

**Results:** SLNs were successfully visualized in all patients (detection rate 100%). The mean number of fluorescence SLN and radioisotope SLN were 2 and 1.9. Ten patients were found to have lymph node metastasis pathologically. All of them were recognized by the fluorescent method (Sensitivity 100%). There were 4 SLN identified by the ICG fluorescence method that were not detected by the RI method. All pathologically negative. There were not SLN detected by the RI method not identified by the ICG fluorescent method.

**Conclusions:** Our preliminary data show that ICG fluorescence imaging method allowed transcutaneous imaging of lymphatic vessels and SLN detection in a feasible way with acceptable sensitivity comparable to the RI method. In order to validate this technique, at the European Institute of Oncology, we have started an equivalence comparative study that compares the RI detection method with the ICG fluorescence imaging detection method.

568

Poster

### Nipple Sparing Mastectomy – Sant'Andrea Hospital Experience

M. Lo Russo<sup>1</sup>, A. Lombardi<sup>1</sup>, S. Maggi<sup>1</sup>, C. Bartone<sup>1</sup>, V. Vitale<sup>1</sup>, I. Gentili<sup>1</sup>, L. Bersigotti<sup>1</sup>, G. Lazzarin<sup>1</sup>, C. Amanti<sup>1</sup>. <sup>1</sup>Ospedale San'Andrea, Breast Surgery, Roma, Italy

**Background:** Despite in the last 20 years, with the introduction of conservative techniques, breast surgery has become less mutilating, mastectomy is indicated in approximately 30% of cases. It is indicated not only for large invasive carcinoma but also for multicentric tumors and intraductal carcinoma. The loss of the nipple is experienced like a mutilation.

Can we preserve the NAC?

**Materials and Methods:** From December 2004 to September 2011 we performed 103 nipple sparing mastectomy (NSM) with immediate breast reconstruction.

Selection criteria included women with preoperative diagnosis of breast cancer, tumour at least 1 cm from the NAC without bloody discharge and NAC retraction.

NSM was performed through inframammary fold incision. In few cases we used skin incision above the tumour or periareolar incision.

**Histological Results:** invasive carcinoma in 70 cases, intraductal carcinoma in 21 cases, malignant phyllodes tumor in 2 cases, negative for carcinoma (prophylactic mastectomy) in 10 cases.

We removed the nipple in 8 cases because the histological examination of the retroareolar tissue was positive.

Local recurrences: 2 (1.9%).

No recurrences were observed in the NAC.

Total necrosis of the nipple: 1/103 patients (0.9%).

Partial necrosis: 6/103 patients (5.8%).

Local infection: 1 (0.9%).

**Conclusions:** In several retrospective studies the involvement of the nipple ranges from 0 to 58%, some of these case studies relate to old cases with large tumors. The use of these techniques has had a positive impact on psychology and quality of life of patients with breast cancer but longer follow-up is needed.

569

Poster

### Effectiveness of a New Ultrasonic Device in the Axillary Dissection

M. Lo Russo<sup>1</sup>, A. Lombardi<sup>1</sup>, S. Maggi<sup>1</sup>, C. Bartone<sup>1</sup>, I. Gentili<sup>1</sup>, V. Vitale<sup>1</sup>, L. Bersigotti<sup>1</sup>, G. Lazzarin<sup>1</sup>, C. Amanti<sup>1</sup>. <sup>1</sup>Ospedale San'Andrea, Breast Surgery, Roma, Italy

**Background:** With the introduction of Biopsy of Sentinel Lymph Node (SNLB), cases of axillary dissection have become generally more technically complex than before.

In these cases the e ultrasonic device is very useful. The aim of this study is to estimate the effectiveness of the new ultrasonic device in the reduction of seroma, haematic loss and time of surgery.

**Materials and Methods:** Since March 2008 to April 2011 we enrolled in our study 200 patients with breast cancer requiring an axillary dissection (positive Lymph-nodes at the beginning or after sentinel-node biopsy).

We randomized the patients in two arms (A and B).

A: 105 axillary dissection using ultrasonic device

B: 95 axillary dissection using usual technique.

We recorded the following data of the patients enrolled: age weight, height BMI, pre and post operative value of hemoglobin.

A closed suction drain was placed; it was removed in the second or in the third postoperative day.

Drain volume was daily recorded. We analyzed data from a subgroup (140) of patients underwent axillary dissection without breast reconstruction (A82, B58).

