal, perineal, testis, scrotal and perianal regions. The infection spreads in the superficial and deep fascia planes. Often the scrotal skin is involved and is subject to partial or complete surgical debridement. This results in an exposed testis requiring temporary burying and definitive unsightly skin grafting or flap reconstruction. We present the successful management of Fournier's gangrene originating from a left epididymo-orchitis in a 35-year-old man. He developed excruciating pain over the left scrotum and clinically the scrotal skin was red and inflamed. CT scan showed a large 15cm x 15cm x 12cm area of cellulitis and abscess collection in the left inguinoscrotal region extending into the perineum. Debridement was done on day 4 of admission. A decision was made to preserve the scrotal skin. An incision was made from the left lateral inguinal region and extended down to the left perianal region. 100 mls of frank pus was drained. A very thin layer of scrotal skin was preserved while the underlying fascia and muscles were debrided from the underside. A total of four surgical debridements were performed and the wound was closed in stages starting inferiorly while the superiorly located wounds were dressed with negative pressure wound therapy (NPWT). As early as the second debridement, the testis was placed back into the scrotum with a drainage tube. Apart from a small wound breakdown at the inguinal region requiring secondary suturing, all other sutures remained intact.The patient had no external defect or scar apart from a fine line running from the left inguinal region down to the left perineum. The scrotal skin survived 100%. The robust circulation of the scrotum and its excellent wound healing properties gives an opportunity to preserve the scrotal skin when there is no obvious necrosis. This is useful in avoiding complications such as painful testes retraction and the need for scrotal reconstruction using skin grafts or flaps.

**Unilateral Cleft Lip - Proposal of A New Severity Rating Scale**

**Abstract Presenter:** Amaka Ehighibe MD

**Abstract Co-Author**: Ifeanyi Onah

**BACKGROUND**: Orofacial clefts (OFC) are among the most common congenital anomalies. OFCs usually describe clefts around the mouth and are commonly divided into cleft lip, cleft palate or a combination of the two. OFCs may be syndromic or non-syndromic. There are a myriad of classification systems used to describe these

deformities but no universally accepted objective anthropometric classification which describes the severity of the defect. This study seeks to describe the severity of the unilateral cleft lip deformity using a scale derived from the cleft side nostril width.

**METHODOLOGY:** All patients between the ages of 0 and 6months with unilateral cleft lip deformity presenting for cleft lip repair at the Armed Forces Specialist Hospital Kano, Nigeria were recruited into the study. The cleft side nostril width was measured under general anaesthesia using a castroveijo caliper. Frontal and basal photographic views of participants' faces were taken. These photographs were given to five expert cleft surgeons who were blinded to the anthropometric measurements taken. The assessors were asked to grade the defects in the photographs into mild, moderate and severe categories and the anthropometric measurements taken were thereafter statistically matched to the categories.

**RESULTS**: There was good inter-rater reliability amongst all five assessors. There was a clear difference between the mild and moderate groups but this was not the case between the moderate and severe groups as there were significant overlaps in the anthropometric measurements for the patients that were assigned to these groups.

**CONCLUSION:** Subjective assessment of the severity of the unilateral cleft lip defect is a valid form of assessment. Categorization of the defect into anthropometric ranges using the subjective assessment as a base, yielded only two distinct categories, mild and moderate-severe.

**Abdominal Liposuction post-surgical management controlled with kinesiotherapy**

**Abstract Presenter:** Adan Araujo López

**INTRODUCTION:** Body contouring in plastic surgery encompasses a range of procedures, including abdominal wall reconstruction for hernias, pedicled flaps in breast reconstruction, and aesthetic uses in abdominoplasties and lipoabdominoplasties. Although body contouring is often employed to enhance abdominal aesthetics, post-surgical edema management remains a challenge. Kinesiotherapy, in the form of continuous abdominal bandages, has been shown to be effective in this regard.

**METHODOLOGY**: This prospective clinical study involved a sample of 50 patients who underwent surgery at the General Hospital of Mexico plastic surgery department between March 2022 and March 2023. The patients were divided into two groups, experimental and control, each comprising 25 patients.
The study included patients with similar characteristics: ages between 18 and 65 years, any sex, no comorbidities, BMI < 30 kg/m², and no abdominal hernia.

