all results when a patient had an appointment with a doctor), there was still room for further improvement on other aspects (for example regarding the time between actual diagnosis and surgery).

**Conclusions:** Patients' ratings of quality of care overall remained stable between the period before and after implementation of the short stay programme. Although newly introduced patient education on postoperative treatment-related aspects was insufficient. We conclude that a breast cancer care programme in short stay can be introduced with, on average, similar quality of care as perceived by the patient. Specific care aspects were identified that require continued attention.

**258** Poster

**Evaluation of radioactive seed versus radio guided localization in breast conserving surgery after primary systemic therapy**

M. Donker[1], S. Linn[2], E.J.T.H. Rutgers[1], S. Rodenhuis[2], J. Wesseling[3], C. Loo[4], M.T.F.D. Vrancken Peeters[1]. [1]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Surgical Oncology, Amsterdam, The Netherlands;* [2]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Medical Oncology, Amsterdam, The Netherlands;* [3]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Pathology, Amsterdam, The Netherlands;* [4]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Radiology, Amsterdam, The Netherlands*

**Objective:** To analyze the use of Radioactive Seed Localization (RSL) as an alternative to Radio Guided Occult Lesion Localization (ROLL) in operative excision of non palpable breast tumors after Primary Systemic Treatment (PST).

**Methods:** Retrospective analysis of 114 patients treated with PST between 2003 and 2009 in the Netherlands Cancer Institute. Inoperable patients (T4, N3) were excluded. The majority of patients (70%) were initially treated with doxorubicin and cyclophosphamide and participated in two randomized studies in which anthracycline and taxane based regimens were compared. Since 2005 HER2-positive patients received chemotherapy in combination with trastuzumab. Till the end of 2007, breast lesions were marked with a twist markers prior to systemic treatment. Since June 2007 radioactive iodine seeds were placed to mark the tumor burden before the start of PST. The decision to perform breast conserving surgery was based on the radiological response on MRI and the patients preference.

**Results:** From 2003 till November 2009, 114 patients with breast tumors after PST were treated with breast conserving therapy. In 80 patients breast conserving surgery was performed with the use of ROLL and in 34 patients with the use of RSL. Additional surgery was required because of irradical resection in 9% (7/80) and 11% (4/34), respectively. These differences are not statistical significant. The overall pCR rate was 26% (21/80) in the group of patients treated with the ROLL and 43% (13/30) in the group of patients treated with RSL.

**Conclusion:** RSL is comparable with ROLL in terms of tumor free margins in patients that were treated with breast conserving therapy after PST. The RSL method reduces scheduling conflicts for surgery since no radiologic localization is needed anymore prior to surgery. Therefore, RSL is an attractive method for localizing breast tumors before primary systemic treatment and has essentially replaced the traditionally placed twist marker in our tertiary-care medical center.

**259** Poster

**The MARI procedure; Mapping of the Axilla with Radioactive Iodine seeds**

M. Straver[1], M. Donker[1], C.E. Loo[2], J. Wesseling[3], H. Maessen[2], M. Steggerda[2], T. Alderliesten[2], M. Holtkamp[4], E.J.T.H. Rutgers[1], M.T.F.D. Vrancken Peeters[1]. [1]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Department of Surgery, Amsterdam, The Netherlands;* [2]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Department of Radiology, Amsterdam, The Netherlands;* [3]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Department of Pathology, Amsterdam, The Netherlands;* [4]*Netherlands Cancer Institute − Antoni van Leeuwenhoek Hospital, Department of Medical Oncology, Amsterdam, The Netherlands*

**Background:** An important benefit of neoadjuvant chemotherapy (NAC) is the increase in breast-conserving surgery. At present the response of axillary lymph node metastases to chemotherapy cannot be accurately assessed. Therefore axilla-conserving therapy is not a benefit. We aimed to assess a new surgical method to evaluate the axillary response:: the MARI procedure which stands for Mapping of the Axillary lymph node with Radioactive Iodine seeds.

**Material and Methods:** Prior to NAC, proven tumour-positive axillary lymph nodes were ultrasound guided localized with Iodine-125 seeds in 15 patients. After NAC, the marked lymph nodes were selectively removed with the use of a gamma-detection probe. A complementary axillary lymph node dissection was performed to assess if pathological response in the marked node was indicative for the pathological response in the additional lymph nodes.