**Results:** The median age of the sample was 56 (range 33–89). The BMI calculated was 20.06 (range 19.53–42.97). We had 9/82 (10.9%) seroma in the A group and 7/58 (12.3%) in the B group. Clinical seroma was treated

by needle aspiration and medication with steroid. We recorded reduction of bleeding and of time of surgery in the A group. We calculated the difference of value of pre and post operative Hemoglobin (Pre-post op HB0 and time of surgery in a subgroup. We obtained the following data:

A arm (82 pt): 1.01 Pre–post op HB

B arm (58 pt): 1.46 Pre–post op HB

**Conclusions:** The results are encouraging. This new ultrasonic device is ergonomic, comfortable. It allows to dissect, coagulate, cut and it reduces damage of vital structures. It's very useful and safe in patients with pacemaker where electrosurgery can not be used.

570

Poster

### National Audit of Breast Cancer Specimen Orientation Markers

A.J. Volleamere<sup>1</sup>, D. Finch<sup>1</sup>, C.C. Kirwan<sup>1</sup>. <sup>1</sup>University South Manchester Hospital, Breast Surgery, Manchester, United Kingdom

Accurate orientation of breast wide local excision specimens is vital if re-excision of positive margins is required. In the UK, national health breast screening programme (NHSBSP), clearly recommend that breast screening units have a protocol for marking specimens to aid pathologists with specimen orientation.

A postal questionnaire was sent to the lead breast pathologist of all breast units identified in England. Questions addressed the method and protocol of orientation. Do such protocols vary within units? What is the frequency of need to contact the operating surgeon for clarity, and whether pathologists would prefer a national, standardised protocol?

Of units orientating specimens with sutures (n=88), the most commonly used method was short length superior, medium length medial and long length lateral by 52% units. Of units orientating specimens with clips (n=22), the most common form of orientation was, one clip superior, two lateral, three inferior and 4 medial, 27%.

Pathologists in 47% units are unclear whether there is a protocol for surgical excision such as 'all tissue from skin to pectoral fascia.' Four (3%) pathologists report the need to contact surgeons for clarification of specimen orientation more frequently than 'rarely'.

Three pathologists highlighted the risk of specimen mis-orientation with similar techniques (eg suture / clip) but different protocols (eg short superior versus short superficial), particularly when considering rotating surgical and pathology trainees or locums, who may not know or follow local protocols.

There was a clear wish by nearly half of all responding pathologists to have a nationally standardised system for specimen marking.

We suggest that specimen orientation protocol should form part of NHSBSP guidelines, with sutures orientated: short length superior, medium length medial and long length lateral and clips orientated: one clip superior, two lateral, three inferior and four medial {the most commonly used methods}. However it should be acknowledged that units can adopt their own system if preferred.

We suggest that all breast surgery units should have specimen marking protocols clearly visible in theatres where breast surgery is performed. There should be increased awareness of specimen orientation protocols amongst trainees and locums, as these surgeons are likely to be at increased risk of breaking protocol.

571

Poster

### Results and Complications of Autologous Latissimus Dorsi Flap Breast Reconstruction

H. Fakhry<sup>1</sup>, H. Hamza<sup>1</sup>, B. Ahmed<sup>1</sup>, M. Mostafa<sup>1</sup>, G. Amira<sup>2</sup>. <sup>1</sup>South Egypt Cancer Institute Assiut University, Surgical Oncology Department, Assiut, Egypt; <sup>2</sup>National Cancer Institute Cairo University, Surgical Oncology Department, Cairo, Egypt

**Background:** Use of an autologous latissimus dorsi (LD) flap in breast reconstruction accounts for a flexible and natural look of reconstructed breast and has maintained a strong popularity because of its ease of harvest, reliability, and ability to provide additional prosthetic coverage. Different complications (hematoma, seroma, flap necrosis, infection, hypertrophic scarring, and postoperative back pain) linked to this type of breast reconstruction. The aim of this study was to evaluate the complications and aesthetic outcome of (LD) flap breast reconstruction after breast cancer surgery.

**Materials and Methods:** From January 2009 till January 2011, 40 patients underwent breast reconstruction using (LD) flap with a follow-up period ranged from 6 to 18 months. Patients with small to medium sized breasts underwent complete reconstruction by extended (LD) flap after mastectomy either subcutaneous or skin sparing mastectomy while patients with large pendulous breast underwent Augmentation by (LD) miniflap after conservative surgery by wide local excision (WLE) with safety margin. All patients gave their informed consent for the procedure and were aware of the potential complications and the possibility of secondary procedures.

