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Breast Implant Illness: A Prospective Cohort Study of 50 Breast Implant Explantations

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Aim/Purpose: To examine possible causes and outcomes of Breast Implant Illness

Introduction: “Breast Implant Illness” (BII) is a poorly defined cluster of non-specific symptoms, attributed by patients to being caused by their breast implants. These symptoms can include joint pain, skin and hair changes, concentration and fatigue. Many patients complaining of BII symptoms are dismissed as psychosomatic. There are currently over 10 000 peer reviewed papers on breast implants but at the time of writing only 2 papers discussing this entity. At the same time mainstream media and social media are exploding with non-scientific discussion about BII.

Method: We have prospectively followed 50 consecutive patients, self-referring for explantation due to “Breast Implant Illness”. We analyzed their pre operative symptoms and followed up each patient with a Patient Reported Outcome Questionnaire (PROQ). All implants and capsules were, if possible, removed enbloc. Explanted implants were photographed. Implant shell and capsule sent for histology and microbiological culture.

Results: BII symptoms were not shown to correlate with any particular implant type, surface or fill. There was no significant finding as to duration of implant or location of original surgery. Chronic infection was found in 36% of cases with Proprionibacterium acnes the most common finding. Histologically, synoviocyte metaplasia was found in a significantly greater incidence than a matched cohort that had no BII symptoms ($p<0.01$). 82% of patients reported partial or complete resolution of BII symptoms on PROQ. None of the 50 patients would consider having breast implants again.

Conclusions: The authors believe BII to be a genuine entity worthy of further study. We have identified microbiological and histological abnormalities in a significant number of patients identifying as having “Breast Implant Illness”. A large proportion of these patients have reported resolution or improvement of their symptoms in patient reported outcomes. Improved microbiology culture techniques may identify a larger proportion of chronic infection and further investigation of immune phenotypes and toxicology may also be warranted in this group.

Relative Motion Orthoses for Zones IV-VII Extensor Tendon Repairs: A Comparison to the Norwich Regime.

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Objectives/Aims: The purpose of this study was to evaluate the outcomes of using a digit based relative motion splinting regime in comparison to the more traditional Norwich regime following uncomplicated long extensor tendon repairs in zones IV-VII.

Methods: All eligible patients, in a single centre, with open extensor injuries from zones IV- VII in 2015 were rehabilitated using the Norwich Regime, static forearm based palmar splint and early active mobilisation. From 2016 to 2018 all patients were commenced on a Relative Motion (RM). All obtained data was recorded in a prospectively maintained database. Twenty three patients (25 fingers) were treated using the Norwich Regime. Fifty eight patients (64 fingers) were treated using the yoke splint regime. Descriptive statistics were used to characterise the patients according to gender, finger injured, extensor zone of injury, side injured, hand dominance and occupation. Primary endpoints were Total Active Motion of the digit (TAM) percentage and grip strength percentage at discharge. The secondary endpoints were TAM degrees at discharge, TAM degrees at 4 weeks, grip strength measured in kg/F at discharge, number of hand therapy sessions needed, day of discharge from hand therapy post injury, number of consultant clinic appointments and days to return to work. Statistical significance was set at value of $p<0.05$.

Results: The mean TAM percentage at discharge was higher in the RM group 97.88% +/- 3.37% (n=64) versus 77.76% +/- 15.5% (n=25). The RM group had an average of 42.57 degrees more TAM at discharge compared with the Norwich group (RM 239.85 vs Norwich 197.28, $p<0.0001$). At 4 weeks patients in the RM group had on average 79.99 degrees more TAM compared with the Norwich group (RM 191.10 vs Norwich 111.11, $p<0.0001$). All patients in the RM group achieved a score of “Excellent” or “Good” in TAM Kleinert Classification at Discharge (³100% = excellent, ³75% - 100% = good). The patients in the RM cohort achieved a higher mean percentage of grip strength at discharge, 88.85% versus 65.82% in the Norwich group. Norwich group needed 4.34 more Hand Therapy sessions on average than the RM group ($p=0.0001$, 95% CI: 2.38 to 6.29). The Norwich group were discharged 38 days later than the RM group ($p<0.0001$, 95% CI: 22.89 to 53.26). The Norwich group needed 1.69 more clinic appointments ($p=0.0001$, 95% CI: 0.90 to 2.47).There was no incidence of tendon rupture or tenolysis in either group.