**ANALYSIS**: A total of 50 patients were analyzed, divided into two groups of 25. The experimental group included 20 females and 5 males, with an average age of 36 years. All patients in this group had a BMI < 28, indicating they were suitable candidates for the procedure.

Kinesiotape was introduced as a treatment for controlling post-surgical edema in abdominal liposuction, with varying application patterns. Pattern 1 proved more challenging to apply and maintain, whereas pattern 2 was easier to use and preferred by the plastic surgery team in 64% of cases.

MRI was an invaluable tool in this study, revealing significant information even when seromas were not visible.

Statistical analyses, including Chi-square and Pearson correlation tests, were conducted to compare edema in both groups, as measured by MRI .

**RESULTS:** The study's hypothesis considered the uncertain outcomes regarding edema control, seroma, ecchymosis, and pain. Edema was analyzed in both groups after surgery, at 7 and 21 days post-operation .

The study showed a decrease in edema measured by cm2 in MRI, with an average reduction of 373 cm2 in the control group compared to 635 cm2 in the experimental group, leading to decreased edema, ecchymosis, pain, and seroma.

**DISCUSSION:** Liposuction is a widely used surgical technique for removing fat to improve body contour. However, some patients may experience an excessively flat abdomen. Kinesotherapy, a daily-use intervention, has shown proactive benefits in managing post-surgical complications related to body contouring.

**CONCLUSIONS:** In conclusion, kinesiotherapy is an effective option for postoperative management of abdominoplasty. This adjunctive therapy improves recovery, reduces swelling, decreases pain, and enhances the patient's quality of life. Medical and kinesiotherapy professionals should collaborate to provide the best possible care for patients after abdominal liposuction surgery. Kinesiotherapy may also offer psychological benefits, such as reducing stress and anxiety related to the surgical procedure.

Our study demonstrates that with proper knowledge of tape placement and two types of patterns, edema can be decreased, resulting in mild edema if present. Additionally, the more practical pattern (number 2) was preferred by surgeons, fellows, and residents, making it easier to teach other surgeons.

The use of kinesiotherapy as a complementary treatment for patients undergoing abdominoplasty may be a valuable addition to post-surgical management, potentially improving patient outcomes and overall satisfaction with the procedure. Further research is needed to fully understand kinesiotherapy's effectiveness in this context and

to identify specific protocols and techniques that are most beneficial.

This study concludes that using kinesiotherapy, with the appropriate pattern and correct application, can decrease edema and post-surgical complications such as pain, ecchymosis, and seroma by more than 35%. It is a safe option for patients, even when used alongside a girdle.

**Botulunim Toxin type A followed by TAR (Transversus Abdominal Release ) with Abdominoplasty as the best combination for Big Hernia Repair.**

**Abstract Presenter:** Adan Araujo López

**INTRODUCTION:** An incisional hernia of the abdominal wall is any defect with or without an increase in volume in an area of a postoperative scar that is perceptible or palpable by clinical or imaging examination. The current incidence of incisional hernia is up to 11%. Repairing an incisional hernia has a probability of recurrence of 33%, the third and fourth attempts are associated with even greater recurrence, up to 64% after tension plasty and 32% after mesh plasty. Due to the high recurrence rate associated with the closure of hernial defects of the abdominal wall, novel techniques such as the use of pneumoperitoneum have been tried. This paper explores the use of preoperatively applied botulinum toxin to improve abdominal wall reconstruction and achieve tension-free midline wall coping.

**METHODOLOGY:** A Universe of 59 patients operated by the set of two services, Plastic and General Surgery in the General Hospital of Mexico, during 1 year ( from March 2022 to March 2023 ), in a clinical essay, prospective study.
The patients were divided by 2 groups, the experimental and the control, with 26 and 33 patients.

In the study we analyzed patients with a very similar characteristics; age between 18 to 65 years, any sex, no comorbidities, BMI < 30 m/k2, with midline hernia > 12 cm2 visualized by a CT Scan. Relative contraindications where patients with intestinal stomas, ( if they where young, no comorbidities, and BMI < 30 m2 ).