**Results:** The ages of the patients in our study ranged from 25 to 65 years old. 28 (70%) patients underwent (WLE) and reconstruction with

(LD) miniflap while modified radical mastectomy, skin sparing mastectomy and subcutaneous mastectomy were done in 2(5%), 4(10%) and 6(15%) patients respectively with complete reconstruction by extended(LD) flap. The complication rates were noted as follows: partial flap necrosis in 4 patients (10%), wound breakdown in 2 patients (5%), lymphorrhea in 2 patients (5%), seroma in 6 patients (15%), some of patients showed a minor deformity in the back which disappeared with time and most patients had temporary limitation of shoulder movements postoperatively but all recovered completely within few weeks. No patients underwent secondary nipple and areola reconstruction. No local recurrence or distant metastasis in any patient during the follow up period of our study. Evaluation of aesthetic results by patients revealed that 30 patients (75%) were deeply satisfied, 6 patients (15%) were satisfied and 4 patients (10%) were poorly satisfied. While, surgeon aesthetic evaluation was good in 28 patients (70%), satisfactory in 8 patients (20%) and fair in 4 patients (10%).

**Conclusion:** (LD) flap breast reconstruction is a very versatile, safe and satisfactory technique with a success rate of over 99% and is even suitable for high-risk patients. Donor site seroma is the most common complication and can be treated by repeated aspiration in outpatient clinic. Latissimus dorsi (LD) miniflap is the mainstay of breast reconstruction after partial mastectomy to repair defects in the lateral quadrants and the upper inner pole with low donor site morbidity and deep patient satisfaction.

572

Poster

### Do Surgeons See Benefit of Operating in Stage IV Breast Cancer?

A. Chaudhry<sup>1</sup>, Z. Rayter<sup>1</sup>. <sup>1</sup>Bristol Royal Infirmary, Breast Surgery, Bristol, United Kingdom

**Introduction:** Historically, patients with established Stage IV disease have been referred for primary palliative management with surgery usually limited to locoregional control. Survival with metastatic breast cancer has improved over the past few decades, but there is concern that resection of the breast primary could disrupt immunologic balance and propagate tumour seeding.

**Method:** A postal survey of 260 Consultant members of the Association of Breast Surgery (UK) aimed to define factors that influence the decision to surgically treat the breast primary with regards to tumour biology and metastatic variables. Opinions on factors they felt would influence tumour burden, immunosuppression leading to increased tumour burden and whether long term survival could be achieved with aggressive treatments was questioned.

**Results:** Eighty two (32%) responded. Units saw 100–800 new breast cancers and 5–200 metastatic cancers per year. Ninety percent of surgeons would consider surgery of the primary in Stage IV disease. The younger age group were favourable, with 75.6% treating age 20–50 years; 66% age 50–60 and 18.3% treating the 70–80 year olds with none considering patients aged more than 80 years. Diabetes and previous myocardial infarction negatively influenced surgeons 36.6% and 26.8% respectively as did 39% if patients had either previous chemotherapy or radiotherapy. No more than a third were influenced by tumour biology factors; 61% were positively influenced by the sole presence of bone metastases and 55% if only one distant site was affected.

The majority (86.6%) believe that duration of response to systemic therapy should influence the decision for surgery. Sixty percent did not know of any evidence relating to durable benefit of treating patients with metastatic disease and 36.6% believed that removing the primary tumour significantly eradicated a source of metastatic spread. More than two thirds (68.3%) didn't believe that removing tumour bulk had any impact in restoration of immunosuppressive factors. Nearly 50% believed that both debulking surgery increased efficacy of systemic therapy and that surgery and anaesthesia caused significant immunosuppression. Only 24.3% felt operative therapy can achieve complete remission and long-term survival.

**Conclusion:** Definitive answers in the absence of a large multicentre clinical trial, leave this issue controversial. Evidence to date suggests that an aggressive approach to surgery with curative intent in selected, physically fit patients with well-controlled metastatic disease with systemic therapy is at least a reasonable option for consideration. The oncology community remains divided and management of these patients warrants the perspectives of the multidisciplinary team.

573

Poster

### Sentinel Lymph Node Dissection in Breast Cancer Relapse After Previous Axillary Surgery

O. Cordoba<sup>1</sup>, F. Perez-Ceresuela<sup>1</sup>, V. Peg<sup>2</sup>, I. Roca<sup>3</sup>, T. Cortadellas<sup>1</sup>, C. Mendoza<sup>1</sup>, M. Espinosa-Caro<sup>1</sup>, J. Rodriguez<sup>1</sup>, I. Rubio<sup>1</sup>, J. Xercavins<sup>1</sup>. <sup>1</sup>Hospital Vall D'Hebron, Gynecology, Barcelona, Spain; <sup>2</sup>Hospital Vall D'Hebron, Pathology, Barcelona, Spain; <sup>3</sup>Hospital Vall D'Hebron, Nuclear Medicine, Barcelona, Spain

**Background:** Use of sentinel lymph node biopsy (SLN) is still controversial in patients with ipsilateral breast cancer recurrence (IBTR) and a previous

axillary surgery (axillary lymph node dissection or SLN). Although previous reports have showed extra-axillary drainage in 40–60% of patients, the clinical significance of this drainage is unknown.

