

The area of high-signal intensity correlated with the pathological size of metastases for nodes with metastases ≥ 4 mm in this series.

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Poster

When Mastectomy is Needed – is the Nipple Sparing Procedure a New Standard with Very Few Contraindications ?

L. Fortunato¹, A. Loret¹, R. Andrich¹, L. Costarelli², M. Amini², M. Farina¹, C.E. Vitelli¹. ¹Ospedale S. Giovanni Addolorata, Surgery, Rome, Italy; ²Ospedale S. Giovanni Addolorata, Pathology, Rome, Italy

Background: Nipple sparing mastectomy (NSM) has been recently introduced in surgical practice to improve the esthetic results after breast reconstruction, and to diminish the sense of mutilation for women necessitating mastectomy.

Materials and Methods: 99 NSM were performed in 91 patients (eight cases bilateral) from 2003 to 2011, and were retrospectively analyzed. 81/99 cases were performed since 2009. All patients necessitating mastectomy without clinical evidence of nipple-areola complex (NAC) invasion or retraction, and with a minimal 1 cm clinical and radiological distance of the tumor from the NAC were considered eligible. The NAC was radically dissected, and an intra-operative serial histologic exam of the retro-areolar tissue was performed. No intraoperative radiotherapy was considered.

Results: Median age was 46 years (29–64) and median tumor diameter 1.9 cm (0.5–7). NSM was performed for multifocality (n=57), locally advanced disease (n=31), bilateral cancer (n=3), prophylactic contralateral surgery (n=2), or strong familial history of breast cancer (n=6). Histology was invasive ductal (n=63) or lobular (n=15), in situ (n=7), phylloloides (n=5). A positive N status was present in 34/91 cancer cases (37%). Neoadjuvant chemotherapy was administered to 21/78 invasive cancer patients (27%), while additional 43 patients received adjuvant systemic treatment/ (55%), and 10 patients post-operative chest-wall radiotherapy (13%). NAC was removed for neoplasia after intra-op or post-op histologic exam of the retro-areolar tissue in 14 and in 3 cases, respectively (17%). Only 5/17 of these removed NAC showed histologic evidence of neoplasia (29%), while there was one false-positive of intra-operative exam. Total NAC necrosis occurred in 4 cases (4%), while 10 additional patients (10%) showed minimal necrosis or superficial desquamation, without permanent aesthetic consequences. Breast reconstruction was performed with immediate prostheses (n=61) or with expander-prostheses (n=38). Patients judged their aesthetic result (intention to treat analysis) as excellent (n=28), good (n=51), sufficient/fair (n=16) or insufficient (n=4). At a median follow-up of 23 months there were no loco-regional recurrences, while four patients developed systemic relapse.

Conclusions: With a limited follow-up, NSM appears to be safe when performed by a dedicated team. It can offer improved esthetic results, even in heavily treated or advanced tumors, if there is no evidence of cancer in the retroareolar tissue. Eligible patients can retain their NAC in about 80% of cases even if non-restrictive indications are implemented.

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Image-guided Radiofrequency Ablation in Patients with Primary Breast Carcinoma-a Multicenter Study of 40 Patients-

T. Kinoshita¹, H. Tsuda², T. Hojo¹, S. Asaga¹, J. Suzuki¹, K. Jimbo¹, N. Yamamoto³, T. Fujisawa⁴, D. Takabatake⁵, N. Wada⁶. ¹National Cancer Center Hospital, Surgical Oncology Division, Tokyo, Japan; ²National Cancer Center Hospital, Pathology Division, Tokyo, Japan; ³Chiba Cancer Center, Breast Surgery Division, Chiba, Japan; ⁴Gumme Prefectural Cancer Center, Breast Surgery Division, Gumma, Japan; ⁵Shikoku Cancer Center, Breast Surgery Division, Matsuyama, Japan; ⁶National Cancer Center Hospital East, Breast Surgery Division, Kashiwa, Japan

Background: The authors performed a multicenter study of ultrasound-guided percutaneous radiofrequency ablation (RFA) in patients with T1 and T2 breast tumors 1) to confirm complete thermal injury of tumor tissue and 2) to determine the safety and complications related to this treatment.

Materials and Methods: Forty patients with core-biopsy proven invasive breast cancer, T<2 cm in diameter on ultrasound and MRI were enrolled in this trial. Under ultrasound guidance, the tumor and at least a 5 mm margin of surrounding breast tissue were ablated with saline-cooled RF electrode followed by surgical resection. Pathologic and immunohistochemical stains were performed to assess tumor viability.

