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ABSTRACTS

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- Face Lift
- Oncoplastic Surgery

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FREE COMMUNICATIONS 1

Interdisciplinary management of complex defects of the skull following craniectomy: a retrospective chart analysis

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Objective: Patients undergoing cranioplasty after craniectomies have a better outcome. Nevertheless, some patients undergoing cranioplasty require soft tissue coverage with plastic surgical techniques. We retrospectively evaluated our interdisciplinary management algorithm which is based on single or multi-stage reconstruction depending on the etiology of the defect and the presence or absence of infection.

Material and methods: All patients treated in our unit with craniectomy and soft tissue coverage with plastic surgical methods between 2013 and 2016 were included in this retrospective chart review.

Results: 21 patients with a mean age of 58 years met the inclusion criteria. 38% had infections that led to the explantation of the cranioplasty, 29% had a malignant tumor with infiltration of the bony skull, 14% had aseptic bone necrosis, 14% had wound dehiscence and 5% had open skull fracture.

47% of the soft tissue defects were closed with local flaps, 48% with free flaps and 14% were closed directly. For patients requiring free flap coverage, a free latissimus dorsi flap was used in all cases. A multi-stage approach was adopted in 62%. No reinfection with need for implant removal occurred.

Conclusion: Patients with complications after cranioplasty should be treated interdisciplinary. Using our interdisciplinary algorithm and taking into consideration the etiology of the defect and the presence or absence of infection all bone and soft tissue defects could be successfully covered. For patients requiring free tissue transfer, the latissimus dorsi flap proved to be a reliable method for coverage of extensive defects.

Freie Lappenplastiken zur Rekonstruktion von onko-chirurgischen Weichteildefekten im Gesicht: the Lucerne experience

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Einleitung: Tumore im Gesicht werden durch die zunehmende Überalterung unserer Gesellschaft in den letzten Jahren häufiger. Benigne Tumore wachsen nicht destruiierend und können in einer kleinen chirurgischen Intervention lokal versorgt werden.

Anders verhält sich dies bei malignen Tumoren. Ausgedehnte maligne Tumore sind anspruchsvoll und bedürfen aufwändige Behandlungsstrategien inklusive einer Defektdeckung mit freien mikrovaskulären Lappenplastiken. Wir möchten über unsere Erfahrungen mit Weichteildefektdeckungen im Gesicht mit Hilfe des freien Gewebetransfers hinsichtlich der Indikation und des intra- und postoperativen Verlaufs berichten.

Methode: Wir berichten über 16 Fälle (17 Lappen) der letzten 10 Jahre in unserem Zentrums- spital, bei denen freie Lappenplastiken indiziert waren. Onkologisch handelte es sich dabei ausschliesslich um ausgedehnte Hauttumore, insbesondere Basaliome, Plattenepithelkarzinome und Melanome. Zur Deckung wurden 5 Radialislappen, 9 anterolaterale Oberschenkel- lappen und 3 Oberarm- lappen durchgeführt. Bei einer Deckung kam es zu einem totalen Lappen- verlust, die übrigen Lappen heilten weitgehend komplikationslos ein. Es kam zu keiner relevanten Komplikation im Bereich der Hebedefekte.

Schlussfolgerung: Bei grossen malignen Tumoren im Gesicht, bei denen eine lokale chirurgische Deckung nicht mehr möglich ist, können mit freien Lappen gute Ergebnisse erzielt werden. Voraussetzung für zufriedenstellende Resultate sind eine sorgfältige Indikationsstellung und die entsprechende Kompetenz des Zentrums für mikrochirurgische Gewebetransfers. Diese Art der Defektdeckung und Rekonstruktion kann auch durchaus bei einem sehr alten Patientengut empfohlen werden.

Algorithms for lip reconstruction in patients in cancer patients

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Background: Lip reconstruction is a challenge to plastic surgeons because is not only important to treat the cancer but also to maintain function and aesthetics. The lips play a key role in speech, eating and facial expression.

Methods: This retrospective study includes 254 patients with skin cancer in the face and scalp including lip treated 2015 in our Clinic. The reconstruction after tumor resection was done in a single or staged procedure under local or general anesthesia considering the size of the defect and the amount and characteristics of residual tissue.

Results: 3.5% of our cases involve the lips. Most of these are squamous cell carcinomas and are located on the lower lip. However, most malignant neoplasms of the upper lip are basal cell carcinomas. The discussion will focus on our experience and review of the current literature on lip defects that require different types of reconstruction including Webster-Bernard cheek advancement flaps, Abbe cross-lip flaps, Karapandzic rotation advancement flaps and free flaps.

Conclusion: We present our algorithm for the management of lip defects after cancer excision and different reconstructive techniques to facilitate the best choice of reconstruction.

Influence of soft tissue reconstructions of the nose with regard to the nostrils

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Introduction: Soft tissue reconstructions with skin grafts or local flaps after operative treatment of skin tumors of the nose are frequent procedures. Aesthetic as well as functional aspect have to be respected in choosing the modality of reconstruction. We analyze our postoperative results with regard to the form of the nostrils.

Material and methods; Patients which underwent surgical removal of skin tumors were included in the prospective study. Excluded were patients you refused to participate, or had been operated on the outer nose in the past. Documentation involved pre- and postoperative photos (frontal-, lateral, underview). Postoperative changes regarding the aspect of the nostrils were analyzed. Patient satisfaction relating to the aesthetic result was documented by a visual analog scale.

Results: 23 patients were included. 60% showed a visible postoperative alteration of the nostrils. In 40% no deformation occurred. 20% were uncontent with the aesthetic result.

Conclusion: Soft tissue reconstructions of the nose may lead to deformations of the nostrils. In most cases patients are satisfied with the aesthetic result. Alar elevation presents the biggest cause of dissatisfaction. Poor attention is paid to this circumstance in planning of nasal reconstructions.

Orbital exenteration – reconstructive options off the empty orbit: a review of 7 cases and a suggested treatment algorithm

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Introduction: Orbital exenteration is a disfiguring operative procedure, resulting in a serious deformity and posing a challenge for surgical reconstruction.

Material and methods: We retrospectively reviewed all cases of orbital exenteration at our institution from 2001 to 2015 (n=7) with regards to patient demographics, tumor characteristics, reconstructive methods and complications. We further compared local reconstructive measures with free tissue transfer in terms of complication rates and created a suggestion for a treatment algorithm.

Results: 7 patients, 3 female, 4 male, received an orbital exenteration. Mean age at time of orbital exenteration was 65.8 years. Main causative tumors were melanoma, basal cell carcinoma

and one adnexal tumor. Reconstructive surgical methods used were local transposition flaps in 3 cases (2 temporalis, temporalis + pericranium), free flaps in 4 cases (2 lateral arm, 1 radial forearm, 1 anterolateral thigh). Split skin grafting was performed in 1 case. Of the local and free flaps performed, there were no flap failures or major complications recorded.

Conclusion: Reconstruction of the exenterated orbit with free flaps does not show increased complication rates when compared to local transposition flaps and seems to be a safe surgical method to reconstruct and fill the empty orbit and allow for satisfactory prosthetic rehabilitation. Our proposed treatment algorithm is the reconstruction with local flaps in case of orbital exenteration without removal of bone. If extended exenteration with bone removal is required, or if the patient has previously been irradiated, we strongly suggest the reconstruction with a microvascular free flap.

Clinical features and aurgical management of zygomaticomaxillary complex and orbital floor fractures

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Introduction: Zygomaticomaxillary complex and orbital floor fractures are commonly encountered midfacial fractures that may result in aesthetic and functional deformity. This retrospective study was designed to investigate the surgical treatment and postoperative complications in our plastic surgery unit.

Material and Methods: We evaluated 70 patients who underwent open reduction and internal fixation of midfacial fractures between 2012 and 2015. Preoperative clinical features, surgical approach and postoperative complications were retrospectively analyzed.

Results: Surgery was performed with a mean latency of 7 days after the trauma. Subciliary incision was our main surgical approach. For orbital floor fractures, titanium mesh and polydioxanone sheets were used as implant material. Preoperative symptoms were present in 50 patients (71%), mainly infraorbital hypesthesia (44%), diplopia (43%) and ocular motility impairment (29%). Postoperative complications persisted during a mean follow-up time of 3 months in 34 patients (49%) showing infraorbital hypesthesia in 36%, diplopia in 17%, ectropion in 10% and ocular motility impairment in 6%. Complications requiring revision surgery occurred in 10% of the cases (4% retrobulbar hematoma, 3% implant dislocation and 3% ectropion). All patients recovered without significant impairment.

Conclusion: Surgery is required in the majority of the patients with midfacial fractures. Surgical treatment still holds a risk for postoperative complications. In particular ectropion is challenging due to its aesthetic impact on patients. To prevent ectropion, additional canthopexy or the transconjunctival surgical approach are reasonable options.

Facial bone reconstruction with prefabricated vascularized calvarium flaps in children and young adults: long-term results

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Background: Reconstruction of facial bone defects is challenging, and the use of well-vascularized bone is mandatory to obtain stable lasting results. We report our long-term outcome of facial bone reconstruction using prefabricated vascularized calvarium flaps.

Methods: This retrospective case series includes 50 patients who underwent 52 maxillary, malar, and mandibular reconstructions between 1988 and 2014 using prefabricated vascularized calvarium flaps. Mean age at surgery was 8.9 years. Forty-nine patients suffered from noma sequels; one patient presented with a craniofacial cleft Tessier 3-11 with wide bilateral cleft lip and palate. Surgery consisted of a two-step procedure beginning with flap delay and prelamination with skin grafting on the galea. Flap harvest followed at least 2 weeks later, including full-thickness calvarium fragment.

Results: Early complications concerned wound healing and infections requiring surgical revision in six patients at recipient site and six at donor site. One infection resulted in partial loss of the split bone grafts used to reconstruct the donor site defect. There was one flap loss. Clinical long-term assessment at 15-year median follow-up showed good results, assuring facial height and contour. Radiological long-term results demonstrated excellent integration of the bone flap to the adjacent facial skeleton.

Conclusions: Prefabricated vascularized calvarium flap provides effective and safe reconstructions of large facial bony defects when mucosal lining is required, particularly in growing children. It has low complication rate and minor donor site morbidity. Long-term follow-up shows perfect bone stability and integration.

A long-term follow up of pediatric soft-tissue nose reconstruction with a forehead flap

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Introduction: Nasal soft-tissue reconstruction in children are extremely rare. The forehead flap is used in reconstructive trauma, following tumorresection or congenital malformations. In this presentation we show two pediatric cases, where a nose reconstruction with a forehead flap was performed. We present a postoperative long-term follow up, which is rarely documented in the literature.

Methods and Results: In this presentation we show two pediatric cases, where a nose reconstruction with a forehead flap was performed. We present a postoperative long-term follow up over 20 years, which is rarely documented in the literature.

I do certify that there is no actual or potential conflict of interest in relation to this abstract.