**Results:** Tumour-positive axillary lymph nodes were successfully localized with Iodine-125 seeds in 15 patients. The marked lymph node (MARI-node) was surgically detected and selectively removed after NAC in all patients. The pathological response to chemotherapy in the MARI-node was indicative for the overall response in the additionally removed lymph nodes. Nine patients with macrometastases in the MARI-node had macrometastases in their complementary axillary lymph node dissection specimen. Two patients with isolated tumour cells in the MARI-node showed residual micrometastases in an area of reactive fibrosis in the complementary axillary lymph node dissection. Four patients with a tumour-negative MARI node also had a pathological complete remission of the additionally removed axillary lymph nodes.

**Conclusions:** This study shows that marking and selectively removing metastatic lymph nodes after NAC is feasible. The tumour-response in the marked lymph node may be used to tailor further axillary treatment, and herewith makes axilla-conserving surgery an potential treatment after neoadjuvant chemotherapy.

| | MARI-node | Complementary axillary lymph node dissection | | | Response MARI node |
|---|---|---|---|---|---|
| | Size metastasis | Number removed | Number tumour-positive | Size largest metastasis | indicative |
| 1 | Macrometastasis | 27 | 3 | Macrometastasis | Yes |
| 2 | Macrometastasis | 18 | 2 | Macrometastasis | Yes |
| 3 | Macrometastasis | 19 | 1 | Macrometastasis | Yes |
| 4 | Macrometastasis | 20 | 17 | Macrometastasis | Yes |
| 5 | Macrometastasis | 11 | 2 | Macrometastasis | Yes |
| 6 | Macrometastasis | 10 | 3 | Macrometastasis | Yes |
| 7 | Macrometastasis | 28 | 3 | Macrometastasis | Yes |
| 8 | Macrometastasis | 25 | 25 | Macrometastasis | Yes |
| 9 | Macrometastasis | 15 | 1 | Macrometastasis | Yes |
| 10 | Isolated tumour cells | 19 | 1 | Isolated tumour cells | Yes |
| 11 | Isolated tumour cells | 24 | 2 | Micrometastasis | Yes |
| 12 | Complete remission | 30 | 0 | Complete remission | Yes |
| 13 | Complete remission | 40 | 0 | Complete remission | Yes |
| 14 | Complete remission | 9 | 0 | Complete remission | Yes |
| 15 | Complete remission | 23 | 0 | Complete remission | Yes |

**260** Poster

**Comparative study of lymphoedema with axillary dissection level I−II versus axillary disection level I−III in patients undergoing breast radical surgery**

A. Karanikolic[1], N. Djordjevic[1], D. Budjevac[1], L. Djordjevic[1], A. Todorovic[1], I. Pesic[1]. [1]*Clinic for General Surgery, Nis, Serbia*

**Introduction:** Breast cancer related lymphoedema is a chronic debilitating complication. Our aim was to compare the incidence of lymphoedema in two groups of patients undergoing axillary disection; one undergoing axillary dissection level I−II, and the other undergoing axillary disection level I−III.

**Material and Methods:** Retrospective review of records of two sequential groups of patients treated in surgical clinic Nis between 2004 and 2006. Both groups had minimum of 2 years follow-up.

**Results:** Two hundred and twelve patients were included in Group 1 and 104 in Group 2. The incidence of lymphoedema in Group 1 was 7.7% compared to 11.5% in Group 2. This was statistically significant with a P value <0.001. In the node-positive patients, the incidence of lymphoedema in Group 1 was 12.2% compared to 14.4% in Group 2, although the differences were not statistically significant with P = 0.28.

**Conclusions:** The incidence of lymphoedema in the axillary group with dissection level I−III was higher, although the differences were less pronounced in the node-positive patients. The effectiveness of radiotherapy as an alternative to full axillary dissection among patients with positive nodes is currently under investigation in randomised controlled trials.

**261** Poster

**Reasons why women do not undergo immediate breast reconstruction and estimation of accuracy of predicted need for chest wall radiotherapy**

F.J. Hoar[1], H. Brown[1], L. Vishwanath[1]. [1]*City Hospital, Breast Unit, Birmingham, United Kingdom*

**Background:** NICE guidelines recommend that immediate breast reconstruction (IBR) should be "discussed with all patients who are being advised to have a mastectomy, and offer it except where significant co-morbidity or (the need for) adjuvant therapy may preclude this option". The aim of this study was to examine the reasons why patients do not undergo IBR, and in particular to determine how accurate the multidisciplinary team (MDT) are at predicting the need for adjuvant chest wall radiotherapy.

**Methods:** Data from women undergoing mastectomy without IBR had been collected as part of the National Mastectomy & Breast Reconstruction Audit between January 2008 & March 2009. This included the reasons why IBR was not undertaken. For some patients there were multiple reasons why IBR was not undertaken. In these cases, the reasons were ranked by 2 clinicians and the primary reason determined. We then examined whether patients received radiotherapy.