The objective of this clinical essay is to make a perfect treatment in the knowledge of big hernia repair. It is not a hernia repair, every patient has to be perfect evaluated, and with the dissection during the surgery will be better for the closure of the middle line, and all the skin flaccidity will be out of it with the abdominoplasty.

All the study was made by the same surgeon, and groups of surgeon, including the General Surgery Team, and the Plastic Surgery Team, the surgery was made at the operation room, with and average of surgery time of 4 hours , with the beginning of the surgery by the general surgery team, if they have something to do at the bowels, and then we prepare the abdominal wall to the transversus abdominal release, and the

abdominoplasty by the end.

**ANALYSIS:** We analyzed 59 patients, divides 2 groups, the experimental group with 26 patients, in the variables there where 7 feminine, and 18 male, with an average of age about 40 years, all patients in this group where evaluated, and admitted with a 2 filters of Services[ Algorithm 1 ], once they have the date of surgery,- 1 Mont Before Surgery - the Toxin Botulinum Type A ( Dysport 500 UI – Dilution - [ Figure 1 ] ) has had injected by direct view ( Lineal Transductor Ultrasound of 8 MHz of Skeletal Muscle View – with Radiology Intervention ) at the transverse muscle by the 3 points [Figure 2] at the semilunar of the abdominal wall.
The Toxin Botulinum type A ( TBA ) It was placed by ultrasound, we take pictures before colocation ( 1 month ) doing contraction [ Figure 3 ], we measure the length of the hernia and compare with his Computerized Tomography Scan ( CT ), then we take another picture – doing contraction ( 1 month )[ Figure 4 ] after the TBA, to measure what the length has decrease in millimeters.

**RESULTS:** The analysis of this study was with the hypothesis, we might not be sure if the dissection of the transversus abdominus will close the midline, in all patients, even the experimental group.
In both groups, we analyze complications and improves of the surgery, in the surgery, after the surgery and we divided by immediately and lately.
Within the observed analyzes, the results were divided into trans-surgical (99% of the patients closed the midline), immediate post-surgical (Pain, Seroma and Infection < 1%) and late (with < 3% recurrence) in the experimental group.

**DISCUSSION:** Botox is a neurotoxin derived from the bacterium Clostridium botulinum (botulinum toxin type A) that has been observed at the sensory level causing atrophy in the extrafusal and intrafusal muscle fibers. Repair of the abdominal wall after incisional hernias has been a great challenge with recurrence rates of 11%. Performing the release of the transverse muscle has a recurrence of 6%, as well as the compensation of skin flaps are ideal for proper management.

**CONCLUSIONS:** The main objective of this study, was done; creating a reliable, positive, learned technique, that can be teached by the head resident, to others, but the most important thought is about the perfect protocolization of the patients, and well know, that not all patients are good candidate for this technique, and the TBA is not a magical thing that close the abdominal wall without a big dissection, that the mesh is all.

The close of the midline is one of the big problems, in the big hernia repair, if the dissection is well done, you will have 5 o 7 cms of each side and can solve it.

**Volumetric evaluation of autologous fat transfer for total breast reconstruction**

**Abstract Presenter:** Jamilla Wederfoort MD

**Abstract Co-Author(s):** Andrzej Piatkowski de Grzymala MD, Juliette Hommes, Rene R.W. J van der Hulst MD

**Background:** Reconstructive surgeons have shifted from correcting contour irregularities using autologous fat transfer (AFT) toward reconstructing full breasts. Although many studies have researched the volumetric aspects of AFT, some outcomes such as fat graft survival and viability, as well as possible confounders for graft survival, remain unclear. This study aimed to answer these questions.

**Methods:** Post-mastectomy women of the multicenter prospective BREAST-trial were randomized to either AFT breast reconstruction or implant-based reconstruction (IBR). Volumes were assessed using the Vectra 3D imaging system and compared at 12 months postoperative. Graft survival was defined as the augmented volume divided by the lipofilling volume. Significant confounders for graft survival were identified using multivariable regression analysis.