Refinement of nasal reconstruction with a V/Y-alar-perforator-flap

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The ala of the nose is vascularised by a dense net of perforators originating from the lateral nasal artery or the angular artery. These vessels reach the ala in a cascade fashion from the alar groove. Based on these vessels a V/Y-flap can be dissected with a wide range of mobility.

19 patients have been operated by the use of a VY-alar-perforator flap alone or in conjunction with a musculocutaneous rotation flap from the lateral nasal wall and/or from the nasal dorsum for reconstruction of defects at the nasal tip, alar of the nose and/or lateral nasal wall. There were no prolonged congestion or any tissue loss. All patients presented postop with excellent aesthetic results, especially there were no nasal distortion.

Cartilage grafts and suture techniques in nasal tip surgery: review of the literature and presentation of an indication algorithm

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Introduction: In most primary and secondary rhinoplasties adjustment of the nasal tip concerning form, configuration and projection is necessary. Quite often this is one of the most challenging part of the operation, in functional as well as in aesthetic rhinosurgery. Several cartilage grafts and suture techniques were described in the literature. The effect on the nasal tip is often unpredictable and varies in outcome. We would like to present an algorithm for «step by step decision making» which evaluates popular techniques.

Patients and Methods: Most authors recommend open or transcollumelar approach for better anatomical situs and precise positioning of grafts and sutures. An overview of popular and clinically relevant suture techniques and cartilage grafts for nasal tip surgery is provided, in particular as relates to form, projection and rotation. With the help of clinical examples, we'll

demonstrate different indications, operative treatments and long term results and also discuss the latest literature.

Results: Knowledge of different suture techniques and cartilage grafts for nasal tip surgery as well as preoperative analysis are crucial factors of postoperative success. The use of an algorithm to choose the proper and adequate surgical technique can improve treatment quality and postoperative outcome.

Conclusion: Precise preoperative analysis, detailed patient information as well as the use of an appropriate algorithm can facilitate the selection of the sufficient surgical technique and improve treatment quality and functional and aesthetic outcome.

FREE COMMUNICATIONS 2

Intérêt de la symétrisation immédiate au cours de la reconstruction mammaire unilatérale différée par DIEP: à propos de 33 cas

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Introduction: Au décours d'une reconstruction mammaire unilatérale, un geste de symétrisation est souvent proposé au niveau du sein controlatéral. Nous présentons l'intérêt de la réalisation de la symétrisation immédiate au décours d'une reconstruction unilatérale différée par DIEP.

Methode: 33 patientes consécutives, d'âge moyen 52,1 ans, ont bénéficié d'une reconstruction mammaire différée unilatérale par DIEP avec symétrisation immédiate et 2 patientes d'une symétrisation différée. Une reconstruction mammaire en un temps correspond à une reconstruction mammaire avec une seule anesthésie générale sans exclure les possibilités de retouche sous anesthésie locale.

Resultats: 24 patients (73%) ont eu une reconstruction mammaire en un temps et 7 patients (24%) ont dû avoir recours à une anesthésie générale supplémentaire et 1 patient à deux anesthésies générales supplémentaires. Dans 4 cas, une anesthésie générale était liée à une complication. La durée opératoire moyenne était de 485 minutes.

Conclusion: Lorsque la symétrisation est envisagée au décours d'une reconstruction mammaire unilatérale par DIEP, la symétrisation immédiate permet d'éviter une seconde anesthésie générale dans plus de 70% des cas.

Mots clés: Reconstruction mammaire; cancer du sein; reduction mammaire; anesthesie générale; lambeau libre.

Financial aspects of immediate breast reconstruction

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Introduction: Skin and nipple sparing mastectomies and, as a consequence, immediate breast reconstructions have gained popularity in the last years. Outstanding results compared to secondary reconstructions and further benefits for the patients caused this trend. Nevertheless, in times of increasing financial challenge, financial aspects of this method have to be kept in mind.

Material and Methods: We compare income and spending of three groups of patients: nipple sparing mastectomy and implant-based immediate reconstruction, nipple sparing mastectomy and immediate DIEP-reconstruction and breast conserving, oncoplastic surgery.

Results: In contrast to its excellent medical outcome, immediate breast reconstruction yields a financial poor outcome. In particular, implant-based immediate reconstructions are a losing business due to the implant costs, whereas flap-based immediate reconstructions are moderately profitable. Bias factors like additional private insurance income or bilateral operations were considered.

Conclusion: At the moment, the obvious benefits of the immediate reconstruction are not adequately honoured by the DRG system. The effect of recent cost weight adaptations has to be monitored in the future.

Breast reconstruction awareness (BRA) day

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Breast Reconstruction Awareness Day (BRA Day) was launched in 2011 by a plastic surgeon in Toronto, Canada. BRA Day was created to «Close the Loop on Breast Cancer» by putting an emphasis on breast reconstruction – a still often neglected but nonetheless important part of breast cancer therapy. The goal was to educate patients about their choice for reconstruction when undergoing mastectomy or tumorectomy, and to ensure adequate access for reconstructive surgery. The inaugural BRA Day was marked by regional events across Canada in 2011. In 2014, over 30 countries all over the world hosted events in order to raise awareness about breast reconstruction.

In 2015, we hosted the first BRA Day event in Basel. The response was overwhelming, demonstrating the need for patient-centered events like these. Almost 200 participants followed the invitation to the event. The majority of the participants (>60%) were between 40 – 60 years old, 20% were younger than 40 years, 20% were older than 60 years. More than half of the women (58%) were active or past breast cancer patients. Over 95% of the participants thought that the overall quality of the event and the quality and topics of the presentations were good to excellent. 89% of all participants stated that they would participate again in a BRA Day event. Everyone would recommend BRA Day to friends and family and 82% support the idea of an annual event.

We would like to share our experience with our first BRA Day event and encourage other members of the society to participate in this rapidly growing and internationally recognized initiative.

Venous thromboembolism after DIEP flap breast reconstruction: series of 144 cases

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Background: Breast reconstruction with deep inferior epigastric perforator free flap (DIEPf) presents several thromboembolism events [VTE] risk factor. As there is lack of studies assessing VTE rate after DIEPf, in this study we evaluated VTE incidence after breast reconstruction with DIEPf, and stratified VTE risks according to Caprini score. We aimed to answer if Caprini score is accurate to identify patients at high VTE risk; and to propose a prophylaxis protocol to reduce the VTE rate for candidates undergoing DIEPf breast reconstruction.

Methods: Retrospectively files of 144 consecutive patients who underwent breast reconstruction with DIEPf from 1999 to 2013 were reviewed. The VTE rate was assessed and VTE risk evaluated with Caprini 2005 score, an unique score validated to assess the VTE risk for plastic surgery procedures. It is based on selected VTE risk factors where each risk factor has a specific score and according to the total score, patients are divided into risk categories.

Results: Majority of patients (68,5%) was in the high VTE risk group (Caprini score>5). Overall VTE rate was 4,2% (6 patients), and all these patients were in the high risk group. No other single risk factor could be identified.

Conclusions: Our study demonstrated that Caprini 2005 is accurate to detect patients at high VTE risk. Therefore to make procedures safer, all patients undergoing DIEPf have to be assessed preoperatively with Caprini 2005 and VTE prophylaxis prescribed accordingly to their risk level. For patients at high VTE risk, in addition to other prophylaxis methods, according to international recommendations, the duration of VTE chemoprophylaxis should be extended to 30 days.

How safe is oncoplastic surgery in an interdisciplinary setting of a breast center?

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With the demonstration of no difference in overall survival between mastectomy (MX) versus lumpectomy and radiation, breast conserving therapy (Oncoplastic Surgery) has been increasing. R0 resections are required for success. However, rates of up to 68% of R1 resections are reported in literature. Our aim was to compare this rate of positive tumour margins with results at our centre.

Data were collected retrospectively from Jan 2011 through Dec 2015 from patients (pat) operated at the Breast Tumour Centre. Female pat having received breast conserving therapy uni- or bilaterally were included. Sentinel lymph node biopsy or axillary dissection was performed during same procedure. Exclusion criteria were total MX and secondary corrections after tumourectomy.

Totally 121 pat with unilateral and one with bilateral cancer met inclusion criteria. Mean age at operation was 62 yrs (range 31 to 88). Tumour free resection margins were obtained in 89% (108 of 122). Our data of R1 resections of 11% is comparable with international literature. In 11 pat (9%) re-excision (RE) was performed and one (1%) needed MX. 2 pat (2%) resigned RE.

Breast reconstruction was performed using glandular advancement in 32% of pat. 83 pat (68%) needed glandular or dermoglandular flap techniques in combination with modified mastopexy respectively reduction mammoplasty for better aesthetic results. In 16 pat (13%) contralateral side was adjusted at same surgery.

Oncoplastic Surgery is a safe technique concerning clear tumour margins. Pat qualifying for breast-conserving therapy have to be informed about the possible need for RE after receiving final histology report.

Bilateral implant-based breast reconstruction: form-stable or ergonomic implants?

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More and more often, young women are diagnosed genetic predisposition for breast cancer resulting in prophylactic mastectomy. Their often young age, slim morphology and fear of «collateral damage» at the flap's harvesting site incite many to go for implant-based breast reconstruction. Despite the reduction of the implant's surface roughness and increased elasticity, form-stable implants are still associated with foreign body sensation and capsular contracture often resulting in reoperation.

Over a time-period of 16 months (Jan 2015 – Apr 2016), we have executed 18 bilateral implant-based breast reconstructions using MOTIVA ERGONOMIX implants in patients aged 29 to 77 years at the EOC, performing both skin sparing mastectomy and implant-based reconstruction. We evaluated both surgery- and implant-related complications by consecutively seeing the patients at defined time points using the Breast-Q questionnaire and standardized photography.

Neither hematoma nor infection was observed that needed additional surgery. Prolonged serous secretion was seen in 3 patients. In cases of nipple-sparing mastectomy, all nipple-areolar

complexes survived. At 6 months, rippling of the implant was observed in patients with a BMI inferior at 25 kg/m². So far, no patient complained about fixed and/or stone hard breast.

The patients are very satisfied with this implant insisting on the fact that they not feel any «foreign body». Further they are happy to see that the implant changes its shape as a function of their position. These advantages seem to outbalance the «rippling» of the implants that seem to occur predominantly in slim patients with a thin skin envelope after skin sparing mastectomy.

Impact d'une consultation multidisciplinaire pré-thérapeutique du cancer du sein sur la reconstruction mammaire

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Introduction: La reconstruction mammaire après cancer du sein est primordiale pour retrouver l'intégrité corporelle et améliorer la qualité de vie. Le but de cette étude est d'évaluer l'impact de l'introduction d'une consultation multidisciplinaire pré-thérapeutique (COSP) sur la reconstruction mammaire, ainsi que l'évolution des techniques dans notre service et des facteurs qui les ont influencées.

Méthode: Huit-cent-huit reconstructions mammaires effectuées dans le service de chirurgie plastique, reconstructive et esthétique des HUG ont été analysées de manière rétrospective de 1993 à 2014.

