thick back skin over and/or under the muscle at the time of the mastectomy procedure and the flap was expanded in all of them before transfer, at the same time of the radiotherapy treatment.

After three months, the latissimus dorsi myocutaneous flap was rotated and the expander replaced by permanent silicon implant.

Mean follow-up was 13 months. Transitory redness in the donor skin followed the flap rotation in four patients with no further complications.

It constitutes a valid alternative to achieve a natural skin in burned areas of mastectomy irradiated sites.

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Nipple preserving mastectomy with immediate reconstruction – evaluating necrosis possibility

T. Almeida[1], A. Magalhães[1], A.J. Moura[2], A. Santa Comba[2], V. Gonçalves[3], M.J. Cardoso[1]. *[1]Sao Joao Hospital – Medical School University Oporto, Surgery, Oporto, Portugal; [2]Hospital Trindade, Surgery, Oporto, Portugal; [3]Laboratório Anatomia Patológica, Pathology, Oporto, Portugal; [4]Sao Joao Hospital – Medical School University Oportoidade do Porto, Surgery, Oporto, Portugal*

Background: One of the recent techniques used to improve the aesthetic outcome in breast cancer surgery is the nipple preserving mastectomy with immediate reconstruction. Necrosis of the nipple-areolar complex (NAC) is, however, one of its major setbacks. The purpose of this study was to try to find a correlation between necrosis of the NAC with the type of procedure used for reconstruction and the histological result.

Material and Methods: Thirty two cases of skin-sparing mastectomy and immediate reconstruction, with preservation of the NAC were evaluated. The procedure was done by the same team, using a superior periarolar incision with a 2 cm lateral extension. In all cases the pre-operative evaluation showed by imaging (mammography and ultrasound) a distance of at least 10 mm to the nipple–areolar complex and intra-operative evaluation, with frozen section of the retro-areolar region was done in all cases, to confirm the absence of invasion of the central region. Methods of reconstruction used were implant-only in 7 cases (21.9%), latissimus dorsi flap with implant in 21 (65.6%), and TRAM flap in 4 (12.5%). In the studied sample there were 22 cases of Ductal Invasive Carcinoma (68.8%), 5 cases of Ductal Carcinoma in Situ (15.6%) and 5 cases of Lobular Invasive Carcinoma (15.6%).The correlation was evaluated using the Chi-Square test.

Results: There were 5 (15.6%) cases of necrosis of NAC (4 parcial and 1complete). Only this last patient needed a second surgery – complete ablation and replacement. We didn't find any correlation either with the type or reconstructive proccedure or the histological result and NAC necrosis.

Conclusions: Our results reinforce that nipple preserving mastectomy with immediate reconstruction, can be an alternative choice in selected patients. Necrosis is however probably not related neither with histology nor with the type of procedure chosen for reconstructing the breast.

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Value of latissimus dorsi flap (LDF) in breast conserving surgery (BCS)

S. Bruzas[1], A. Mudenas[1], A. Luksyte[2], K. Valuckas[3], K. Vitkus[4], V. Ostapenko[1]. *[1]Vilnius University Oncology Institute, Breast Surgery, Vilnius, Lithuania; [2]Vilnius University Oncology Institute, Outpatient Clinic, Vilnius, Lithuania; [3]Vilnius University Oncology Institute, Radiotherapy, Vilnius, Lithuania; [4]Vilnius University Santariskiu Clinic, Reconstructive Surgery, Vilnius, Lithuania*

Background: Breast conservation has more than 30 years history in the treatment of early stage breast cancer. BCS as alternative to mastectomy is appropriate management from 1/2 to 2/3 of patients with early stage breast cancer. However, there are still 2 main problems in BCS: local recurrence rate (which is usually greater compare with mastectomy) and aesthetic view of the operated breast. LDF could be helpful in solving these 2 problems. The objective of this study was to evaluate oncologic and cosmetic results in BCS and immediate reconstruction with LDF.

Patients and methods: from 12/97 to 12/06 65 patients were treated with extensive quadrantectomy and immediate reconstruction with LDF. Patient's median age was 44.5 years, N+ were 61%, N− 39%, tumor size ranged from 1.5 cm to 5 cm. 38% of patients had preoperative chemotherapy, 98% received postoperative radiotherapy. Most of tumors (80%) were localised in the upper lateral quadrants. Histologically margins were free in all cases. The median duration of operating time is 165 min.

Results: immediate postoperative morbidity – dorsal seroma (longer than 2 weeks) was noticed in 42 cases (64.6%), infection – in 2 (3.1%) cases. There were 8 (12.3%) recurrences – 5 distant, 1 axillary and 2 distant simultaneously with local, 3 patients died. Cosmetic evaluation was done using oblique measurement from nipple to incisura jugularis: 24% very good, 48% good, 15% satisfactory and 13% poor.