Conclusion: This study demonstrates that Relative Motion splinting can be used safely while consistently producing significantly superior results to Norwich regime. Our data

shows that patients using Relative Motion, achieve higher TAM scores and grip strength than the Norwich Regime. They also required fewer sessions with the hand therapist, fewer outpatients appointments and hand an earlier return to work.

A New "Jl" Technique: Simplification and Standardization of the Pattern in the Breast Reduction / Mastopexy and in the Planning of the DIEP Flap

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Breast reduction surgery is one of the most requested interventions in plastic surgery [1]. Over time, many surgeons studied the technique, in order to overcome its limits, in particular, focusing their attention on skin incision and glandular remodeling [2]. To date, the choice of the pedicle is considered independent from the cutaneous excision pattern, and for this reason many authors focused on the comparison between the individual components, skin or pedicle. There is an actual controversy between vertical mammoplasty and the traditional key hole methods of breast reduction [3-4]. In recent years, many authors proposed a different L technique, associated with different possibilities of pedicles, some of which appear particularly elaborate and unwieldy. The aim of the present study is to report a new JL technique and the results of the follow up of 45 patients operated during the last 6 years, using this method. Aged between 28 and 75 years with an average age of 42 years. In 25 cases, these patients had bilateral breast hypertrophy, in 20 cases the deformations were asymmetric. All the patients underwent a thorough individualized preoperative evaluation to establish a correct diagnosis, excluding malignancies, and to determine the level of ptosis according to Regnault [5]. Age, weight, height, BMI, jugular-nipple distance, amount of breast tissue removed, degree of patient satisfaction were recorded and photos were taken before and after the operation. We associate a L-cutaneous incision with a superomedial pedicle and a glandular resection according to Hall Findlay. The procedure is a safe and reliable with only about 7% risk of complications, good breast shape and projection, short and inconspicuous scars accompanied by 90% of excellent patient satisfaction This technique allows obtaining excellent results in any degree of mammary reduction, ptosis and in breast autologous planning in postmastectomy breast reconstruction. It is an easy to learn and excellent method to be taught in university hospitals.

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Lymphatic Flow-Dynamics Under Compression Therapy: Photoacoustic Imaging Study

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Purpose: Compression therapy plays an important role in a conservative treatment for lymphedema. However, it is difficult to assess how the lymph flows in real time when elastic bandage is wrapping. We evaluated how compression therapy for healthy extremities affect lymphatic flow by using photoacoustic imaging.

Method: Indocyanine green was subcutaneously injected into the hands or feet, and lymphatic vessels and veins were observed in a video with the photoacoustic imaging device (PAI-05) for healthy volunteers. First, we evaluated the lymphatic flow at rest and subtle motion without pressure. Then, a roll-type film dressing was wrapped around like the elastic bandage to simulate compression therapy. Finally, lymphatic vessels and veins at the same site were evaluated as well as during non-compression.

Result: Under compression, there was less change at rest compared with non-compression, but lymphatic pumps were observed more frequently during subtle movement.

Discussion: Photoacoustic imaging is a new device that can observe blood vessels and lymphatic vessels three-dimensionally in high resolution of 0.2 mm. Evaluation of lymphatic flow under elastic bandage has not been possible with conventional modalities, however it is possible to evaluate lymphatic flow under compression in real time with transparent dressing materials because light can reach the subcutaneous skin and the generated ultrasound can be detected.