Résultats: Le nombre de reconstructions mammaires a continuellement augmenté: 6 cas en 1993 vs 102 en 2014. Cette augmentation a été plus marquée depuis l'introduction de la COSP en 2000 et l'attribution d'une vacation supplémentaire au bloc opératoire dédiée spécifiquement à la reconstruction mammaire en 2003. Dès cette date, la reconstruction immédiate est devenue majoritaire pour atteindre 66% des reconstructions en 2014. Le type de reconstructions a aussi évolué; alors que dans les années 90, les implants et les TRAM étaient majoritaires, ces derniers ont été définitivement abandonnés en 2004 pour être supplantés par le DIEP, qui représente 23,5% des reconstructions totales en 2014.

Conclusion: L'introduction de la COSP a conduit à une collaboration plus étroite entre spécialistes, permettant d'augmenter le nombre total de reconstructions mammaires, notamment immédiates. Ces dernières, de même que la reconstruction par tissus autologues, sont reconnues pour diminuer l'impact négatif lié à la mastectomie et faciliter l'intégration du sein reconstruit dans le schéma corporel.

FREE COMMUNICATIONS 3

Smas undermining versus plication: an in vivo study

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30 Patients underwent SMAS facelift with minimal skin undermining and SMAS undermining and transpositioning. Tension was measured and post op SMAS sliding was shown radiologically with titanium clips. The results show firm attachment of the repositioned SMAS and minimal relaxation with time.

Conclusion: Longevity of SMAS undermining and repositioning is superior to SMAS plication.

MACS LIFT: is it indicated for all cases?

Chami Nicolas, Lausanne

The Macs lift has originally been described by Tonnard and Verpaele more than 10 years ago.

It is mainly indicated for the mid and lower face.

The authors, have since then, brought some modifications by adding lipofilling and more recently nano filling. However, in patients with significant weakness of the lower orbicularis oculi muscle, cervical skin laxity and platysma bands, combination of the Macs lift to other techniques is mandatory.

Some cases are discussed.

«Technische Details des high SMAS – facelifts»

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Das SMAS- Facelift gilt weltweit als Standard-Lifting neben den Plications – und Fadenlifts. Die Resultate des SMAS-Lifts sind erwiesenermassen nachhaltiger als diejenigen der Plications-Lifts (Typ MACS).

Aufgrund anatomischer Studien verläuft der Frontalast des N. facialis in tieferen Schichten als früher angenommen, weshalb eine SMAS-Schnittführung über dem Jochbogen kein Verletzungsrisiko des Frontalastes ist. Durch die craniale Schnittführung des SMAS werden die Weichteile nach cranio-lateral geshiftet mit Vergrösserung des Volumens im Mittelgesicht. Die Verankerung des SMAS in der tiefen Temporalfaszie ist stabil und birgt keine Gefahr, den Frontalast durch eine caudale SMAS Naht zu schädigen.

Ein Faceliftresultat ist immer die Summe der technischen Details. Anhand Videoclips werden die einzelnen Schritte dargestellt und Details gezeigt, um z.B. auch im Narbenverlauf gute Resultate zu erzielen

Facelifting: my personal technique

Pfulg Michel, Montreux

Validating facial aesthetic surgery with the FACE-Q

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Introduction: In aesthetic clinical practice surgical outcome is best measured by patient satisfaction and quality of life. For many years there has been a lack of validated questionnaires. Recently the FACE-Q was introduced and we present the largest series of facelift patients evaluated by FACE-Q with the longest follow-up to date.

Materials/Methods: 200 consecutive patients were identified who underwent high SMAS facelifts, with or without additional facial rejuvenation procedures, between Jan 2005 and Jan 2015. Patients were sent eight FACE-Q scales and were asked to answer questions in regards to their satisfaction. Rank analysis of covariance was used to compare different subgroups.

Results: 38% response rate, comparable to other outcome studies. Combination of facelift with other procedures resulted in higher satisfaction than facelift alone. This was true for overall facial appearance, aging appearance appraisal and appraisal of nasolabial folds ($p < 0.05$). Patients who underwent lipofilling as part of their facelift showed higher satisfaction than patients without lipofilling in three subscales: overall facial appearance, aging appearance appraisal, appearance of cheekbones, cheeks and nasolabial folds ($p < 0.05$), compared to patients operated on more than 5 years ago.

Conclusion: Facial rejuvenation surgery, combining a high SMAS facelift with lipofilling and/or other facial rejuvenation procedures resulted in a high level of patient satisfaction. The authors recommend the implementation of the FACE-Q to physicians involved in aesthetic facial surgery in private practice as well as teaching hospitals, to validate their clinical outcomes from a patients perspective.

Pourquoi le face lift doit rester une opération simple avec un minimum de risque*Emeri Jean-François, Lausanne*

Résumé: De multiples techniques de face-lift ont été décrites. Force est de constater que certaines interventions sophistiquées aux taux de complication élevés et avec une récupération longue et pénible ne donnent pas forcément de meilleurs résultats à court ou même long terme.

A trop perturber l'anatomie, on provoque des modifications de celle-ci avec des séquelles irréversibles pas seulement en position statique (photos) mais aussi en changeant l'expression dynamique du visage.

La préservation de celle-ci est une part importante du résultat.

FREE COMMUNICATIONS 4**Low osmolality and shear stress during liposuction impair cell viability in autologous fat grafting**

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Introduction: The indications for autologous fat transfer are increasing and gaining in popularity. So far there is no standardized tumescent solution in fat harvesting and the take rate is unpredictable.

Material and methods: Fresh excision fat was incubated in different tumescent solutions varying in osmolality and pH. Vital whole-mount staining was conducted, in order to evaluate overall and adipocyte viability. Stromal vascular fraction (SVF) was isolated and the isolation yield and viability were counted. Clonogenicity, osteogenic and adipogenic differentiation capacity of the SVF were also assessed. To get information about the effect of mechanical stress in combination with the effect on morphology of the cells due to different osmolalities; ex vivo liposuction after incubation was performed with evaluation of overall, adipocyte and SVF viability.

Results: There were no differences in overall, adipocyte and SVF viability after incubation in the solutions. Osteogenic and adipogenic differentiations remained unchanged, as well as the clonogenicity of the SVF after incubation with the solutions. The combination of incubation with different tumescent solutions and shear stress showed a lower cumulative overall and adipocyte viability compared to the incubated excision fat. It also revealed a significant trend towards lower overall viability with decreasing osmolality as well as a significant decrease in SVF viability with prior incubation in a hypotonic solution. PH had no impact on overall, adipocyte and SVF viability.

Conclusion: Osmolality of the tumescent solution combined with mechanical stress during liposuction is a survival factor for transferred cells.

The free microvascular interosseus posterior flap: have we found the ideal free flap in lower extremity reconstruction of small to midsized defects?

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Introduction: Many plastic and handsurgeons know the distally pedicled interosseus posterior flap for covering defects of the dorsum of the hand. However this flap as a free microvascular flap for covering defects of other areas of the human body is much more uncommon. In our institution this thin and pliable flap has become the favorite free flap for covering defects up to 4x6cm in the lower extremity, especially around the ankle and the Achilles tendon.

Materials and Methods: 12 free microvascular interosseus posterior flaps were used in the lower extremity. These cases were compared to the free lateral upper arm flap and the free radial flap.

Results: 11 out of 12 free interosseus posterior flaps healed without complications. One flap was lost due to venous problems. Patient satisfaction concerning the reconstructed as well as the donor site was high.

Conclusion: We believe that the free microvascular interosseus posterior flap has its indications not only in handsurgery but also in reconstructive cases in other areas of the human body, namely the lower extremity. This flap has many advantages and represents in our opinion the «near perfect» small free flap. Therefore we recommend its use.

Enzymatic debridement for burn wound management: first experience in Switzerland

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Introduction: Excisional debridement followed by skin grafting is the standard of care for deep burns. It is associated with potential drawbacks: loss of viable tissue, bleeding and scarring. NexobridTM is a non-surgical option of rapid and selective enzymatic debridement reducing the need for surgery and anesthesia. Our single-center experience is reported.

Material and methods: We conducted a prospective clinical observational study (n=10) with deep partial and full thickness burns covering at most 15% of their total body surface area (TBSA). Difficult areas at the hand, feet and back were treated. All patients were treated with soaking prior to the application of NexobridTM put on for 4-6 hours bedside followed by complete eschar sloughing through bathing. The application of NexobridTM and eschar removal was performed under analgosedation or local anesthesia. Debrided wounds were covered with alloplastic resorbable skin substitute or paraffin gauze.

Results: All patients were treated successfully with NexobridTM. We had a learning curve experiencing limitations. Dry eschar in third degree burns was mostly resistant to enzymatic digestion. For fresh partial thickness burns eschar removal was highly efficient. Results for early treatment within 72 hours were superior. The number of surgeries, blood loss and need for skin grafting could be reduced. The area of burns treated varied between 0.5 – 15% of TBSA.

Conclusion: Enzymatic debridement with NexobridTM is a feasible alternative treatment method to the current standard of care, reducing the need for and extent of surgery under general anesthesia. Delay of treatment seems to hamper efficacy resulting in incomplete debridement.

A comparison of an artificial nerve repair construct and nerve grafting when used in combination with intramuscular injections of stem cells for reduction of muscle atrophy

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Background: Peripheral nerve injuries represent a clinical challenge, especially when they are accompanied by loss of neural tissue. In this study we tried to attain a better outcome after a peripheral nerve injury (in a rat sciatic nerve experimental model) by both repairing the nerve lesion and treating the denervated muscle at the same time.

Methods: We compared artificial nerve constructs made from strips of poly-3-hydroxybutyrate (PHB), seeded with or without Schwann cell-like differentiated adipose stem cells (dASC), and autografts (reverse sciatic nerve grafts) in combination with stem cell injections in the gastrocnemius muscle. Six weeks after nerve injury, the effects of the stem cells on nerve regeneration and reduction of muscle atrophy were assessed.

Results: PHB strips showed a high number of βIII-tubulin positive axons entering the distal stump and abundant endothelial cells. Animals treated with PHB strips without cells in combination with control growth medium intramuscular injections showed significantly more muscle atrophy than the other groups. Best results were obtained in the autograft group combined with intramuscular stem cell injections.

Conclusions: Bioengineering nerve repair in combination with stem cells is a promising technique to treat nerve lesions and associated muscle atrophy.

Regenerative stem cells in split sciatic nerve surgery: a new microsurgical model in experimental nerve repair

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Introduction: Hindlimb autophagy is common after rat sciatic total axotomy. In this experimental model we split the distal part of sciatic nerve following its natural bifurcation between tibial and peroneal nerve, before applying regenerative stem cells in a fibrin conduit. Stem cells effects on regeneration and limb autophagy at 3-months post implantation have been analysed.