Conclusions: 1. Using LDF allows to perform BCS in big tumor cases, when usually it's impossible in normal BCS. 2. In small tumor cases LDF allows to perform wider BCS. 3. This method preserves good breast cosmesis, so there is no need of cosmetic operation on the other breast.

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Influence of the type of breast cancer surgery on the functional status of the arm

H. Tchorzewska[1], P. Slowik[1], M. Nagadowska[2], J. Piechocki[2], E. Towpik[2]. *[1]Cancer Centre Warsaw, Dept of Physiotherapy, Warsaw, Poland; [2]Cancer Centre Warsaw, Dept of Breast Cancer and Reconstructive Surgery, Warsaw, Poland*

Background: Axillary nodal status is the most important prognostic determinant in breast cancer. In addition it influences the use of both local and systemic therapies. Nodal status is most accurately determined by histological analysis of the nodes excised during axillary clearance. However, axillary dissection is associated with substantial arm morbidity and risk of lymphoedema. As axillary sentinel lymph node biopsy (SLNB) became standard of care for staging early breast cancer, a decrease in arm morbidity has been reported. The aim of this work is to evaluate the relationship between number of axillary lymph nodes removed and early postoperative arm morbidity (arm functional status).

Material and Methods: The study group consisted of 113 consecutive patients, aged 26 to 80 years (median age 58) with stage 0, I or II breast cancer, operated upon in the Department of Breast Cancer and Reconstructive Surgery and evaluated in Physiotherapy Department afterwards, between February 2006 and November 2007. Out of these 113 patients, 32 (28.3% – group 1) underwent modified radical mastectomy, 23 (20.3% – group 2) simple mastectomy with SLNB, 26 (23% – group 3) breast conserving therapy with axillary clearance and 32 (28.3% – group 4) tumorectomy with SLNB. Mika & Kulakowski test was used to assess the functional arm status and early arm morbidity. This test consists of the assessment of mobility restriction, lymphoedema and hand muscle strength. The relationship between functional arm status and the type of breast surgery was analyzed.

Results: No differences in lymphoedema occurrence and hand muscle strength were observed between the treatment groups during early arm mobility evaluation after breast surgery. There was a marked difference in the arm mobility restriction: the lowest mobility restriction was observed in the group treated with tumorectomy and SLNB.

Conclusions: In terms of arm functional status, the benefits of sentinel lymph node biopsy (SLNB) over axillary dissection appear to be observed even at the early postoperative time. However, long-term effects have to be confirmed by further, larger studies.

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Predictors of wound complications following breast cancer surgery

A. Karanikolic[1], D. Budjevac[1], L. Djordjevic[1], L.J. Paunkovic[1], N. Djordjevic[1]. *[1]General surgery, Breast Surgery, Nis, Serbia*

Background: The complication rate following breast cancer surgery (BCS) is considered to be low. The most frequently cited complications are related to wound infection (superficial/deep), dehiscence and seroma formation.

Material and Methods: Data of 902 patients were collected from breast cancer registers from Surgical clinic Nis between 2003–2006. The database was queried for all women undergoing mastectomy (MT) or lumpectomy with an axillary procedure (L-ANP). Logistic regression models for the prediction of wound complications were used.

Variable	Odds Ratio estimate	P
Mastectomy	3.112	<0.0001
Preoperative albumin	0.412	0.0004
Diabetes	2.891	<0.0001
Obese (BMI > 35 kg/m^2)	2.567	<0.0001

Results: We identified 599 patients (66.41%) who underwent mastectomy and 303 patients (33.59%) who underwent L-ANP. The wound infection rate for mastectomy and L-ANP were 4.17% and 1.82%, respectively, with a total rate 5.99%. Detailed analysis of postoperative wound events demonstrated that most infections were superficial (4.32%); mastectomy was associated with a higher rate compared with L-ANP (2.67% vs. 1.65, P = 0.006). Performance of a mastectomy, compared with L-ANP, was also associated with more significant wound issues,

such as deep infection and dehiscence. The only significant independent predictors of wound complications were obesity, undergoing a mastectomy, preoperative albumin, and diabetes.

Conclusions: Wound complication rate following BCS in women are low, limiting their value in assessing quality of care. Mastectomy carries higher complication rate than I-ANP with wound infection being the most common.

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Series of modified radical mastectomies performed with ultrasonic knife

R. Matkowski[1], B. Szynglarewicz[2], J. Forgacz[2], M. Pudelko[2], Z. Smorag[2], I. Gisterek[1], U. Staszek[1], K. Szewczyk[1], A. Lacko[1], J. Kornafel[1]. *[1]Wroclaw Medical University, Department of Oncology, Wroclaw, Poland; [2]Lower Silesian Oncology Center, 2nd Department of Surgical Oncology, Wroclaw, Poland*

Background: Electrocautery is the most commonly used surgical tool for mastectomy performance but ultrasonic knife should produce less tissue damage. The aim of this study was to assess the usefulness of this device for modified radical mastectomy and to evaluate postoperative complications and early functional results.