**Results:** In total 81 women underwent simple mastectomy. The mean age was 60.7 years (range 35−88). Overall, 54/81 (67%) women received chest wall radiotherapy. The primary reasons why IBR was not performed are given in the table.

| Reason for not performing IBR | n | % |
|---|---|---|
| Age of patient | 13 | 16.1 |
| Co-morbidity | 21 | 25.9 |
| Concerns re local recurrence | 1 | 1.2 |
| Mental health issues | 1 | 1.2 |
| Anticipated chest wall radiotherapy | 29 | 35.8 |
| Reconstruction may delay adjuvant therapy | 2 | 2.5 |
| Patient choice | 14 | 17.3 |

17.3% patients declined the offer of IBR whilst nearly a quarter of patients had significant co-morbidity that precluded IBR. In 16.1% patient age was the primary reason why IBR was not performed. The mean age in this group was 74.3 years (range 65−85). Anticipated chest wall radiotherapy was the commonest reason for not offering IBR. Of these 29 patients, 25 subsequently underwent radiotherapy (86.2%).

**Conclusions:** The MDT is reasonably accurate at predicting the need for post-mastectomy radiotherapy. Whilst reconstructive surgeons have concerns about irradiating a reconstructed breast, greater accuracy in predicting chest wall radiotherapy will minimise the small number of women who not undergo IBR because of overestimation of radiotherapy need.

**262** Poster

**What constitutes an adequate margin in patients undergoing breast conservation surgery for ductal carcinoma in situ?**

J. Mathew[1], R. Karia[1], G. Rodrigues[1], D. Morgan[2], A. Lee[3], I. Ellis[3], J. Robertson[4], A. Bello[4]. *[1]Nottingham Breast Institute, Division of Breast Surgery, Nottingham, United Kingdom; [2]Nottingham Breast Institute, Division of Oncology, Nottingham, United Kingdom; [3]Nottingham Breast Institute, Division of Clinical Pathology, Nottingham, United Kingdom; [4]Nottingham Breast Institute, Division of Breast Surgery, Nottingham, United Kingdom*

**Background:** There are no national guidelines with regard to extent of clear pathological margin of excision for ductal carcinoma insitu (DCIS) in patients undergoing breast conservation surgery (BCS). In our hospital we look for a pathological margin ⩾10 mm. The EORTC DCIS trial reported a high local recurrence rate of 36% at 5 years in patient with close or involved margins (<1 mm or frankly involved).

The aim of our study was to assess adequate margin of excision with regard to local recurrence in patients undergoing BCS.

**Materials and Methods:** We retrospectively reviewed case notes of patients undergoing surgical treatment for DCIS between Jan 1975 to June 2008. Extend of clear margin of excision in patients undergoing BCS was divided into three groups (<5 mm, 5−9 mm and ⩾10 mm). Statistical analysis was carried out using SPSS version 16, and a P value of <0.05 was considered significant.

**Results:** Two hundred and thirty nine women had BCS for DCIS during the above period. The median age was 59 years (40−86) and the median follow-up was 76 months (1–308). One hundred and eighty one patients (76%) had only one operation. Overall 15 patients had 3 surgical procedures (11 completion mastectomy, 4 re-excisions).

Median size of the tumour was 11 mm (1−50). One hundred and ninety three patients had grades recorded (44 low grade, 54 intermediate grade and 95 high grade). Other pathological findings included 75 cases with comedo necrosis and 5 patients with microinvasion.

Overall local recurrence rate of patients undergoing breast conservation surgery was 17% (40/239), of which 65% (26/40) were invasive recurrences. Forty three percent of patients (6/14) with less than 5 mm margin developed local recurrence compared to 12% (3/25) with 5−9 mm margin and 14% (27/188) with ⩾10 mm margin. Four out of 12 patients with unknown margin status developed local recurrence. The local recurrence rate in patients with <5 mm (6/14) margin was significantly higher compared to those with ⩾5 mm (30/213) margin (p value <0.012).

**Conclusion:** Our study shows that in patients undergoing breast conservation surgery for DCIS, a clear margin <5 mm is associated with significantly higher local recurrence rate.