**Results:** A total of 148 patients (75 AFT, 73 IBR) were included in the final analyses. Postoperative volumes differed significantly at 12 months in favor of the IBR group (83.8ml, $p<0.001$). For AFT patients, graft survival did not decrease between 6 and 12 months, with a mean graft survival of 37.1% at 12 months. Significant confounders for graft survival included chest circumference ($\beta=1.107$, $p=0.001$), comorbidities ($\beta=28.567$, $p=0.002$), age ($\beta=-0.514$, $p=0.007$) and total lipofilling ($\beta=-0.028$, $p<0.001$).

**Conclusion:** Plastic surgeons can reconstruct voluminous breasts post-mastectomy using only AFT, these breast volumes stabilize at six months and VECTRA 3D is reliable for breast volume measurement. About a third of the grafted fat survives postoperative and reconstructive surgeons should be aware not to transfer too much fat in one session.

## Analysis of blood stream infection in major burns in the burns ICU in khoula hospital in Oman

**Abstract Presenter:** Ahmed Al Jabri MD

**Background:** A major cause of death among patients with major burns is bloodstream infections, which are
known to be caused by microorganisms. The study on bacteremia helps identify the appropriate
antibiotics before the culture test results are revealed.

**Aims & Objectives:** The aim of this study is to analyze the most common organism that contribute to the development of a bloodstream infection in patients in burn

intensive care unit.

**Patients / Materials & Methods:** This is a retrospective, observational follow-up study of a cohort of patients admitted to khoula
hospital Burns Unit in Oman. The data collected from the khoula hospital burns ICU from 2014 to
2019 included all episodes of BSI. The inclusion criteria included patients with a 20% or more
total body surface area burned. The changes in BSI during the early and late hospitalizations were
analyzed.

**Results:** A total of 155 patient was analyzed. Whom 79 patients showed a positive BSI. Age range 2–80
years (mean:32.45). Number of males:89/57.42%. Number of females:66/42.58%. Survival rate
74.84%. Number of expired patients:39/ 25.16%. Mortality among +ve blood culture 34.17%.
Mortality among -ve blood culture 15.78%. The most common pathogen causing BSI is Gramnegative
Acinetobacter species. Many cultures showed multi-organism growth. Total number of expired patients is 39. 27 of them have +ve blood.

**Discussion & Conclusion:** The most common pathogen causing BSI is Gram-negative Acinetobacter species over the 5-year
period and during the course of hospitalization. The problematic increase in multidrug organisms
in major burns highlights the need for new antimicrobial stewardship policies and antibiotic
prescribing protocols.

## Mucosal Rugosity Unfolding Technique for Closure of Anterior Palatal Fistulae

**Abstract Presenter:** Ghulam Qadir Fayyaz MD

**Introduction:** Palatal fistulae have been classified by many surgeons in different time periods and the idea behind each classification was to provide good information about the location of the fistula, its size and expected difficulty in the management. Veau, Smith DM, Ohsumi and Richardson (Veau, 1931, Smith DM, 2007, Ohsumi N, 1993 and Richardson S, 2014) have elaborated useful criteria to help and plan the management of palatal fistulae. Fayyaz GQ et al(2019) proposed a new system of classification for palatal fistula based on Location, size & Velopharyngeal functional status of the patient.

**Materials & Methods:** Anterior fistulae in the palate are known complication after palate

repair. Anterior fistulae are not always easy to be managed due to paucity of tissues, available for oral layer cover. We usually elevate the tip of the mucoperiosteal flap, before developing the turn in flap for nasal layer closure. The mucosalized undersurface of the mucoperiosteal flap is unfolded & opened up with a sharp blade, thus leading to increase in the length of mucoperiosteal flap. Nasal layer is now developed all around the fistulae. After the nasal layer closure, the lengthened Mucoperiosteal flap provides ample amount of tissue for oral layer cover.

**Results:** Using this technique, we have covered most of the anterior palatal fistulae comfortably and successfully. This approach eliminates the need for more complex procedures such as tongue flap, buccinator flap/s, FAMM flaps, or free flap.