Material and Methods: After a gentle distal dissection of sciatic nerve, tibial and peroneal fibers were split upwards and a total axotomy was performed in the tibial side. The 1 cm nerve gap between proximal sciatic nerve and tibial nerve was crossed using fibrin conduits. Peroneal nerve was not included. Experimental groups involved either empty or dASC seeded fibrin conduit. Controls were represented by autografts and by sham rats (tot n=20). At 12 weeks post-implantation, histological and functional aspects of regeneration (Myelinated surface, Axonal diameter, Fiber densitt, walking track, muscle weight etc.) were analysed.

Results: No autophagy occurred using this technique. dASC filled fibrin conduit group shown a myelinated area approximately three times higher than empty fibrin conduit group (18.5%±2.3% and 5.8%±1.9% respectively). Comparing Fiber density and the others results with the previous obtained we can affirm that split nerve regeneration is representative of the whole nerve. Walking track analysis was consistent with the histological regeneration pattern.

Conclusion: Split Sciatic nerve surgery reduces autophagy, allowing for better functional evaluation. This surgical technique allows longer nerve gaps evaluation and for double conduit implantation studies in the future.

Complications after surgical decompression of peroneal nerve ganglions: a retrospective case review

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Introduction: Nerve palsy caused by an intraneural ganglion is a rare cause of compression neuropathy in lower extremities. Spinner et al. [2009] support the articular theory for the pathogenesis from the proximal tibiofibular joint. Nerve decompression and denervation of the

branch to the tibiofibular joint, with or without arthrodesis, are associated with favorable results and low rate of recurrence. Without the recommended treatment paradigm there is a risk for cyst recurrence or unexpected complications.

Methods: Review of 15 cases of intraneural nerve ganglion (14 peroneal, 1 tibial). 13 patients suffered from paresthesia and 10 from neuropathic pain. All patients complained of motor palsy. Therapy consisted of surgical decompression of the nerve. In 9 patients an articular branch was resected, in 3 additional arthrodesis of the proximal tibiofibular joint was performed. Two patient were referred due to recurrence – one after cyst excision, one after cyst fenestration.

Results: 13 patients showed clinical improvement within 8 weeks. Complications consisted of cyst recurrence in two and neuropathic pain in one patient. In one case only partial recovery of nerve occurred after 2nd surgery (no denervation or joint procedure). One patient showed cyst recurrence after revision surgery (decompression and denervation), had an arthrodesis as 3rd procedure with improvement of motor symptoms but persistence of neuropathic pain.

Conclusions: Fenestration or failure to resect the articular branch or address joint instability at primary surgery is associated with cyst recurrence or damage to the nerve. In case of cyst recurrence arthrodesis of the tibiofibular joint is recommended.

Improving donor site morbidity with the use of dermal substitute on radial forearm free flap

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Phalloplasty with radial forearm free flap is associated with a large donor site defect. The aim of this study was to compare two methods of donor site closure in regard of the functional long-term result: total skin grafting versus split thickness skin grafting with Matriderm®.

Six patients were included in the total skin grafting group and 21 patients were included in the split thickness skin grafting with Matriderm®. All 27 patients were evaluated by questionnaire as well as by careful clinical examination. Pressure perception was assessed with Semmes Weinstein monofilament test. Neuropathy of the superficial radial nerve was evaluated on Physical Exam. The contralateral arm was used as internal control.

Split thickness skin grafting with Matriderm® achieved superior results in term of skin sensibility, superficial radial nerve recovery and functional aspect. Our experience showed that the combination of a split thickness skin graft with Matriderm® allow a significant decrease of post-operative complications. We recommend using a split thickness skin graft on a dermis substitute to cover the donor site defect on the forearm of transsexual patients.

Predicting factors for recurrence in septic flexor tenosynovitis of the hand: a retrospective study

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Septic flexor tenosynovitis of the hand is a frequent emergency. This disease is associated with multiple surgeries, prolonged antibiotic therapy and ambulatory treatment. Factors associated with adverse outcome are little known. We conducted this study to identify factors associated with the need of subsequent surgery for a secondary aggravation of the clinical signs of infection.

In a retrospective single-center study we analyzed all adult patient, from 2007 to 2010, with a septic flexor tenosynovitis. We compared patients having a single surgical intervention to those having multiple interventions. Multivariate analysis adjusted the considerable case-mix.

A total of 126 adult patients were included with community-acquired septic tenosynovitis. Thirty-four had a subcutaneous abscess; 8 were febrile. All underwent at least one surgical debridement with concomitant antibiotic therapy for a median of 20 days. Eighteen patients underwent more than one surgical intervention. All episodes were cured after a median follow-up of 27 months.

The multivariate analysis showed two significant associations with the outcome parameter «subsequent surgical intervention»: presence of an abscess and duration of antibiotic administration. The goodness-of-fit test was insignificant ($p=0.54$) and the Receiver Operating Curve value equaled 0.84; highlighting a more than acceptable accuracy of our final model.

Regarding septic flexor tendon synovitis: an abscess at the initial clinical evaluation is a highly significant and independent parameter, predicting the need of subsequent surgery.

Encapsulation of adipose-derived stem cells (ASC) in degradable gels for peripheral nerve repair and neuroprosthetic devices

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Introduction: Adipose-derived stem cells (ASC) are becoming one of the most exploited cells in peripheral nerve repair. Considering our previous studies on ASC and extracellular matrix molecules (ECM), we focused on the encapsulation of ASC in fibrin gels coupled with laminin, to enhance delivery and cell potential.

Materials and Methods: In vitro experiments (each one in replicates, $n=3$) included proliferation assays, live-dead staining and multiple cocultures associating Dorsal Root Ganglia to fibrin-encapsulated ASC in order to assess cells viability and activity in presence of different laminin concentrations. After validation of an in vitro 3D system and selection of the optimal set up, gels were applied in vivo in rats using PDMS conduits to cross a 15mm gap over 8 weeks (groups included GC: fibrin gel+ASC; LM: laminin alone; LC: fibrin gel+ASC+LM; PDMS sham group; $n_{tot}=20$). Immunohistochemical analysis was performed at proximal and distal stumps to assess axon diameters, fiber surfaces and density.

Results: ASC retained their proliferative activity on fibrin and small laminin concentrations (i.e. $1\mu\text{g/ml}$) induced a two-fold increase in cell proliferation (*** p)

Imaging peripheral nerve regeneration using serial section electron microscopy: a new technique to allow for accurate 3-dimensional visualisation of axonal behaviour

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Introduction: Peripheral nerve assessment has traditionally been studied through histological and immunological staining techniques in a limited cross-sectional modality. The introduction of transgenic species, such as YFP-H mice, has greatly increased our ability to observe axonal regeneration. However, detailed analysis is still difficult to assess with either of these methods. A new application of serial section electron microscopy (SSEM) is presented to overcome these limitations.

Methods: Direct nerve repairs (DNR) were performed on the posterior auricular nerve of YFP-H mice. Six weeks post-operatively the nerves were imaged using confocal fluorescent microscopy then excised and embedded in resin. Resin blocks were sequentially sectioned at 100nm and sections were serially imaged with an electron microscope (Magellan 400L, FEI). Images were aligned and auto-segmented to allow for 3D reconstruction.

Results: Basic morphometry and axonal counts were fully automated. Using full 3D reconstructions, the relationships between the axons, the Nodes of Ranvier, and Schwann cells could be fully appreciated. The interactions of individual axons with their surrounding environment could be visualised and explored in a virtual three dimensional space.

Conclusions: SSEM allows the detailed pathway of the regenerating axon to be visualised in a 3D virtual space. Fully automated histo-morphometry can now give accurate axonal counts and provide information regarding the quality of nerve regeneration. It is possible to fully visualise and 'fly-through' the regenerating nerve to help understand the behaviour of a regenerating axon within its environment.

IlluminOss, a soft tissue saving intramedullary technique for the treatment of metacarpal fractures

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Introduction: Displaced metacarpal fractures treated surgically by plate fixation or bouquet pinning often cause soft tissue complications requiring implant removal. Intramedullary stabilization by a photodynamic resin (IlluminOss®) is a feasible technique to stabilize fractures minimizing soft tissue affection with no need for hardware removal. In this study we present our first year's experience.

Material and methods: Retrospective review of collected data on a series of 25 patients treated with IlluminOss fixation in 28 acute displaced metacarpal head (n=7), neck (n=12) and shaft fractures (n=9) between 12/14 and 12/15. Patients received an Edinburgh splint for one week followed by protected early functional mobilization in a metacarpal brace. Range of motion (ROM) and grip strength as well as complications were recorded. Radiographic controls were taken after 2,6, and 12 weeks to assess time to union and screen secondary dislocation.

Results: One of 25 patients needed operative revision. The mean follow up was 15 weeks. After 6 weeks follow up a mean ROM of the MCP 69-0-5°, PIP 91-2-0° and DIP 71-0-1° was registered. At 12 weeks all patients achieved radiographic union and symmetrically full composite flexion and no active MCP joint extension lag. Minimal secondary dislocation was measured in four patients. Grip strength averaged 84,6% of the contralateral hand.

Conclusion: Intramedullary IlluminOss stabilization is a safe and soft tissue saving treatment option in patients with selected types of metacarpal fractures. It allows early active motion. The advantage of this technique is less tissue impairment and no necessary hardware removal.

Short duration of antibiotic administration concomitant to surgical drainage does not enhance recurrence risk of hand phlegmona

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Objective: The ideal duration of prescription of antibiotic agents after surgical drainage for non-mycobacterial hand phlegmona is unknown.

Methods: Retrospective study at Geneva University Hospitals. Only first episodes among adult patients included. Exclusion of atypical pathogens such as mycobacteria, fungi and nocardia.

Results: A total of 126 patients (median age 45 y; 68 females; 9 immune suppressed) with hand phlegmona were retrieved. All patients underwent surgical exploration and drainage for hand phlegmona; together with a median duration of postsurgical antibiotic therapy of 15 days (range, 7-82 d), of which a median of 3 days intravenously (range, 0-55 d). Twenty cases were due to animal bites, the majority were community-acquired trauma with a median delay between onset and first surgical exploration of 3 days. Only eight patients were febrile, ten revealed a proximal lymphangitis and 18 were under antibiotic treatment on admission. Only one surgical intervention was performed in 109 episodes, two in 14, three in 2, and four interventions in one episode, respectively.

There were only three clinical recurrences (or new episodes; 2%) after a median follow-up of 2 years. However, in total 18 patients (14%) suffered from long-term sequelae such as stiffness, functio laesa and pain. In an unmatched multivariate logistic regression analysis adjusting for case-mix, only the presence of a collection/abscess was significantly correlated with long-term sequelae (odds ratio 4.6, 95% confidence interval 1.5-14.1), whereas gender, age, immune suppression, serum C-reactive protein levels, the number of finger involved, or the number of surgical interventions were not. A prolongation of antibiotic treatment beyond 10 days was formally not protective from long-term sequelae or recurrence.