The results of this study revealed that the frequency of lymphatic transport was improved by mild exercise under compression therapy. It was objectively supported that the effectiveness of exercise therapy under compression for patients with lymphedema.

Factors Associated with Return to Work after Surgical Treatment for Carpometacarpal Osteoarthritis of the Thumb; A Cohort Study

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Objective: The percentage of patients that return to work after surgery and the duration until a return to work is an important outcome for patients, surgeons and society. The aim of this study is twofold: first to identify factors contributing to the time to return to work after CMC-1 OA surgery, and second to calculate the costs of lost productivity.

Methods: CMC-1 OA patients who had undergone surgery and had paid employment were included. Time to RTW was measured by questionnaires at 6 weeks and 3, 6 and 12 months after the surgery. A Cox survival analysis was used to estimate the return to work. The association between costs of lost productivity and work characteristics was measured with a regression analysis. The human capital method was used to calculate the costs of lost productivity on patient and population level.

Results: In total, 629 CMC-1 OA patients with a mean age of 55 years were included. After one year 79% of the patient returned to work. The median time to RTW was 12 weeks (25% - 75%: 6 – 22 weeks). Compared with light physical labor, patients with moderate (HR 0.538) or heavy physical labor (HR 0.499) had a longer period of RTW. An increase of 10 points of the MHQ work (HR 1.21) and MHQ hand function of the

unaffected side at baseline (HR 1.11) were associated with RTW with. Patients who were operated on the dominant hand also had a longer period of RTW (HR 0.745). The total CMC-1 OA related costs of lost productivity were estimated at €11.574 (25%-75%: €5.787 – €21.220) on patient level and €59.7 million on Dutch population level per year.

Conclusion: In the first year after surgery for osteoarthritis of the thumb, 79% of the patients returned to work and 50% of the patients returned to work within 12 weeks. Factors associated with return to work were workload, whether the dominant hand was treated or not, the Michigan Hand Questionnaire work score and, hand function of the unaffected side at baseline. The total costs of lost productivity in the first year after surgery was €11.574 on patients level, resulting in €59,7 million on population level per year.

Topical Moistening of the Wound Surface with Tranexamic Acid 25 Mg/Ml to Reduce Bleeding: The Norwegian Method.

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Introduction: Intravenous prophylactic use of tranexamic acid (Cyklokapron®) is widespread in surgery with high volume bleeding, as it reduces bleeding by about 1/3[1]. Fear of possible systemic adverse effects prevent use in all surgery. Topical use of tranexamic acid can provide a sufficient concentration at the bleeding site while avoiding systemic effects. Topical use is however off-label.

Methods: The Plastic Surgery Unit at St Olav’s University Hospital, Trondheim, Norway has used a simple topical moistening of the wound surface with TXA 25 mg/ml prior to closure a as a preventive measure to prevent bleeding since 2012. The method has gained popularity among Norwegian plastic surgeons. We describe the details of the method and the clinical effect on postoperative bleeding in two randomized controlled trials, bilateral reduction mammoplasties (n=30)[2] and mastectomies (n=202)[3], respectively.

Results: Moistening a wound surface with 25 mg/ml TXA significantly reduced bleeding as measured by postoperative drain production at 24 h by approximately 1/3 in both studies ($p<0.001$), which equals the results from intravenous administration. Total drain output was also significantly reduced by 1/3. Re-bleedings occurred in two reduction mammoplasties and eight mastectomies; of the total ten re-bleedings, nine were in the

placebo groups ($p<0.05$). There were no differences regarding late hematomas, infections or wound ruptures. In mastectomy patients undergoing axillary clearance, late seroma formation needed aspiration more often and was significantly more voluminous in the TXA group ($p=0.008$), but there was no increase in chronic seroma.

Conclusion: Moistening a wound surface with 25 mg/ml TXA is a low cost and simple preventive measure to reduce postoperative bleeding and possibly prevent postoperative re-operations due to hematoma without any risk of systemic effects. It may also prevent re-bleeding and reduce drain output. We recommend this as a routine intervention for most wounds in plastic surgery. Local adverse effects of topical use should be further explored.