Results: Thirty-eight patients completed the treatment. The mean tumor size on ultrasound was 1.38 cm. The mean ablation time was 12 minutes using mean power of 80.0 watts. During ablation, the tumor became progressively echogenic that correspond with the region of severe electrocautery injury at pathologic examination. Of the 38 treated patients, H&E and NADPH viability staining was available for 21 patients and in 21

(100%), there was no evidence of viable cancer cells. H&E and or ssDNA staining were available for another 17 patients. In total, complete thermal injury to the target lesions was recognized in 32 of 38 treated patients (84.2%).

No severe adverse effect on the skin and chest wall were noted.

Conclusion: RF ablation is a promising minimally invasive treatment of small breast carcinomas, as it can achieve effective cell killing with a low complication rate. We are planning a multicenter observational study for RF ablation of small breast carcinomas.

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Is Axillary Dissection Still Useful in Node-negative Early Breast Cancer?

F. Petrelli¹, M. Cabiddu¹, M. Ghilardi¹, K. Borgonovo¹, S. Barni¹.

¹Azienda Ospedaliera Treviglio, Medical Oncology, Treviglio, Italy

Background: Axillary lymph node dissection has traditionally been a routine component of the staging and management of early breast cancer. However, sentinel lymph node biopsy is now accepted as the initial approach for women with early stage breast cancer with clinically node-negative disease. We performed a meta-analysis of contemporary trials comparing axillary lymph node dissection to sentinel lymph node biopsy in patients with early stage breast cancer and pathologically negative sentinel lymph node.

Material and Methods: A systematic review with MEDLINE and EMBASE was conducted with no date restriction and with the following keywords: 'breast cancer', 'axillary dissection', and 'sentinel lymph node'. The search was further limited to randomized, controlled trials published in English. We identified five randomized trials of axillary dissection versus sentinel lymph node biopsy in clinically lymph node-negative early stage breast cancer patients. Meta-analyses were performed for overall and cancer-specific survival, disease-free survival, axillary recurrence, metastatic disease and ipsilateral breast recurrence.

Results: Meta-analyses found no significant difference in overall survival (Relative risk [RR] 1.14; p=0.17; 95% CI, 0.94–1.38), breast cancer-specific survival (RR 1.03; p=0.86; 95% CI 0.75–1.41) and disease-free survival (RR 1.07; p=0.3; 95% CI, 0.94–1.21), distant metastases (RR 1; p=0.98; 95% CI, 0.76–1.32), and ipsilateral breast recurrence (RR 1.64; p=0.34; 95% CI, 0.60–4.47) associated with sentinel lymph node biopsy. In particular a similar rate of axillary and other regional nodal recurrences was seen after sentinel lymph node biopsy (RR 1.37; p=0.34; 95% CI, 0.72–2.60).

Conclusions: Axillary dissection does not confer a survival benefit nor prevent further nodal relapses in the setting of early stage, pathological lymph node-negative breast cancer. Node negativity after standard pathological examination is no longer considered an indication for axillary lymph node dissection.

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Patient Counselling and Socioeconomic Deprivation – Two Factors That Profoundly Influence Immediate Breast Reconstruction Rate After Mastectomy

M. Chakrabarti¹, C.S. Fitzgerald¹, C. Obondo¹, E. Weiler-Mithoff², I.M. Reid¹, S. Stallard³, L. Romics Jr.¹. ¹Victoria Infirmary, Surgery, Glasgow, United Kingdom; ²Glasgow Royal Infirmary, Plastic and Reconstructive Surgery, Glasgow, United Kingdom; ³Western Infirmary Glasgow, Surgery, Glasgow, United Kingdom

Introduction: Majority of breast cancer patients are still treated with mastectomy alone despite the recommendations of current guidelines. It has also been suggested that women from more deprived areas are less likely to undergo immediate reconstruction (IR). We investigated potential pitfalls in patient counselling and consequent decision making contributing to present IR rate in combination with the effect of socioeconomic deprivation.

Methods: 89 consecutive mastectomy patients' data was prospectively collected in a single centre in Glasgow between August 2010 and March 2011. Consultations about IR and patients' acceptance of counselling were analysed in combination with socioeconomic deprivation (Scottish Index of Multiple Deprivation; Fischer's exact test).