Conclusion: Provided that there is surgical drainage performed, concomitant oral antibiotic therapy for hand phlegmona could be reduced to at maximum of 10 days. The presence of phlegmona with abscesses harbors a worse functional outcome. Prospective randomized trials are needed to confirm this assumption.

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Surgical treatment of breast asymmetry in a long-term follow-up

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Introduction: Breast asymmetry is a common finding among women with an incidence of up to 88%. A variety of surgical treatments aim to address this condition. We present our long-term experience in the surgery of breast asymmetry.

Patients and Methods: Patients who underwent correction procedures for breast asymmetry in the last 20 years in our institution were reviewed with regards to presenting symptoms, surgical procedure, surgical technique, complications and follow-up interventions.

Results: 169 patients were included with a mean age of 29.53 ± 11.9 years. Mean follow-up was 7.4 ± 5.2 years. Main indication for surgery was primary breast asymmetry (37%), followed by asymmetry with hyperplasia and ptosis (24%), hyperplasia (19%), hypoplasia (12%) and hypertrophy (5%). In 138 cases (82%) surgery was performed to both breasts. A total of 90 patients received breast reduction surgery, either to both breasts (26%) or one breast (26%). Mastopexy, as the main procedure, was done in 37 patients, including both breasts in 13% with or without simultaneous augmentation (10% and 3% respectively). Single augmentation was performed in a total of 22 cases, including both breasts in 9%. The main complication was an aesthetically unsatisfying result (7%), followed by haematoma (3%) and infection (3%). Asymmetry and implant replacement were the leading causes for revision (7%), followed by submammary scarring (5%), capsular fibrosis (2%) and areola problems (1%).

Conclusion: In order to meet the patients' demands, a variety of surgical options and their combinations must be evaluated in order to minimize complications and reduce false expectations.

Breast reconstruction with style 150 Allergan expanders or Mentor Siltex Becker 35: my experience with 422 patients (468 expanders)

Brühlmann Yves, Bern

Introduction: The reconstruction with expanders after mastectomy is a popular and widely used technique which is simple and gives good results.

Methods: Between 2000 and 2016, 422 patients were operated with expanders (468 expanders because of 46 bilateral operations). Mean age was 51.6 years (range from 27 to 82 years). The expanders are placed sub-muscular with some exceptions and the valve is fixed subcutaneous in the lateral thoracic wall region. This type of expander with distant valve could be used as a real single stage reconstruction in only 14.8% of the operated women.

In my patients group, 81% of the women had no irradiation and 19% were irradiated (always secondary reconstruction). I never place an expander if the patient has to be irradiated in a primary reconstruction.

Results: Major complications were seen in 10.7% as infections, expander explantation, capsular constrictions. The definitive protheses were always anatomical and the rotations problem occurred in about 2.5% of the cases.

Conclusion: In conclusion, the breast reconstruction with distant valve expanders is a good and reliable technique if some guidelines are strictly followed.

Gluteal augmentation techniques: a comprehensive literature review

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Introduction: Many studies of gluteal augmentation techniques have been published in recent decades, including case reports, retrospective and prospective case series, and multicenter survey reviews. This comprehensive literature review aims to determine outcomes and complications associated with the broad spectrum of techniques, including patient satisfaction.

Materials and methods: A search of the MEDLINE database was performed for clinical studies involving gluteal augmentation techniques. Resulting articles were reviewed using a priori criteria.

Results: Forty-four studies, published from 1969 through 2015, were included; this represented 6909 treated patients. Five gluteal augmentation techniques were identified from these studies: gluteal augmentation with implants (n=4071), autologous fat grafting (n=2394), local flaps (n=349), hyaluronic acid gel injection (n=69), and local tissues rearrangement (26). The overall complication rates of the two most commonly utilized techniques were 24.3% for gluteal augmentation with implants and 8.6% for autologous fat grafting. Patients' satisfaction was reported as consistently high for all the five techniques.

Conclusions: There is great heterogeneity of surgical methods for gluteal augmentation, which yield different outcomes. Implant-based gluteal augmentation is associated with high patients' satisfaction despite a high complication rate. Autologous fat grafting is associated with lower complication rate, although provides variable results in terms of volume retention. Further prospective studies with preoperative randomization of patients are required to compare different techniques and establish best practices.

Micro- and nanofat grafting for improvement of scar quality and skin texture

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Introduction: Autologous fat grafting has gained increasing attention and acceptance over the past decade in tissue augmentation. However, in addition to the volume effect regenerative properties of autologous fat with respect to skin texture have been observed. Therefore we were interested to study the effect of Micro- and Nanofat grafting on scar quality.

Materials and Methods: 58 patients were treated for scar improvement with Micro- and Nanofat from 11/2013-04/2016. Microfat was prepared by harvest with a cannula with sharp 1mm holes, washed and filtrated. Nanofat was prepared by emulsifying Microfat with a syringe and a cloth yielding an injectable liquid. Microfat was injected with 0.9 mm blunt cannulas for volume gain. Additionally sharp intradermal fat grafting (SNIF) was performed. Nanofat was also injected intradermally with sharp needles.

Results: Mean postoperative follow-up was 114±12 days. Mean age of patients was 40±2 years. The average volume of harvested fat amounted to 176±30 cc. Main harvesting areas were abdomen and flanks. In average 22.3±5 cc microfat, 1.3±0.4 cc SNIF and 4.6±0.9 cc Nanofat were injected. Main treatment areas were scars of the face, the extremities, the décolleté and radioderm of the thoracic wall after breast cancer treatment. Postoperative clinical evaluations showed a marked improvement of scar quality and a high patient satisfaction. Fat grafting softened the scars, made hyperpigmentations less pronounced and scars less conspicuous.

Conclusions: Micro- and Nanofat grafting appears to have beneficial effects in the treatment of scars and skin quality.

Acute Infection-Like adverse reaction after hyaluronic acid injection: infection or inflammatory reaction?

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Background: The number of complications after hyaluronic acid (HA) injection is currently growing, particularly severe complications requiring aggressive treatment. Here we report 2 rare infection-like inflammatory reactions after HA injections, and we expose their management.

Case reports: During the past 3 months, 2 patients (30 and 60 year old women) were addressed to our consultation because of swelling and inflammatory reaction of the face after HA injection. Both patients presented throat infection the day following HA injection and received co-amoxicillin treatment at day1. Due to cutaneous reaction the antibiotic regimen was switched on

day 4 to azithromycin with ciprofloxacin and azithromycin respectively. Subcutaneous painful collections and skin redness appeared at different injection sites at day 15 and 16 respectively. Both patients were afebrile and presented a mild systemic inflammatory syndrome. Due to unfavorable evolution and multiple abscesses confirmed by MRI, surgical drainage was performed. Microbiology analysis results were negative. After daily bedside abscess drainage up to 9 days, and 4 weeks of antibiotherapy the evolution was favorable but with cosmetic sequela

Conclusion: Actually the etiology of this type of complications is not clear: infection vs. inflammatory reaction. With growing number of complications after HA injection, case reporting and data collects is essential to achieve a better understanding of their mechanism, to identify risk factors and to implement management guidelines.

Pain reduction in facial injections (using the gate control theory)

Oppikofer Claude, Chirurgie Plastique Riviera

Pain at injection sites is the most common undesirable side effect of facial injections. Typical measures to control this pain include cooling, topical anesthetic creams, and the addition of lidocain in the injectables.

The gate control theory of pain, well known to neurologists, offers a completely different approach to modulation of injection-related pain. The practical application of this theory has so far been difficult, mainly for logistic reasons. We present our own development and practical experience with an easy, safe and highly efficient way to control pain without need of expensive infrastructure. It can be used for filler and neurotoxin injections, as well as for other painful injections.

Capturing «Swiss Plastic Surgery» on film

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Introduction: The Swiss Plastic Surgery Association decided to complement the Society's website with a corporate video on the occasion of its national open day. The aim: to illustrate the sheer diversity of fields of interest and the vast range of tasks that surgeons passionately perform day in, day out, to create what we define a «plastic surgery of confidence».

Material and Methods: After an extensive 4 month of storyboarding in which we decided on how to gain an overview of the field and who to involve, the production of the video was entrusted to the Basel-based !NOW communications agency for film and motion design.

We had to select 17 topics that we felt had good filmic potential and would best explain to the public what plastic surgery in Switzerland is about. This included selection of appropriate patients, experts and locations all over the country.

The actual production, which the film e-projects crew filmed in 5 different locations, proved quite a challenge, regarding patient and expert coordination and took 5 days of shooting. Another 2 months of video-editing followed. We really wanted to capture the fascination of our specialty and create an image of confidence. At the same time, the film had to be both as compact as possible and easy to follow and understand.

The soundtrack was a further key element in the process. For the trailer, advertising the open day, we wanted it to be thrilling; for the main video, on the other hand, we had to provide music conveying the spirit of Swiss Plastic Surgery to intensify and underline key moments.

Result: The video was presented to the public online in June, when the national open day took place.

4 juin 2016, première journée portes ouvertes: la chirurgie plastique en toute sécurité

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Introduction: le comité, en accord avec ses membres a décidé en 2014 s'organiser pour la première fois en Suisse une journée portes ouvertes pour informer le public sur la chirurgie esthétique et sur l'importance de choisir un membre de notre société comme chirurgien plasticien.

Matériel: l'auteur a contacté les chirurgiens plasticiens romands et les services de chirurgie plastique du CHUV et des HUG pour avoir leur avis et impressions.

Les résultats sont présentés et analysés en terme d'investissement de temps, d'impact sur le public (fréquentation), de collaboration entre chirurgiens à 3 mois.

En conclusion, l'expérience doit-elle être reconduite et comment améliorer l'impact sur les médias?

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Functional reconstruction of complex soft-tissue defect with ALT flap extended to fascia lata: review of our 12 cases

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Introduction: Reconstruction of extensive complex soft-tissue defect is a difficult challenge. This is particularly true at joint levels, when extensive resections can occur for oncological purposes, invasive infections or traumatic defects. The primary goal is to restore the function by preserving a sufficient range of motion (ROM), with a stable soft-tissue coverage in a one-stage procedure. Antero-Lateral Thigh (ALT) composite flap including fascia lata (and eventually vastus lateralis muscle) allows for restoration of function and three-dimensional soft-tissue coverage.

Methods: According to prospectively maintained database, we performed a retrospective investigation of «ALT-functional» flaps on 12 consecutive patients operated between November 2007 and January 2016. 10 flaps were raised as free flaps, while 2 as distally pedicle flap. All cases underwent functional reconstruction (ALT composite flap extended to vascularized fascia lata to reconstruct articular joints and tendons). There were 7 male and 5 female patients, with an age range from 21 to 87 years old (mean age 47). 6 patients presented complex defects at the knee, 4 at the ankle (Achille's tendon), 1 at the forearm-ellbow region and 1 at the hand level. In 6 patients the defect results from a tumor excision. In the others, the defect was due to trauma, burn or infection. Size of the defects range from 30 to 250 m². Follow-up ranged from 12 to 98 months (mean 44 months). Functional analysis included range of motion compared to contralateral side, force assessment, flap sensation. Functional scores were established according to DASH and the LEFS score (for upper and lower limb evaluation, respectively).