**Conclusion:** In selected cases, the Mucosal Rugosity Unfolding Technique offers a single-stage procedure for the closure of challenging anterior palatal fistulae. This technique provides an effective alternative to more complex reconstructive options.

**Keywords**: - Anterior palatal fistula, Unfolding of the mucosal Rugosity, Lengthened Mucoperiosteal flap.

**Otoplasty, Simple and Anatomical Approach**

**Abstract Presenter:** Guillermo Wiegering Cecchi MD, MSc, PH.D, FACS.

Approximately 5.6% of the population has prominent ears; there are more than 200 otoplasty techniques, and more than 800 related articles in Pub med, meaning, that there is not only one technique by itself to solve the problem completely. Suture placement and cartilage incision are the two main approaches, represented by modified Mustarde and Converse techniques that are considered best practice today.

Otoplasty does not mean just bringing the ears closer to the skull; All structures must be present naturally, without visible marks.

We present here the technique base in John Clark Mustarde work from Scotland, with some modification and tips (Hidrodissection) to make it simple and natural. This, Being a short duration procedure 1-1.5 hours, Ambulatory, under local anesthesia, with very fast recovery and very little or non-complications.

**Orthoplastic approach in lower leg and foot surgery**

**Abstract Presenter:** Alexandru Georgescu MD., PhD

**Background:** The reconstruction of lower leg and foot is very challenging due to their anatomical characteristics. In complex injuries of the lower leg and foot or after oncological surgery we should understand that the reconstruction does not mean just the skin coverage, but should address to more requirements, as: replacing like with like; preparing a good bed for other reconstructed elements (bones, tendons, nerves, vessels); obtaining a good cosmetic appearance; low donor site morbidity. The final aim should be the correction of the functional impairment. In the last half century, we assisted to a dramatical change in thinking and approaching the lower leg and foot complex tissue defects. This became possible due to the new knowledge in vascular anatomy and advances in microsurgical techniques and instrumentation.

**Aims & Objectives:** The main way to well treat this kind of lesions is to ensure a multidisciplinary approach by collaboration between the specialists involved in approaching them. That's why, in the later part of the last millennium, a new concept appeared: Orthoplastic Surgery.

**Patients / Materials & Methods:** Will be analysed the trauma cases involving the lower leg and foot solved in our department in the last 25 years. The cases were solved by a single surgeon with both plastic and orthopaedic competences. Results: Will be presented the important role of debridement, bone fixation and as soon as possible reconstruction by using both traditional and free/local perforator flaps.

**Discussion & Conclusion:** The orthoplastic approach contributes to: • Save unnecessary or extra operations • Reduce the risk of complications • Optimize time, services, and resources • Bring numerous benefits in term of cost-efficiency, quality of care and patient safety.

**Intra-tendinous Platelet Rich Plasma Injection Therapy for Healing Wounds with Exposed Tendons: A Clinical Case Series**

**Abstract Presenter:** Mahendra Daya MD

**Introduction:** Platelets are rich in cytokines and growth factors. Exposed tendons in wounds do not naturally heal by granulation and epithelization. The study aimed to explore the effects of PRP injection therapy on exposed tendons in open wounds and determine if the tendon could support wound healing.

**Materials and Methods:** A retrospective observational clinical study was undertaken from 2012 to 2018 to assess wound healing from exposed tendons in wounds in patients treated with PRP injections and occlusive dressings. Parameters studied included patient and management factors, wound and functional outcomes, wound

healing progression, and the direct effects of PRP therapy on tissues.

**Results:** Twenty-three patients with several co-morbidities received treatment. The average age of patients was 56 years, with an age range of 25 to 79 years. Twenty of the 23 patients (87%) reached complete healing. Eighteen of the 20 (90%) had good tendon excursion and associated joint movement for the limb's function. The complication rate was low. PRP injection therapy produced a response of increased vascularity, the proliferation of granulation tissue from the tendon, and epithelialization from the surrounding skin.

**Conclusion:** Intra-tendinous PRP injections used with occlusive dressings can heal the exposed tendon and open wound by process of granulation and epithelization, restoring adequate limb function.