Results: While IR was offered to 46% of patients only, the actual IR rate was 27%. Reasons for refusal of IR: lack of interest (10), not feeling ready (2), preference of delayed procedure (2) and fear of delaying adjuvant therapy (2). Reasons were documented in 24% of those whom IR was not offered, while there was no reference at all in 36%. Reasons for not even discussing IR: age (15), co-morbidities (18), both (5), locally advanced cancer (2) with age (2). 26% of patients whom IR was offered were from affluent but 20% from deprived areas. 18% were from affluent but 29% from deprived areas of those who were not offered (p<0.05). 59% of patients

from deprived areas were not offered IR, but the ones who refused had equal distribution.

Conclusions: none of the reasons for not offering IR represent absolute contraindications. Decisions about refusal are based mostly on patients' subjective intuitions. Further, a greater proportion of patients from deprived areas were not offered IR, while from affluent areas were more likely to be offered. We believe, therefore, that detailed counselling about reconstruction of each patient is an absolute necessity.

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Incomplete Tumour Excision Margins During Therapeutic Mammoplasty – Assessment of Predictive Factors

C. Fitzgerald¹, M. Chakrabarti¹, C. Obondo¹, E. Weiler-Mithoff², J. Doughty³, S. Stallard³, L. Romics Jr.¹. ¹Victoria Infirmary, Surgery, Glasgow, United Kingdom; ²Glasgow Royal Infirmary, Plastic and Reconstructive Surgery, Glasgow, United Kingdom; ³Western Infirmary Glasgow, Surgery, Glasgow, United Kingdom

Introduction: Pathologically clear tumour resection margins are particularly important during therapeutic mammoplasty (TM), since re-excisions may not be oncologically safe. Therefore, most patients with incomplete margins will undergo completion mastectomy. In this study our aim was to identify predictive factors for incomplete excisions in TM.

Methods: Data of 62 patients who underwent TM were retrospectively analysed. Patients' and tumour characteristics and operative techniques were correlated with assessment of pathological margins (Fischer exact and t-tests).

Results: 11 of 62 patients (17.7%) had incomplete pathological margins on final histology. Incomplete tumour resection margins correlated with pathological whole tumour size (incomplete: 36.7 mm [12–62] vs. complete: 25.5 mm [8–55]; $p=0.023$), presence of multifocal cancers (incomplete: 5/11 vs. complete: 5/51; $p=0.012$) and presentation (incomplete: 11 symptomatic vs. complete: 19 screening, 22 symptomatic; $p=0.005$). Application of intraoperative specimen X-ray favoured complete excision, too (spec. X-ray: 12.5% incomplete vs. no spec. X-ray: 20%). However, there was no statistical association found with patients' age, BMI, tumour location, radiological tumour size, techniques of TM, weight of excised specimen or tumour grade.

Conclusions: Although the above patient number is relatively low, our data suggest that more precise oncosurgical planning is advised in case of large and multifocal cancers. Perhaps routine use of intraoperative specimen X-ray would facilitate complete excision during TM.

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Ultrasound-guided Lumpectomy is Associated with Clear Resection Margins in Palpable Breast Cancer

H. Karanlik¹, N. Tenekeci², E. Yavuz³, S. Kurul¹. ¹Istanbul University Institute of Oncology, Department of Surgical Oncology, Istanbul, Turkey; ²Istanbul University Institute of Oncology, Department of Radiology, Istanbul, Turkey; ³Istanbul University Istanbul Medical Faculty, Department of Pathology, Istanbul, Turkey

Background: Palpation-guided lumpectomy often results in an unnecessarily wide resection of adjacent healthy breast tissue, while the rate of tumor-involved resection margins is still high. The purpose of this study was to evaluate ultrasound guided surgery for palpable breast cancer with comparing the standard palpation-guided surgery in terms of the extent of healthy breast tissue resection, the percentage of tumor-free margins, and cosmetic outcomes.

Materials and Methods: Patients with breast cancer undergoing lumpectomy with using ultrasound were included. Ultrasound margins measured intraoperatively were prospectively recorded and compared with pathology margins. A cohort of 80 women who underwent palpation-guided lumpectomy as used for a comparison group. Data included patient age, BMI, menopausal status, tumor type, size and location, N stage, tumor grade, the presence of lymphovascular invasion and multifocality, and receptor status. Intraoperative findings and cosmetic outcomes were also analysed.

Results: A total of 84 women underwent US-guided lumpectomy, and 80 women underwent palpation-guided lumpectomy. There were no difference between 2 groups with respect to patient demographics and tumor characteristics. The rate of re-excision was 17% for palpation-guided surgery group, and 6% for US-guided surgery group ($p=0.03$). There was good correlation between closest margins recorded by US and pathology margins ($r=0.76$, $p=0.01$). Comparing resection volume with calculated from detailed postoperative pathology reports, we found that the volume of resection was significantly larger in the palpation guided group despite the similar size of tumor ($p=0.048$). Cosmetic outcome of surgery was

equivalent between groups. Fifty-five of 60 patients (92%) in the palpation-guided lumpectomy group and 67 of 71 patients (94%) in the US-guided group has been rated the cosmetic outcome good or excellent.