**Material and Methods:** Between 2008 and 2011, SLN was performed in 40 patients with IBTR and previous axillary surgery. The day before surgery <sup>99</sup>Tc nanocolloid was injected retroareolar in the affected breast and injected intratumorally when the recurrence was after a mastectomy. Lymphoscintigraphy and SPET-TC were obtained in all patients. During surgery, the sentinel node was identified using a gamma probe. Sentinel lymph node was excised at the discretion of the surgeon when considered technically feasible. In patients with previous SLN, an ALND was performed after the SLN. The study was approved by the IRB and all patients signed an informed consent.

**Results:** 40 patients were included in the study. In 31 (77%) the initial axillary surgery was an ALND and 9 (23%) patients has had a previous SLN. Median time between first surgery and local relapse was 108 months (range 15–276). In 3 (7%) patients, the recurrence was located in the mastectomy flap and in 37 the IBCR was after a lumpectomy, more frequently in the same quadrant that the initial lumpectomy (34 patients). The identification rate using SPECT-TC was 77% but only in 25 (62.5%) at least one sentinel node was removed. Extra-axillary drainage was recorded in 17 patients by the SPET-TC. In two cases the node wasn't found during surgery because low activity and in 6 cases the surgeon decided not to excise it. In 10 (25%) patients some hotspot was saw in the SPECT-TC but not removed. None of those patients had a relapse after a median follow-up of 12 months. In 5 patients (20%) the sentinel node was positive. Only one patient with previously SLN had a positive node in the second surgery and this was the only positive node. There were no false negative SLN in the patients who had a complete ALND.

**Conclusions:** Although rates of SLN excision in patients with previous axillary surgery and a local recurrence were low, 20% of patients had a positive SLN removed during the procedure that has an impact on the management of this patients.

574

Poster

### Nipple Sparing Subcutaneous Mastectomy (NSSM) as Dual-plane Prosthetic Reconstruction Using the Modified Wise Pattern Mastectomy, Fasciocutaneous Flap and Titan-Polypropylen-Mesh-Interpolation in Women with Macromastia

S. Paepke<sup>1</sup>, E. Klein<sup>1</sup>, J. Etti<sup>1</sup>, M. Niemeyer<sup>1</sup>, H. Bronger<sup>1</sup>, D. Paepke<sup>1</sup>, M. Kiechle<sup>1</sup>. <sup>1</sup>Klinikum Rechts der Isar – Technische Universität München, Gynecology and Obstetrics, München, Germany

**Introduction:** Ablative surgery of voluminous, ptotic breasts poses the problem of implant cover of the lower and lateral two thirds that are not covered by the lifted pectoral muscle. Based on reduction mammoplasty techniques we applied a method that utilizes the excess mammary skin in terms of vertical, lateral, and medial de-epithelialized fascio-cutaneous tissue columns that serve together with a mesh (TiLoop® Bra) as cover for the subpectoral implant.

**Material and Methods:** Between 06/2009 and 09/2011 we performed 10 nipple and skin sparing mastectomies with marked tissue reduction (defined as difference in weight between implant and resected tissue of more than 300 g) in 7 patients. Indications comprise primary and secondary prophylactic as well as 4 nipple sparing mastectomies after neoadjuvant chemotherapy.

**Results:** Mastectomy weights ranged between 325 and 1100 g; implant volumes ranged between 295 and 685 cm<sup>3</sup>. There occurred three partial necrosis of the nipple-areolar complex (NAC) and one partial skin necrosis at the margin of the vertical incision with inverted T cut. Two patients had to be operated on a second time for cosmetic reasons. The overall complication rate was very low.

**Conclusions:** The method described herein using the de-epithelialized excess mammary skin and the advantages of the titanized polypropylene mesh archives stable reconstructions and a safe vascularization of the NAC.

575

Poster

### Subpectoral Implants in Oncoplastic-reconstructive Breast Surgery – Habit or Necessity?

S. Paepke<sup>1</sup>, S. Dittmer<sup>1</sup>, A. Rezaei<sup>1</sup>, E. Klein<sup>1</sup>, M. Kiechle<sup>1</sup>. <sup>1</sup>Klinikum Rechts der Isar – Technische Universität München, Gynecology and Obstetrics, München, Germany

**Introduction:** We perform nipple-sparing subcutaneous mastectomies since 2002. Herein we report on 302 cases, in 107 of which acellular dermis or meshes as tissue interponates were used.

The standard procedure of subpectoral implant positioning with or without caudo-lateral tissue interponates (acellular dermis or mesh) can lead to postoperative problems due to detachment of muscle. Against this