## A Novel, Deep Learning Based, Automatic Photometric Analysis Software for Breast Aesthetic Scoring

**Abstract Presenter:** Joseph Park MD

**Abstract Co-Author(s):** Yujin Myung M.D., Ph.D., Seungchul Baek
Chan Yeong Heo MD

**Background:** Automatic evaluation of breast aesthetics is in need both for clinical and research purposes. However, traditional software are time-consuming, which limits their use in the clinical setting. To improve the efficiency of aesthetic analysis, we developed the Seoul Breast Esthetic Scoring Tool (S-BEST), a deep-learning-based automatic photometric analysis software for improved breast landmarks and feature assessments.

**Methods:** S-BEST was developed using frontal breast photographs as input and trained using deep learning (DenseNet-264) to automatically provide landmark detection and breast asymmetry indices. To validate the accuracy of S-BEST in providing breast asymmetry indices, physical measurements of breast landmarks were compared to those obtained by S-BEST in 100 females diagnosed with breast cancer using a paired t-test and Bland-Altman plots.

**Results:** S-BEST showed accurate automatic landmark localization and measurements, with no statistically significant differences between the physical examination and S-BEST's automatic measurements for most distances. However, the nipple-to-inframammary fold distance showed a high bias. S-BEST provided accurate breast asymmetry indices based on these measurements.

**Conclusions:** S-BEST is an accurate, fast, and automatic photometric analysis tool for clinical and research purposes in breast aesthetics. Further studies are needed to validate its accuracy and applicability to other breast conditions.

**An Algorithm For Facial Paralysis Reconstruction After 376 Consecutive Cases**

**Abstract Presenter:** Miriam Vicente-Ruiz MD

**Abstract Co-Author:** Bernardo Hontanilla MD

**INTRODUCTION:** In the surgical reconstruction of facial paralysis, the available techniques have evolved substantially over the last two decades based on the available technology and, more importantly, on the evaluation of the aesthetic results, complications, and patient satisfaction. The purpose of this work is to relay the lessons learned after 376 consecutive cases and present a treatment algorithm.

**MATERIAL & METHODS:** We retrospectively reviewed 376 patients treated surgically for facial paralysis in the last 23 years in our center. Clinical data including characteristics of the paralysis were collected, as well as objective outcome measures with a focus on the recovery of facial symmetry and smile spontaneity.

**RESULTS:** For the rehabilitation of incomplete facial paralysis, the use of masseteric to facial nerve transfer offers the best results, with a greater capacity to restore spontaneity in women. In bilateral facial paralysis, the technique of choice is bilateral gracilis muscle transplantation in two stages, with the masseter nerve as the source of innervation. As an alternative or adjunct to the dynamic techniques, static techniques can restore facial symmetry and improve the quality of life of patients. The choice of surgical technique is determined firstly by the time of evolution of the paralysis, as well as the laterality and the type of paralysis. In addition, the result is conditioned by age and sex, with better recovery of spontaneity in children and women. All these factors need to be considered, along with patient preferences, to achieve an optimal result.

**CONCLUSIONS:** The proposed algorithm, based on our experience after 376 cases, simplifies the reconstruction of facial paralysis, mainly taking into account the characteristics of the paralysis and the patient's gender as factors that influence smile recovery.

**Alterations of Alu methylation and Aging markers in Non-Syndromic Cleft Lip and Palate**

**Abstract Presenter:** Chirakan Charoenvicha MD

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**Background:** Non-syndromic cleft lip with or without cleft palate (NSCL/P) is one of the most common craniofacial anomalies with multifactorial genetic and environmental etiologies. Senescence, as indicated by senescence-associated markers, including Alu methylation, AGE, RAGE and p16 expressions may be the pathogenesis of NSCL/P. However, link between those senescence-associated markers and the severity of NSCL/P has not been investigated. Thus, the present study aimed to explore the association of senescence-associated markers and the severity of NSCL/P.