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Septal Suture Repair with Orbital Fat Repositioning (Stick-out Procedure) for Lower Blepharoplasty

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Background: Among the major changes of the lower eyelid caused by aging, eye bags and tear trough deformity are the main targets of surgical treatment. Orbital fat repositioning is a good method to correct eye bags and tear trough deformity simultaneously. However, the weakened orbital septum remains weak and the orbital fat is not preserved in orbit. Septal suture repair strengthens orbital septum so that the bulging is flattened and orbital fat is preserved in orbit, but tear trough deformity is not corrected. Therefore, we devised a method (stick-out procedure) to simultaneously perform septal suture repair and fat repositioning during lower blepharoplasty.

Methods: A retrospective chart review was made of all patients who underwent lower blepharoplasty with stick-out procedure between 2015 and 2018. A total of 289 patients were included. 107 patients underwent transconjunctival approach and 182 patients

underwent subcilliary approach. After the preseptal space is dissected, the origin of the orbicularis oculi (the tear trough ligament), and the orbicularis retaining ligament was released. The bulging orbital fat pad was then repositioned to the tear trough. Then septal suture repair was performed by suturing the arcuate expansion of the capsulopalpebral fascia to the arcus marginalis, except for the site where the fat repositioning was performed. As a result, only the minimum volume of fat needed to correct the tear trough was sticking out from the gap between the repaired arcuate expansion and repositioned.

Result: All patients demonstrated a significant rejuvenation of the lower lids with elimination of the eye bags and tear trough deformity. There were no permanent major complications, such as ectropion or prominent sunken. Mild sunken occurred in 4 patients (1.3 precent), and one patient (0.3 percent) experienced mild lid retraction that resolved spontaneously. 2 patients (0.6 percent) underwent minor revision because of undercorrected eye bags and tear trough deformity. Except these cases, there was no recurrence of eye bags or tear trough deformity during follow up of up to 42 months. Approximately 98 percent of the patients were satisfied.

Conclusion: Eye bags and tear trough deformity are effectively corrected by the stick-out procedure, which perform the septal suture repair and fat repositioning simultaneously during lower blepharoplasty. Since fat preservation and orbital septal reinforcement are achieved at the same time, the lower eyelid contour remains stable longer with low recurrence than the conventional methods.

A One-Size-Fits-All Approach to Pressure Ulcers: Whole-Buttock Fasciocutaneous Advancement Flap

Presenter: Guan-Ming Simon Feng, MD, Plastics and Reconstructive Surgery, E-Da Hospital, Kaohsiung, Taiwan

Background: Despite its ancient history, treatment of pressure ulcer remains a challenge mainly due to its high incidence of recurrence. We want to present our experience on the surgical reconstruction of pressure ulcers using a large whole buttock fasciocutaneous flap that is easily designed, suitable for decubitus ulcers of various location and size, and easily recycled in the event of a recurrence.

Methods: A 6-year retrospective review of patients (from January 2013 to Dec 2018) who underwent our whole buttock fasciocutaneous advancement flap for gluteal pressure sore was performed. Data were collected on patient demographics and surgical outcomes. The key steps that vary from the traditional rotation flaps include elevation of a large, seemingly oversized flap to achieve tension free closure, avoiding placing incisions over bony prominences (e.g. ischial and trochanteric regions), placing the V-Y type closure wound in the posteromedial thigh, and use of closed incisional negative wound therapy post operatively for 1 week.

Results: 72 patients underwent this surgical technique for 91 flaps between 2013 and 2018 for coverage of all types of buttock pressure ulcers (sacral, Ischial and trochanteric). 65% healed without need for further operation. The average follow-up period for all flaps was 24 months. 12 of the 91 flaps was performed for coverage of recurrent pressure ulcers.