Results: No total flap failure occurred. 3 partial necrosis occurred (one due to venous congestion of a distally based ALT flap, and 2 for pedicle kinking and external compression, respectively). One infection led to reoperation for washing and local debridement. No complications occurred at the donor site, which was closed primarily in all cases. Operation time, excluding the demolitive procedure ranged from 2 to 8 hours. Average healing time was 16 days, with a mean hospitalization time of 23 days (range 13 to 41 days).

In the Achilles tendon and heel defects reconstruction, the mean loss of ROM between dorsiflexion and plantarflexion reporting to the contralateral side was 10%. 2 patients out of the three could walk and climb stairs without any support, while 2 presented mild deficits. The 6 patients with knee joint reconstruction presented a mean ROM of 105° (normal value=0-120°), all of them reported that they were able to perform their normal activities of daily living without difficulty. No ROM limitation were described in patients with elbow and hand (extensor tendons) reconstruction.

Among the 10 lower limb reconstructions, only 2 patients complained for relevant disabilities according to Lower Extremity Functional Scale, in activities such as climbing stairs or squatting on floor. All the patients were satisfied regarding the aesthetic outcome.

Conclusion: The ALT flap extended to vascularized fascia lata provides a particularly effective and resistant tissue that can be molded and shaped to reconstruct and support tendinous structures. This can restore functional and structural integrity after complex defects in a single stage procedure. Eventual complications can be decreased with particular care in placing the anastomotic site, avoiding external compressions at the articular level.

Management of post-burn sequelae: the tanguieta experience

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In the sub-Saharan Africa, each year a vast number of patients are hospitalized after burn injuries that require serious medical attention.

During the rehabilitation phase of the burn, focus should be placed on how to prevent and treat several complications that include hypertrophic scarring, keloids or contractures.

In the developed countries, the use of multidisciplinary approach and clinical protocols of the specialized burn centers has severely diminished the incidence of post-burn sequelae. However, in Africa it is really common that a large number of these burns will lead to permanent disfigurement and long-term disability.

Since 2010 the department of plastic surgery of the Valais hospital has established a close collaboration with the hospital of 'St.Jean de Dieu' at Tanguieta, Benin. During our annual missions, a large number of post-burn cases is confronted. We present some overall statistics as well as a series of impressive cases and their management.

Technique and indications for abdominal flap in inguinal defects: easy and safe alternative option in selected cases

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Introduction: We present a case series of 7 consecutive patients presenting inguinal defects where standard reconstruction techniques by TFL or ALT flap was contraindicated. Abdominal flaps were used as alternative technique for inguinal coverage. Pearls and pitfalls are described, together with surgical outcomes.

Materials and Methods: 7 consecutive patients were referred to our plastic surgery unit, presenting an inguinal defect after either vascular or orthopaedic surgery. 6 patients out of 7 presented advanced lower limb arthropathy and partial or absolute contraindications for profunda artery network-based flaps. All had moderate to severe abdominal adipocutaneous excess (mean BMI 36.7). Abdominal flaps were performed in a classical abdominoplasty fashion without umbilical transposition. Perioperative data and outcome factors were collected in a prospectively maintained database.

Results: Soft tissue coverage was effective in all cases (average follow-up 6 months). 1 patient developed distal venous congestion requiring debridement and flap readvancement. All other patients recovered uneventfully with an average healing time of 24 days (range 16-40) and a mean operative time of 103 minutes (range 60-120).

Discussion and conclusion: abdominal flaps can be a useful and easy solution for inguinal/groin coverage, with reproducible outcomes when applied in selected cases. In our experience, main indications are profunda artery network compromise, poor thigh tissue quality, sufficient abdominal laxity. Relative contraindications such as previous open abdominal surgery and non collaborative patients should be considered before abdominal flap choice.

Plastic-reconstructive sarcoma surgery: a review of 144 cases

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Introduction: The management of rare tumours like sarcomas is difficult. Sarcoma surgery can range from simple tumour excision to difficult reconstructive procedures. In this study we present our experience with sarcoma surgery.

Material and Methods: A retrospective single centre review of all sarcoma patients operated by the Department of Plastic and Reconstructive Surgery, Cantonal Hospital St. Gallen between January 2011 and December 2015 was performed. Patient's characteristics as well as tumour-histopathology and tumour localisation were assessed. Tumour onset namely primary, locally recurrent or metastatic disease was determined. Furthermore the surgical procedures were analysed.

Results: On the whole 144 cases of sarcoma were operated by the Department of Plastic and Reconstructive Surgery and further analysed. 52% of the cases were female patients. The mean age was 59±17 ranging from 18 to 93. Most of the tumours were localized at the lower extremities (44%), followed by upper extremities (22%). 61% had primary, 32% locally recurrent and 7% metastatic disease undergoing surgical procedure. Concerning tumour pathology the most common type was liposarcoma in 25% of the cases, followed by pleomorphic sarcoma in 15% and leiomyosarcoma in 12%.

Conclusion: In sarcoma surgery one is faced with several challenges: rare tumour, different types of tumour characteristics and tumour localizations all over the body. As Plastic surgeons have a lot of experience in soft tissue surgery, sarcoma surgery especially soft tissue sarcoma surgery should be performed by experienced Plastic and Reconstructive surgeons affiliated to a multidisciplinary sarcoma centre.

Multi-organ injuries following lightning strike: a case report highlighting the importance of a multi-disciplinary approach

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Introduction: Lightning strike victims are considered high-energy trauma patients. Cutaneous burns could be associated to other organ injuries requiring emergency and life-support treatment. We report here the case of a lightning strike victim who presented with burns as well as cardiologic and neurologic complications.

Case report: A 75-year-old woman was struck by lightning as she was standing under a tree. On arrival of the emergency physician the patient was conscious, disoriented and hemodynamically stable. Clinical examination revealed punctiforme 1st and 2nd degree burns going from the left ear to the left toe, corresponding to about 6% of the total body surface area. The burn injuries were treated conservatively, and healed by 2 weeks.

Blood tests showed an elevated serum creatinine level. The cardiac assessment showed a right bundle branch block associated with depolarization abnormalities, a troponine T elevation and left ventricular dysfunction. All these signs were compatible with stress cardiopathy of Tako-Tsubo. With supportive measures (e.g. angiotensin-converting enzyme inhibitors and diuretics) hemodynamic parameters and renal function normalized within 24 hours. Echocardiography at the 4 weeks' follow-up showed no abnormalities.

The patient also presented dysesthesia on both legs and walking difficulties, which were managed with physiotherapy. At the 6 weeks' follow-up neurologic symptoms had subsided, but lumbar pain persisted.

Conclusion: Manifestations to the skin, neurologic, cardiologic, musculoskeletal, and renal systems may occur after lightning strike. A multi-disciplinary management and long-term follow-up are therefore essential.

The role of pancreatic stone protein as early marker for infection and mortality in burns: preliminary data

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Background: In patients with major burns, early diagnosis of infection/sepsis is paramount as mortality increases by 7.6% for each hour that appropriate antimicrobial therapy is delayed. Pancreatic stone protein (PSP) has recently emerged as promising diagnostic and prognostic marker in the clinical field. Though, PSP time course and its predictive value regarding infection and mortality have not been studied in severely burned patients so far.

Methods: In a prospective cohort of unselected burn patients we analyzed blood samples to elucidate diagnostic/prognostic accuracy of serum PSP levels over a 14 days time course. In addition, we investigated whether PSP levels were influenced by age, TBSA or ABSI.

Results: Preliminary data of 26 burn victims (mean age: 48±20 years, median TBSA: 25% (IQR 21.7), median ABSI: 7 (IQR 3)) showed PSP levels not to be influenced by age, TBSA or ABSI at admission to hospital. Receiver Operating Characteristic (ROC) curve demonstrated PSP to have significant predictive power at day 3 after trauma to delineate patients with infections from those with an uneventful course (AUC: 0.83, 95%-CI: 0.61-1.0). Non-survivors as opposed to survivors showed significantly higher PSP serum levels at admission.

Conclusion: In an unselected population of burn patients serum PSP levels were significantly associated with the presence of infection and mortality irrespective of the patients' age, TBSA and ABSI. In that way, PSP might serve as helpful biomarker for timely identification of patients in need of anti-infectious treatment. Likewise, PSP may serve as predictive value for fatal outcome leading to early ethical considerations.

Hydradenitis suppurativa: a review of literature for the medical and surgical management and examples of cases taken care of in the CHUV, Lausanne

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Hydradenitis suppurativa is a disease mostly under-recognised by medical doctors and thus far too often underdiagnosed, leading to a bilated mangement of advanced cases.

This disease is a chronic, inflammatory, painful, recurrent and debilitating skin disease, impairing quality of life to a great extent. It is characterized by recurrent abscesses, sinus tract formation and scarring in the apocrine gland-bearing areas of the body. The most common affected sites

are the axillae, inframammary, inguinal and anogenital regions. An average prevalence of 1% has been reported in Europe.

The most widely used clinical classification is the Hurley staging system containing 3 stages: stage I is characterized by recurrent abscesses without sinus tract formation, stage II has one or more sinus tracts separated by normal skin and stage III is defined as multiple interconnected sinus tracts without normal skin in between.

We will review the pathogenesis, the etiology and the actual medical therapies.

Surgical therapies most widely used are excision of individual lesions and total excision of lesions and surrounding hair bearing skin in stage III diseases. The method of reconstruction has no influence on recurrence and should be chosen with respect to the size and location of the excised area. Closure can be done by secondary healing. The reconstruction can be made by primary closure or by immediate or delayed skin grafting with split thickness skin grafts. Local fasciocutaneous flaps can also be used with excellent results.

The end of the presentation will be used to show pictures of operated cases in our department with different surgical techniques of reconstruction.

Korrektureingriffe nach bariatrischer Chirurgie: kostspieliges Dilemma der Krankenkassen
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Kaum ein Gebiet der Chirurgie hat in jüngerer Vergangenheit einen solchen Hype erlebt wie die bariatrische Chirurgie. Unter definierten Kriterien wird sie von den Krankenkassen bezahlt – im Gegensatz zu den oft belastenden Folgen des massiven Gewichtsverlustes an der Körperform.

In den letzten 30 Monaten haben sich 118 PatientInnen in unserem Zentrum für körperperformende Korrekturingriffe vorgestellt. Davon wurde bei 89 ein Krankheitswert angenommen und ein Antrag auf Kostenübernahme gestellt. Die Entscheidung des Vertrauensarztes kann auch auf dem Gerichtsweg kaum angefochten werden. Die Gerichte stützen eine sehr restriktive Bewilligungspraxis, obwohl objektive Kriterien fehlen. Dies führt zu grotesk divergierenden Beurteilungen, wie hier an Beispielen gezeigt werden soll. Von den 89 Gesuchen wurden 43 akzeptiert, 38 abgelehnt, 8 sind noch nicht entschieden. Von den bewilligten Eingriffen sind 39 durchgeführt worden, vorwiegend Abdominalplastiken (23) und Body Liftings (9).