**263** Poster

**Is a modified Wise pattern the ideal oncoplastic approach in breast-conserving therapy? An analysis of 352 cases**

D. Casella[1], E. Palma[1], C. Calabrese[1], L. Orzalesi[1], V. Mariotti[1], L. Galli[1], S. Aldrovandi[1], J. Lesaffer[1], R. Simoncini[1], L. Cataliotti[1]. *[1]AOU Careggi, Breast Unit, Firenze, Italy*

**Background:** Breast-conserving therapy (BCT) has made it possible to lessen the psychological impact of surgical treatment for breast cancer. Unfortunately, the cosmetic results of surgery are often unsatisfactory. The majority of unsatisfactory results derives from scar retraction and gland deformity caused by tumor resection. With the use of oncoplastic surgery, it is now possible to perform a radical procedure while minimizing post-surgery cosmetic defects.

The aim of the study was to evaluate oncological and cosmetic outcomes in breast cancer patients undergoing BCT with immediate reconstruction using a modified Wise pattern.

**Materials and Methods:** The study involved a total of 352 patients treated surgically for breast cancer between January 2000 and January 2009. Treatment in all cases consisted of quadrantectomy plus immediate reconstruction of the surgical defect using a Wise pattern technique.

In 301cases (85.5%), a bilateral procedure was performed, while in 31 (8.8%) cases surgery to obtain breast symmetry was delayed and in 20 (5.7%) cases was not undertaken.

Patient age averaged 52 years (range:29−80). Breast size in all cases was medium to large. Patient satisfaction was determined with the use of questionnaires at 6 months from surgery. Evaluation regarded breast size, form, and symmetry as well as positioning of the nipple-areola complex. Each category was rated numerically, from 4 to 1 (4=excellent, 3=good, 2=mediocre and 1=unsatisfactory).

**Results:** Surgical resection margins were found to be clear in 327 (92.9%) cases. In only 25 cases (7.1%) was there margin involvement, which required more radical surgery. The rate of local tumor recurrence at 57.2 months was 7 (1.98%). Minor complications (superficial infection, seroma) developed in 23 cases. Minor surgery was performed for scar revision or removal in 18 cases. With regard to cosmetic outcome, 103 patients rated their breast reconstruction excellent, 184 good, 47 mediocre and 18 unsatisfactory. The residual surgical scar was that of an inverted T-scar reduction mammoplasty.

**Conclusions:** By combining techniques of plastic and oncological surgery for the treatment of breast cancer, it is now possible, in selected cases, to obtain both effective tumor control and a good cosmetic outcome. Oncoplastic surgery does not compromise multidisciplinary approaches and can play a fundamental part in extending the indications for conservative treatment.

**264** Poster

**Immediate outcomes of oncoplastic surgery − consecutive case study of the first 160 patients in the Portuguese Institute of Oncology-Lisbon**

J. Vargas Moniz[1], J. Rosa[1], R. Serra Alves[1], M. Peixinhos Dias[1], J. Leal Faria[1], F. Orvalho[1], C. Canto Moniz[1], C. Santos Costa[1], J.C. Mendes de Almeida[1]. *[1]Instituto Portugues de Oncologia, Cirurgia Geral, Lisboa, Portugal*

**Introduction:** Cosmetic outcomes of conservative breast cancer surgery are influenced by: tumor size, tumor location, breast volume, breast shape and radiotherapy. About 15%of patients have bad cosmetic outcomes, requiring reconstructive surgery.

Oncological and cosmetic outcomes of oncoplastic breast-conserving reconstruction by volume replacement or volume displacement confirmed the clinical utility of this new approach to the surgical management of patients with breast cancer.

**Aim:** Evaluate the immediate outcomes of oncoplastic breast-conserving surgery.

**Patients:** Between 21 Jan. 2007 and 10 Nov. 2009, 160 female patients, were submitted to oncoplastic breast-conserving surgery (136 invasive carcinoma, 11 DCIS, 4 papilar tumor, 3 large hamartoma and fibroadenoma and 6 mammographic suspected lesions. Of the 136 patients with invasive carcinoma 10 were submitted to neoadjuvant chemotherapy.

**Material and Method:** In 48.1% of patients we used Clough KB type I oncoplastic techniques (40 *roundblock*, 33 "*raquette*" mammaplasty, 4 hemi-batwing). The remaining patients were submitted to type II oncoplastic techniques (6 *Grisotti* 6, 32 Vertical mammaplasty with short lateral scar, 31 Inverted, "T" mammaplasty, 11 amputation-type reduction free nipple graft mammaplasty). In 3 patients we used volume replacement: 2 with inframammary adipofascial flap and 1 latissimus dorsae.

**Results:** Mean operative time was 79.5 minutes (min. 20, max. 200, type I = 61, type II = 98, $p < 0.0001$), mean specimen weight was 243 g