Conclusion: The same technique can be used for defects at various location, covering very large size defects, and is easily recyclable in case of recurrence. It is also technically simpler to perform than other reconstructive options. We recommend this one-size-fits-all whole buttock fasciocutaneus flap to reconstruct gluteal decubitus ulcers in selected patients.

The Banking of the Remaining Costal Cartilage from the First Stage Auricular Reconstruction in Subcutaneous Pocket for Using in the Second Stage.

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Background: Regarding the second stage of Nagata's auricular reconstruction technique: The cartilage graft framework was harvested from the 6th rib which banked under the skin[(1)] and also cartilage from the remaining cartilage which put back into preserved perichondrium pocket.[(2)] However, re-harvesting rib cartilage in scar area had the risk of pleural injury. And free diced cartilage graft augmented in the subcutaneous tissue was widely used in cosmetic operations with proof of viability and acceptable result.[(3, 4)] So banking of remaining cartilage from the first stage ear reconstruction in the subcutaneous pocket could be facilitated the ease of operation for the second stage and reduce risk of pleural injury. The length of harvested costal cartilage graft in the first stage could be shorten and reduced donor site morbidity. This study was to propose the new idea of managing the remaining costal cartilage from the first stage for the ease of second operation.

Methods: The retrospective review the patient completely operated 2 stages auricular reconstruction and follow up at least three months from March 2013 to July2018 in Ramathibodi hospital. In the first stage auricular reconstruction with Nagata's technique: when the framework fabrication was finished and the donor site was repaired in layers, the subcutaneous pocket was created in the dependent area near chest incision with the size of pocket fit to amount of the leftover cartilage. The big pieces of cartilage were assembled together and firstly banked in the pocket. The smaller ones were packed tightly around the big ones in order to facilitate one piece cartilage healing. In second stage, the previous chest incision was used to harvest the banked cartilage.

Results: In total, 10 cases were operated with this technique. There were no donor site complication. The cartilage harvesting was quicker and easier than harvested the rib

cartilage and the patients fell less post-operative pain. The gross appearance of the cartilage was normal and united together as expected which was ready to fabricate into the semi-lunar shape. After gaining some experience, we can shorten the length of rib cartilage graft in the first stage.

Conclusion: The subcutaneous banking of the remaining reduced operation time and effort of surgeon. The patients also fell less pain at the donor site.

Immediate Reconstruction of Breast Conserving Surgery Defects with Locoregional Perforator Flaps: Long Term Oncoplastic Results to Expand Reconstructive Arsenal

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Introduction: The algorithm for reconstruction of mastectomy defects, either modified radical or sparing mastectomies, have been well established. Besides, most of the patients undergoing breast conserving surgery receive either no reconstruction or volume displacement techniques, fat grafting and local flaps. There is not much data on optimal flap coverage in immediate reconstruction of breast conserving surgery defects. This clinical case series presents different examples of locoregional perforator flaps with long term follow up.

Patients and Methods: From August 2013 to April 2018, a total of 46 patients have undergone breast conserving surgery for breast cancer followed by immediate reconstruction with locoregional perforator flaps. Patients underwent reconstruction with thoracodorsal artery perforator flap (TDAP) were excluded since there have been substantial amount of data on this flap. The age of the patients ranged between 22 and 58 with an average of 47. The BMI of the patients ranged between 19 and 43 with an average of 27,3. Operative time, approximate volume of resected specimen, rate of flap survival, duration of hospitalization, rate and type of complications, rate of local recurrence and reported rate of cosmetic results have been evaluated. Average duration of follow up was 24 months ranging between 18 and 36 months.

Results: There were 19 lateral thoracic artery perforator flaps (LTAP), 5 anterior intercostal artery perforator flaps (AICAP), 11 lateral intercostal artery perforator flaps (LICAP) and 11 superior epigastric artery perforator flaps (SEAP). Fourty perforator propeller flaps and 6 perforator plus flaps have been used. One LTAP flap suffered necrosis of half of its volume and reconstructed with a latissimus dorsi flap. One LICAP flap suffered distal partial necrosis and subsequent wound care. There were no local

recurrence of any patient during follow up period. Two patients developed metastatic disease.