**Methods:** Prospective cohort study was conducted from January 2022 to January 2023. The Alu methylation and aging marker, as indicated by AGE, RAGE and p16 expression, were examined in NSCL/P patients and their mothers. The NSCL/P white blood cells (WBCs)-Alu methylation were evaluated in three phases of patients, including 0-3 months old, 3-6 months old (cheiloplasty), and 9-12 months old (palatoplasty). WBCs-Alu methylation of mothers was examined only at the first visit. We also investigated for tissue specific Alu methylation, such as lip and palate from discarded tissues in cheiloplasty and palatoplasty.

**Results:** 39 NSCL/P patients (cleft lip only (CLO: n=6); cleft palate only (CPO: n=9); cleft lip with palate (CLP: n=24) and their mothers were enrolled. 48.7% of patients were male. Our results showed that an increase in RAGE expression of WBCs-patients was positively correlated with severity of cleft subtypes ($p<0.05$). In mother, an increase in WBCs-Alu methylation was observed in CLP group, compared with CPO group, whereas WBCs-Alu methylation was not different between CLO and CPO groups. However, mean WBCs-Alu methylation in patients were $64.3 \pm 2.9\%$, $66.0 \pm 1.8\%$, $61.8 \pm 6.0\%$ for CLO, CPO, CLP, respectively ($p >0.05$). For tissue Alu methylation, mean Alu methylation were $62.2 \pm 4.1\%$, $66.1 \pm 5.3\%$ for lip and palatal tissues, respectively, and there was not statistically significant between groups. We found no significant correlation between senescence-associated markers in tissues and cleft specific subtypes.

**Conclusions:** Our findings suggest a link between systemic aging-senescence-associated markers in patients, increased WBCs-Alu methylation in mothers, and the severity of NSCL/P. Therefore, NSCL/P pathogenesis may be influenced by the maternal aging process and senescence of the patients.

**Keywords**: Cleft lip and palate; Alu methylation; Aging process; Senescence

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**Inhibition of the pro-tumorigenic effects of adipose derived stem cells (ADSCs) in lipofilling to the breast: Systemic Tamoxifen treatment and the lasting effect on the neoplastic traits of ER+ breast cancer**

**Abstract Presenter:** Emman Thomson MD, Phd

Abstract Co-Author(s): Thomas Jovic MB Bchir, Iain Whitaker

**Aim:** The co-location of ADSCs in the breast cancer microenvironment has been the focus of numerous scientific studies, and the origin of the modern safety debate. While ADSCs isolated from healthy patients have been shown to confer a malignant advantage when co-located with breast cancer in-vitro, they fail to provide a truly analogous model for the clinical cohort undergoing reconstruction. Systemic treatment with ER+ antagonists (Tamoxifen) is hypothesised to have a long-term effect on ADSC function, inhibiting their pro-tumorigenic potential and altering their interaction with ER+ breast cancer (MCF-7 and T47D).

**Methods:** Primary ADSC lines were isolated from breast cancer patients (n=10) established on systemic Tamoxifen (>12 months) alongside ADSCs isolated form a healthy control group (n=6). Indirect (conditioned media) and direct (3D non-contact co-culture) models were utilised to interrogate systemic ADSC exposure to Tamoxifen on their effect on the neoplastic traits (proliferation, cell adhesion, protein expression, migration, invasion, bioenergetics, and cellular morphology) of two ER+ breast cancer cell lines (MCF-7 and T47D).

**Results:** Comparing the effects of ADSCs on the key cancer hallmarks, there was a statistically significant difference ($p<0.005$) in the neoplastic traits of both ER+ cell lines when comparing both the indirect (n=16) and direct effects (n=12) of ADSCs isolated from patients undergoing systemic treatment compared with the healthy ADSC controls. Systemic Tamoxifen exposure inhibited the pro-tumorigenic effects of ADSCs, with this patient population failing to consistently upregulate neoplastic behaviour, unlike their healthy counterparts. This novel finding elucidates the potential impact systemic hormone treatment may have on the ADSCs within free fat grafts, accounting for the disparity seen between clinical and lab-based studies.

**Conclusion**: This novel study illustrates the divergence of ADSC behaviour in the microenvironment of breast cancer following systemic hormone receptor modulation. This may in part explain the disparity in scientific and clinical studies, highlighting the need for further research on factors that influence ADSC behaviour, and the safety of lipofilling.

**References:**

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