In der Literatur (der Genfer Arbeitsgruppe) kann belegt werden, dass die operative Korrektur der Körperform den Gesamterfolg der bariatrischen Behandlung stabilisiert. Abgelehnte kör-

performende Eingriffe sind umgekehrt ein Faktor, der Rückfälle in ein undiszipliniertes Essverhalten provoziert. Das Dilemma, dass Vertrauensärzte Einzelfälle subjektiv entscheiden, das System aber eine einheitliche Anwendung verlangt, ist nur mit einer Überarbeitung des Leistungskataloges der Krankenkassen zu lösen. Eine Formel zur Übernahme der Korrekturen, etwa nach stabiler Reduktion um 70% des Übergewichts, muss ebenso im Katalog festgeschrieben werden wie die Kassenpflicht der bariatrischen Eingriffe selbst.

Reconstruction of perineoscrotal and medial thigh defects after Fournier's gangrene by combination of bilateral pedicled anterolateral thigh (ALT) flaps with sartorius muscle flaps: a case report

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Introduction: Fournier's gangrene represents an acute and life-threatening condition, in which surgical treatment of the underlying necrotizing fasciitis can result in extensive defects of perineoscrotal and inguinal soft tissues. Functional and cosmetic reconstruction of these defects remains a surgical challenge.

Material and Methods: In the present case, an extensive defect of the perineoscrotal area and bilateral upper medial thigh due to Fournier's gangrene was reconstructed by combination of pedicled local perforator flaps and muscle flaps.

Results: After repeated surgical debridement, a 61-year old male patient with Fournier's gangrene presented with a perineal, scrotal and medial thigh defect of 27 × 30 cm² with exposure of the femoral vessels. Bilateral pedicled anterolateral thigh (ALT) flaps measuring 30 × 9 cm² based on two perforators and bilateral sartorius muscle flaps were employed for inguinal vessel coverage and soft tissue reconstruction. Besides minor impairment of wound healing, which was covered by split-thickness skin grafts, the postoperative course and follow-up of 6 months were uneventful with complete survival of the flaps and without any major recipient or donor site morbidity.

Conclusion: Bilateral pedicled ALT flaps combined with bilateral sartorius muscle flaps may represent a safe option for reconstruction of extensive inguinal and perineoscrotal defects with satisfactory functional and cosmetic results.

Is the artery or the vein more important? An evaluation of the influence of arterial inflow and venous outflow on perforator flap survival in a rat model

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Introduction: Perforator flaps have revolutionized reconstructive surgery due to their robustness and reduced donor site morbidity. However, especially with locally transposed perforator flaps, many surgeons have witnessed an increased rate of partial flap necrosis. Whether this is due to venous congestion or to arterial insufficiency has been the focus of a continuous debate. Our aim was to determine the most important factor for perforator flap survival.

Material and Methods: In 35 male Lewis rats a posterior thigh perforator flap was raised and the pedicle was dissected up to its origin from the femoral vessels. The rats were assigned to a control (C) group (n=10), an arterial supercharged (A) group (n=10), an arterial delayed (AD) group (n=5), a venous delayed (VD) group (n=5) and a venous delayed – arterial supercharged (VD-A) group (n=5) depending on arterial, venous or combined ligation of the femoral vessels distal to pedicle emergence. All flaps were monitored with Laser Doppler peri- and postoperatively and digital planimetry was performed on POD 7.

Results: The rats in the arterial supercharge, arterial delay and venous delay – arterial supercharge groups showed significantly higher flap survival (A: 78.13%, AD: 71.85% and VD-A: 74.34%) compared to the control and venous delay groups (C: 56.56%, VD: 60.36%). Laser Doppler evaluation paralleled these findings with increased flow measurements in the middle and distal portion of the flaps.

Conclusions: Arterial inflow was the main determinant for increased flap survival in a perforator flap model in the rat. The venous outflow appears to be able to adapt to increased inflow regardless of pedicle manipulation.

Outcome analysis of free flap salvage in outpatients presenting with microvascular flap compromise

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Introduction: Extensive flap salvage attempts are routinely performed in late-onset flap vascular crisis despite less successful flap survival rates.

Materials and Methods: A retrospective review on patients with vascular flap compromise after hospital discharge were identified amongst 7443 free flaps performed on 7128 cancer patients at a single institution between 01/2001 and 03/2015.

Results: Out of 7443 free flap reconstruction, 856 flaps (11.5 percent) were taken back to the operating room. Thereby, 261 flaps (3.5 percent) suffered from microvascular compromise, of which 110 patients experienced total flap loss. Seventeen flaps (0.23 percent) in 17 patients were identified as flaps with vascular compromise after hospital discharge. Amongst these 17 patients, 10 breast cancer patients and 7 head and neck cancer patients suffered from take-back after hospital discharge due to vascular flap compromise. Take-backs in these 17 patients were performed median 10 days (4 – 107) after free flap reconstruction. Nine (90%) out of 10 breast patients and two (28.6%) out of 7 head and neck patients with vascular flap compromise after hospital discharge underwent extensive flap salvage attempt. 16 (94.1%) experienced total flap loss and 1 (5.9%) breast patient suffered from partial flap loss.

Conclusion: Most of outpatients with microvascular flap compromise undergo extensive flap salvage surgery with low flap salvage rate. Our study suggests considering immediate second line reconstruction than extensive flap salvage procedures.

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Results of plastic reconstruction in patients treated for soft tissue sarcoma following the introduction of an interdisciplinary sarcoma centerDoris Babst¹, Radu Olariu¹, Frank M. Klenke², Attila Kollár³, Mihai A. Constantinescu¹¹ Plastic and Hand Surgery, Inselspital, University of Bern² Orthopaedic Surgery and Traumatology, Inselspital, University of Bern³ Medical Oncology, Inselspital, University of Bern

Introduction: The treatment of soft tissue sarcomas is challenging and contemporary treatment strategies have a direct impact on clinical outcome. Reconstructive surgery is often mandatory. Therefore we analyzed the different plastic reconstructions, the subsequent surgeries and complications in a single interdisciplinary sarcoma center.

Patients and Methods: Retrospective evaluation of sarcoma patients undergoing surgery between January 2015 and May 2016 in the service of Plastic and Reconstructive Surgery within the certified sarcoma center. Pathology, indications, surgical therapy and outcome were evaluated.

Results: A total of 32 patients (17 men and 15 women); with a mean age at operation of 64 years (range, 16 – 88 years) were included. Five groups of pathological subentities were defined. Wide resection was performed in all patients with intraoperative radiotherapy being administered in 13 patients (39%). Wound closure with advancement, local flaps or split skin grafts was achieved in 10 patients (31%). Distant and pedicled flaps were used in 16 patients (50%). Free flaps were performed in 6 patients (19%). The surgical revision rate was 12.5% and only in pedicled flaps.

Conclusion: These early results support the necessity for an interdisciplinary surgical approach including plastic surgical techniques and reconstruction algorithms for the treatment of patients with soft tissue sarcoma.

A novel flap-design of a vertical rectus abdominis muscle (VRAM) for univariate anastomotic assessment in a pig modelMbaidjol Z¹, Fischlin C¹, Olariu R¹, Constantinescu M¹, Leckenby J¹¹ University Hospital of Bern, Department of Plastic, Reconstructive, Esthetic and Hand

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Introduction: Free tissue transfer is an important tool for reconstructive surgeons. Animal models currently used, do not allow specific investigation of the clinical and hemodynamic performance of the arterial anastomosis. We aimed to create a model that mimics free tissue transfer but would focus on the arterial anastomotic assessment, without additional bias of a venous anastomosis.

Material and methods: A VRAM flap based on the left Epigastrica Cranialis artery (ECA) was raised on 6 large white pigs. In each case, the right pedicle was clipped. A subcutaneous tunnel was created and the right ECA was passed to the left. An arterial end to end microsurgical anastomosis was then performed between the right ECA and the left. The Epigastrica Caudalis veins were left untouched while all perforators were ligated. Perfusion of the flap was confirmed clinically, by laser Doppler and by flowmetry recordings.

Results: Anatomic dissection revealed constant anatomy with the xiphoid notch as the landmark for the location of the EC vessels. With the exception of 1 flap that failed due to a hematoma, all flaps survived. Average pre-operative proximal flow was 11.16 ml/min (SD 3.6 n = 5) versus 12.74 ml/min distal (SD 4.1 n = 5) and 4.4 ml/min proximal (SD 2.0 n = 5) versus 4.2 ml/min distal (SD 2.1 n = 5) post-op. Laser Doppler assessment demonstrated adequate tissue perfusion of the skin island flap.

Conclusion: This study shows that this modified VRAM flap is a viable procedure to simulate a free flap transfer and assess the arterial anastomosis alone, while maintaining the flap's innate venous drainage. This method can allow the investigation of new arterial anastomosis techniques and devices.

The use of indocyanine green (ICG) to identify sentinel lymph nodes (SLN) in malignant melanoma: a clinical feasibility studyKim H¹, Leckenby J.¹, Olariu R.¹, Constantinescu M.¹¹ Department of Plastic, Reconstructive and Aesthetic Surgery, Inselspital Bern

Introduction: Sentinel lymph nodes (SLN) sampling is the standard of care in intermediate thickness melanoma (Breslow >1mm). Technetium Tc99m is generally used to identify the SLN pre-operatively by lymphoscintigraphy (LS). Further localization of the SLN is achieved intra-operatively using coloured dyes. Despite this combination of techniques, false negative rates are as high as 32%. Recently, intra-operative application of Indocyanine green (ICG), a nonradioactive fluorescent dye, has gained popularity in the identification of SLN in breast and endometrial cancers. We present our experience on the use of ICG and near infrared imaging for SLN mapping in malignant melanoma.

Methods: ICG is injected intradermally around the primary tumor and lymphatic vessels with corresponding SLN are imaged with an infrared fluorescent camera system (Iridium Visionsense TM). The ICG-detected SLN was compared to the classically Tc99m marked SLN.

Results: ICG is easily applicable and identifies SLN with a comparable detection rate as traced with Tc99m. Intra-operatively, ICG facilitated localization of the SLN without requiring the use of gamma probe; the rate of congruency was high between fluorescent SLNs and radioactivity.

Conclusions: ICG appears to be a promising alternative tracer to classical lymphoscintigraphy when used to identify SLN in patients with malignant melanoma. ICG fluorescence imaging potentially reduces the risk of radiation exposure. Prospective clinical studies are necessary to evaluate the reliability and accuracy of ICG-based SLN mapping.

Short-term delivery of fibrin-bound VEGF protein in osteogenic grafts ensures both increased vascularization and efficient bone formation

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Introduction: Spontaneous vascularization of large osteogenic constructs based on bone marrow derived mesenchymal stem cells (BMSC) is too slow for progenitor survival in vivo. Here we hypothesized that short-term delivery of VEGF protein, immobilized in fibrin gels, may improve graft vascularization without impairing bone formation.