Conclusions: Ultrasound-guided lumpectomy for palpable breast cancer is a simple, convenient, and accurate technique to ensure adequate margins while keeping the resection volume to a minimum. Most importantly, US-guided surgery decreases the need for second surgeries. Just as US has become a standard tool of the breast surgeon's office practice, we propose the role of intraoperative US during excision of palpable breast tumors as well.

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The Fleur-de-lys Modification for Latissimus Dorsi Flap Breast Reconstruction

S.F.C. Ledwidge¹, L.J. Whisker¹, R.P. Burgess¹, K. Cox¹, A.D. Baildam¹. ¹The Nightingale and Genesis Prevention Centre, University Hospital of South Manchester and The Christie NHS Foundation Trust, Manchester, United Kingdom

Background: The fleur-de-lys modification of latissimus dorsi (LD) breast reconstruction has been described to address skin deficiencies in the delayed setting when achieving projection and a rounded inferior pole is challenging, particularly after chest wall radiotherapy.

Methods: Retrospective casenote review of patients undergoing LD breast reconstructions performed consecutively by the same Consultant between January 2005 and June 2011.

Results: Eighty-two patients underwent 42 immediate and 52 delayed LD breast reconstructions (25 conventional and 27 modified fleur-de-lys). The median age was 53 (21–65 years) with a mean BMI of 26.4 (19.5–42.5 kg/m²). Follow-up ranged from three to 77 months. The median length of stay after unilateral immediate, delayed conventional and delayed fleur-de-lys was 7 days. No patient experienced latissimus dorsi flap loss. There were 5 minor complications in the immediate group, 3 in the conventional delayed and 7 in the modified fleur-de-lys delayed group – of which 5 had received radiotherapy. These were delayed healing of LD flap skin anteriorly (1), delayed healing of donor site (1), haematoma (2) and infection (3).

Conclusion: A fleur-de-lys modification is a safe reproducible adjunct to consider when planning latissimus dorsi breast reconstruction, particularly after radiotherapy in the delayed setting.

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Phase II Study on Radiofrequency Ablation for Early Breast Cancer Patients

S. Imoto¹, H. Isaka¹, N. Sakemura¹, H. Ito¹, K. Imi¹. ¹Kyorin University School of Medicine, Breast Surgery, Mitaka, Japan

Background: We previously conducted phase I study on radiofrequency ablation (RFA) followed by breast-conserving surgery (BCS). Complete pathological ablation of breast tumour was shown in 26 of the 30 patients registered (87%). RFA was feasible and reliable for T1N0 breast cancer patients without extensive intraductal components (Breast, 18:130–4, 2009). To examine clinical utility of RFA instead of BCS, we started a phase II trial in 2009.

Patients and Methods: T1 and sentinel node-negative breast cancer patients treated with or without primary chemotherapy were enrolled. Primary endpoint is breast deformity after RFA and secondary endpoints are ipsilateral breast tumor recurrence and quality of life examined with FACT-B. RFA was performed using a LeVeen electrode and an RF-2000 generator (Boston Scientific Corporation, USA) following Izzo's protocol (Cancer, 92:2036–44, 2001). Breast deformity and breast imaging were recorded at 3, 6 and 12 months after RFA.

Results: As of October 2011, 16 of the 19 eligible patients agreed to undergo RFA. There were no severe adverse events in all patients except pain relief with NSAID for a few days. Most patients received adjuvant therapy and breast irradiation. MR mammography showed degenerative change with ring enhancement that was consistent with red ring observed in the margin of ablated breast specimen at phase I study. All patients have been disease-free at the median follow-up of 18 months.

Conclusions: RFA is a promising technique for local control of breast cancer. MR mammography is also useful for monitoring ablated breast lesion.

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Trans-nipple Z-plasty with Interceed Insertion Technique for Focal Defect of Breast

J.Y. Lee¹, Y.T. Bae¹, Y.J. Jung², S.H. Go², T.W. Kang². ¹Pusan National University Hospital, Surgery, Busan, Korea; ²Pusan National University Cancer Center, Surgery, Busan, Korea

Introduction: Numerous oncoplastic techniques with absorbable materials had been reported for breast conserving surgery. Authors introduce the