Conclusion: Using locoregional perforator flaps provides sufficient volume in for immediate reconstruction of breast conserving surgery defects with minimal donor site morbidity. Avoidance of muscle dissection resulted in decreased postoperative pain and immediate mobilization together with increased level of comfort. With use of locoregional perforator flaps in breast reconstruction, the position of the patient does not change during surgery and resultant scars remain in and close to the breast. The color match of the skin is near identical. The texture of the transferred tissue is similar to native breast tissue. These flaps provide the advantage of being similar in terms of color, texture and thickness of transferred tissue. The volume of flaps usually proportionate to the general body habitus of the patients. Taken together, these flaps fulfill the fundamental of “replace with like” principle.
Use of locoregional perforator flaps also means, thoracodorsal system flaps will remain as salvage options together with lower abdominal flaps in case of completion surgery or complication management. From this point of view, use of locoregional perforator flaps can be introduced as an addition to autologous reconstruction of breast conserving surgery defects.

Secondary Rhinoplasty: Epidemiology and Our Way of Surgical Treatment.

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Secondary rhinoplasty: epidemiology and our way of surgical treatment. Secondary rhinoplasty is one of the most popular surgeries in facial plastic surgery. According to the literature, up to 25% of patients turn to a plastic surgeon for secondary rhinoplasty. The urgency of this problem has iatrogenic etiology The main principles that we use are complete revision of the existing structures of the nose, excision of fibrous tissue, reconstruction of the supporting structures of the nose using cartilage autografts and prevention of postoperative cicatricial deformity. Purpose of the study Study of iatrogenic nasal deformities, their main causes, ways of prevention and methods of nasal structure reconstruction Materials and methods 60 secondary rhinoseptoplasty were performed using costal cartilage autograft this year. The essence of our method proposed is an integrated approach to secondary rhinoseptoplasty: The first stage is the classical V-inverted transcolumellar incision and vestibular incisions. A revision with the

excision of all the scar tissue of the nose is performed. Then we assess the integrity of all cartilage structures after the previous operation. Due to the detailed preoperative examination of the patient, the deficiency of septal cartilage is assessed according to CT scan. In this regard, the operation was performed by 2 surgical teams. Simultaneously, the second team of surgeons carried out the costal cartilage harvesting. In most cases we prefer to use the cartilaginous part of the XI rib. Rib harbesting is carried out from an incision of 1-2 cm length. Muscles are not intersected, but only pulled to the sides. The costal cartilage undergoes full skeletonization, which enables to preserve perichondrium. This minimizes the risk of complications associated with pneumothorax. In addition, due to this, there is no postoperative contour deformity at the site of costal cartilage harvesting. We use a stitchless technique with the imposition of a special glue, which gives excellent aesthetic results. With the help of cartilage autograft, septal extension graft is formed, as it is a reliable method for restoring the supporting structures of the nose. After completing the main stage of the operation, we camouflage the dorsum of the nose with diced cartilage. Since diced cartilage retains its matrix, it helps to avoid the cartilage lysis. Fixation is performed with sutures. After that, we put cast and fix silicone splints to the nasal septum. The patient wears cast and silicone splints for 7 days, after that cast langet is placed for another 7 days. Such prolonged compression has a positive effect on the rehabilitation period. This tactic, according to our observations, provides the most predictable and favorable result. Results In all cases of applying an integrated approach, we managed to achieve a good aesthetic and functional result not only from a medical point of view, but also from the point of view of patients. Findings An integrated approach to secondary rhinoseptoplasty is an effective and reliable method. This technique, in our opinion, allows achieving a better aesthetic and functional result and reducing the risk of possible complications.