Material and methods: Recombinant VEGF was engineered with a transglutaminase substrate sequence (TG-VEGF) allowing covalent cross-linking into fibrin hydrogels. Human BMSC were embedded in the fibrin gels and seeded on apatite granules. Bone formation and vascularization were assessed 1, 4 and 8 weeks after subcutaneous ectopic implantation in nude mice. Retrovirally transduced BMSC stably expressing VEGF were used as control.

Results: At all times, constructs containing fibrin-bound TG-VEGF with naïve BMSC or VEGF-expressing BMSC displayed increased vascularization compared to the controls with naïve BMSC only. After 4 weeks fibrin gels were completely degraded in all conditions. However, while bone formation at 8 weeks was severely impaired with VEGF-expressing BMSC as expected, fibrin-bound recombinant TG-VEGF allowed the formation of bone tissue as efficiently as naïve BMSC alone. Interestingly, TG-VEGF improved the bone formation kinetics, as TG-VEGF constructs contained more bone than even naïve controls after 4 weeks.

Conclusion: In conclusion, VEGF effects on promoting vascularization and bone resorption can be uncoupled by short-term delivery of recombinant VEGF protein, providing an attractive and clinically applicable strategy to ensure both robust vascularization and bone formation.

Gas-forming necrotizing soft tissue infection of the perineum – at the crossroads of specializations and entities: a case report

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Introduction: Necrotizing soft-tissue infection (NSTI) is a life threatening disease posing a challenge to the surgical team and requiring rapid surgical intervention. Trauma, diabetes, chronic renal failure and perforation of the gastrointestinal tract are known risk factors. Proximity of bowel and urinary orifices further complicates the management of NSTI in the perineum.

Methods: We report the case of a perianal gas forming NSTI originating from a pararectal abscess in an 82 year old male suffering from a 12 hour long crush-syndrome.

Results: The patient was referred from an external institution with suspected NSTI. An MRI showed intramuscular gas. Sepsis, pain out of proportion, palpable emphysema and erythema led to suspect a perineal NSTI. Patient's instability prompted immediate surgical debridement. Subcutaneous emphysema and necrosis of fat and musculature were found, a 5x13cm pararectal abscess drained. Early joint management by plastic and visceral surgeons included simultaneous debridement and drainage. Stool was managed by colostomy after stabilization at day 2. Negative-pressure wound therapy was installed after clinical improvement at day 3. Microbiology samples verified *C. perfringens*. The defect was covered with a partial-thickness skin graft at day 36. Bowel anatomy was restored 6 months after referral. The patient is currently able to ambulate independently again.

Conclusions: Early interdisciplinary care and aggressive stool management can lead to normal bowel function and minimal residual impairment of gluteal stability. Consecutive skin grafting is an option in patients with large defects and significant comorbidities and can result in stable coverage.

«Shift of Power» – Autoaggressives Verhalten nach plastisch-chirurgischen Eingriffen

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Einleitung: Im klinischen Alltag sind wir häufig mit Patienten, die unter einer Borderline-Persönlichkeitsstörung leiden, konfrontiert. Schnittverletzungen, Verbrennungen und Manipulation an Wunden sind die uns bekannten Bilder der Selbstmutilation. Autoaggressive Handlungen in einem uns bis anhin nicht bekannten Ausmass erlebten wir bei zwei Patienten, die sich ursprünglich mit dem Wunsch nach Korrekturen bei vorangegangenen, auswärtig durchgeführten, plastisch-chirurgischen Eingriffen in unserer Sprechstunde vorstellten.

Material und Methoden: Wir zeigen den Fall eines Patienten, der sich in einer autoaggressiven Handlung beide Ohren abtrennte, sowie einer Patientin, die sich selber, ein seit 20 Jahren einliegendes Brustimplantat entfernte. Beide Patienten waren vorgängig in unseren Sprechstunden, mit dem Wunsch Korrekturingriffe durchzuführen und warteten auf eine Kostengut-sprache. Es gelingt uns so, diese Fälle vollumfänglich mit Anamnesen, Befunden und Bild-dokumentationen aufzuarbeiten. Eine kritische Diskussion dieser Ereignisse und des weiteren Vorgehens muss hier interdisziplinär zwischen plastischen Chirurgen und Psychiatern erfolgen.

Resultate und Diskussion: Anhand von Literaturstellen möchten wir sowohl die Krankheitsbil-der der Patienten erläutern, als auch Empfehlungen zum Umgang mit solchen Patienten in der Sprechstunde und in einer Notfallsituation zur Diskussion stellen. Hätte man die Situation voraussehen oder gar verhindern können? Ist dem Wunsch des Patienten in der Akutsituation Folge zu leisten? Hätten wir im Nachhinein anders handeln müssen? Sollte vor der Durchfüh-rung elektiver Eingriffe mehr Wert auf die psychiatrische Anamnese gelegt werden?

Are the classical radiological silicone implant rupture signs still reliable?

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Significant improvements in quality and durability have been achieved from silicone implants of the 1th to the 5th generation. The protocol with radiological signs for implant rupture has been established for CT-evaluation in the late 80's. MRI has become the method of choice in diagno-sis of patients with breast implants offering the best sensibility and specificity for detection of implant rupture. We questioned the reliability of the classical radiological signs when used to detect silicone implant ruptures of the 5th generation.

All patients with positive radiological signs or intraoperative proven ruptures of 5th generation silicone implants were included.

A total of 5 patients (5 implants) undergoing operative revision of their breast implants during the last 5 years were included. All removed silicone implants were 5th generation with a mean age of 6.6 years (min 4, max 13). 4 were placed subpectoral. 4 showed preoperatively at least one radiological sign of intracapsular implant rupture such as Linguini (2), noose (3) and subcapsular line(1). Intraoperatively, 4 implants showed no rupture (4 false positive) and one preoperatively radiologically deemed intact implant was ruptured (1 false negative).

Although MRI technics have rapidly improved the classical signs for detection of intracapsular silicone implant ruptures appear to be of little diagnostic value in the investigated patients with 5th generation silicone implants. Larger scale investigations are mandatory to determine whether the classical implant rupture signs such as Linguini, noose, droplet and subcapsular line are still of value in the preoperative decision process.

Perioperative endocrine therapy and complications in microvascular breast reconstruction: a review of the existing literature

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Aim: As experience with microvascular free flaps expands and the use and duration of endocri-ne therapy (ET) grows, a new discussion is intensifying regarding the benefit of temporarily suspending hormonal therapy in the perioperative period. Thromboembolic events are a well-known complication of ET, especially in this period can be detrimental for the reconstructed breast. **Methods:** This review aims to further elucidate this issue and provide recommendations based on the existing studies to date. The database PubMed and Medline were searched up to May 28th, 2016 using free text and MeSH terms for «tamoxifen», «aromatase inhibitors» and «breast reconstruction». **Results:** Following exclusion of ineligible papers, 4 retrospective studies including 1785 patients met the criteria for inclusion. All were original studies in which all thromboembolic events following microvascular free flap breast reconstruction were evalua-ted. All studies compared tamoxifen-users to non-tamoxifen users. 3 out of 4 studies found no significant difference in thromboembolic complication rate in patients using tamoxifen versus non-users. One study did reveal a higher number of microvascular flap complications in tamo-xifen-users. Following weighted analyses including all patients, the odds of thromboembolic complications in tamoxifen-users was 1.021 compared to non-tamoxifen users. **Conclusion:** Gi-ven the increased baseline risk of thromboembolic events in patients taking tamoxifen, suspen-ding treatment in the perioperative period around microvascular free flap breast reconstruction should be considered.

Risk factors in DIEP breast reconstruction: does abdominal wall thickness predict compli-cations?

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Introduction: Breast reconstruction with free deep inferior epigastric perforator (DIEP) flap en-joys popularity. Risk factors, including high BMI, had been suggested to increase post-ope-rative complications. We hypothesize that complications could rather been associated with the abdominal wall thickness per se than with the BMI. Therefore we compared factors associated with DIEP flap complication

Methods: We analyzed retrospectively the data of 106 consecutive patients who underwent DIEP flap for breast reconstruction in our department from 2007 to 2013. Patients having a simple course were compared to patients with postoperative complications. To assess the cor-relation between abdominal wall thickness and complications, we measured subcutaneous fat

tissue thickness on three supra-umbilical points and three sub-umbilical, using pre-operative angio-CTscan. Supraumbilical thickness was correlated to abdominal complications and infraumbilical thickness to flap complications.

Results: 26 patients presented 30 post-operative complications: 13 abdominal complications (6 delayed wound healing and 7 seroma) and 17 flap complications (3 DIEP failure and 14 partial flap necrosis). Age, BMI, abdominal wall-thickness, or diabetes were not associated with postoperative complications. Only pre-operative radiotherapy represented a statistical significant parameter predicting flap failure ($p=0.03$, $OR=4.03$). The intraoperative parameters such as length of ischemia nor hemoglobin values did not show any significance.

Conclusions: Neither subcutaneous fat tissue thickness nor BMI predicts post-operative complication. Radiotherapy prior to surgery, in contrast, is a risk factor in DIEP flap surgery.

Timing and frequency of immunomodulatory cytotherapy with adipose-derived stem cells influences graft survival and immunological outcome in vascularized composite allotransplantation

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Introduction: Cellular therapies show promise as alternative to drug immunosuppression in vascularized composite allotransplantation (VCA), but clinical translation must consider collateral effects of immunosuppressive drugs. We investigate the influence of timing/frequency of adipose derived mesenchymal stem cell (AD-MSC) administration on allograft survival, immunological outcome and transplant vasculopathy.

Methods: Rat AD-MSCs were assessed in vitro for immunomodulatory function and proliferation/viability under immunosuppressive drug influence. Lewis rats received full-mismatched limbs from Brown Norway rats and received standard conditioning and immunosuppression (tacrolimus). AD-MSCs (1×10^6 cells) were injected on postoperative day (POD) 1, POD 4 or repeatedly on PODs 4, 8, and 15. Microchimerism and regulatory T-cell function were investigated in detail and graft arteries were histologically assessed for intimal thickness.

Results: Immunosuppressants had detrimental effects on AD-MSC viability/proliferation in vitro. Single early and repetitive AD-MSC injection resulted in 50% long-term graft acceptance without chronic drug immunosuppression, whereas single treatment on POD 4 was comparable to untreated controls. Chimerism levels were associated with induction of immunocompetent regulatory T-cells ($CD4+CD25^{high}FoxP3+$). Intimal thickness was significantly increased in rejecting grafts compared to AD-MSC-treated grafts.

Conclusion: Immunosuppressive drugs influence viability/immunosuppressive function of AD-MSCs, thus adjusted timing/frequency of administration may determine immunomodulatory outcome. AD-MSC therapy is promising for attenuation of graft vasculopathy.

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