Material and Methods: Preliminary group of nineteen women who were not eligible for breast conserving surgery was studied prospectively. In each case modified radical mastectomy was performed using the ultrasonic knife with a constant frequency of 55.5 kHz and the longitudinal extension of the vibration of 75 μm. Mastectomy was done without transection of the pectoralis muscles. Perforators of the internal mammary artery were ligated, lymph nodes from all levels of the axilla were removed. Low-suction drains were placed before skin closure and were removed when their output was equal or less than 30 mL per day.

Results: Skin flaps preparation, breast dissection and axillary clearance were done easily. Neither technical difficulties nor intraoperative complications were observed. The wounds were healed by primary adhesion. Wound haematoma, flap necrosis, surgical site infection and palpable seroma formation did not occur. Operating time was (mean±SD, median, range): 107.4±19.2, 109, 61–155 min; number of removed lymph nodes: 17.2±3.5, 16, 12−24; total drainage amount: 186.6±32.3, 192, 90–330 mL; number of days with drain: 3.1±0.8, 3, 2−5; postoperative hospital stay: 4.3±1.0, 4, 3−6 days; number of office visits after discharge: 1.5±0.9, 2, 0−3, respectively.

Conclusions: Dissection using the ultrasonic knife is related to favourable early functional results after modified radical mastectomy without the increasing of the operating time: low postoperative morbidity, low total drainage amount, early drain removal, and short hospital stay. Further controlled trials are needed to assess the clinical advantages of this surgical tool and its usefulness for a routine surgical practice. Cost-effectiveness analyses should be also performed especially in low income countries.

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Simplified axillary lymphadenectomy without suction drain and without padding in breast cancer: a prospective and comparative cohort of 100 patients with early and locally advanced breast cancer

P. Cusumano[1], C. Inguenault[2], C. Nos[2], K. Clough[2]. *[1]Clinique Saint Joseph, Gynecology oncology unit, Liège, Belgium; [2]Paris Breast Center, Surgical oncology unit, Paris, France*

Hypothesis: If the sentinel lymph node (SLN) is widely used, standard axillary clearance remain the optimum technique in advanced breast cancer. In day practice, half of the patients still have a standard axillary clearance either immediately or after the discovery of a positive SLN. In most cases the standard axillary clearance is followed by a close suction drain. This extends the length of hospital stay and postoperative incomfort.

To improve these two parameters, we have simplified the technique of standard axillary clearance.

Axillary lymphadenectomy performed without the use of a drain and without padding of the axilla is feasible and safe on an outpatient basis in the setting of conservative surgery for breast cancer.

Patients: One hundred patients were included in this study between January 2006 and July 2007, an half was treated by this method of simplified axillary lymphadenectomy (without drain, without padding, surgical site infiltration with a local anesthetic long-acting), and the other half by the classical technique with close suction drain.

Main outcome measures: Prospective assessment was performed, without randomization, with regard to the length of hospital stay, number of seroma, and and the rate of surgical site infection (SSI).

Results: If there is no significant difference in the number of seroma between the two groups (30.5%). We have not seen SSI and the average length of stay is less than 24 hours in the simplified axillary clearance group, whatever the indication of axillary clearance, including advanced breast cancer.

Conclusion: Breast conservative surgery and axillary lymphadenectomy without padding of the axilla, and use of a drain, is feasible and safe on a 1-day surgery basis for non selected patients, improving quality of life on the postoperative period.

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Oncological safety and patient satisfaction with skin-sparing mastectomy and immediate breast reconstruction

F. Jouhra[1], N. Patani[1], H. Devalia[1], A. Anderson[1], K. Mokbel[1]. *[1]The Princess Grace Hospital, London Breast Institute, London, United Kingdom*

Introduction: The management of early breast cancer with skin-sparing mastectomy (SSM) and immediate breast reconstruction (IBR) is not based on evidence from randomised controlled trials. The purpose of this study is to evaluate the oncological safety, post-operative morbidity and patients' satisfaction with SSM and IBR using the latissimus dorsi (LD) myocutaneous flap and/or breast prosthesis.

Methods: 83 consecutive women underwent 93 SSMs with IBR (10 bilateral), using the LD flap plus implant (n = 55) or implant alone (n = 38), indications included early breast cancer and prophylaxis due to BRCA-1 gene mutation. Nipple reconstruction was performed in 38 patients, using the trefoil local flap technique, nipple sharing or Monocryl mesh. 23 underwent contra-lateral surgery in order to optimise symmetry, including 15 augmentations and 8 mastopexy / reduction mammoplasties. Patient satisfaction with the outcome of surgery was assessed on a linear visual analogue scale ranging from 0 (not satisfied) to 10 (most satisfied).

Results: There was no local recurrence (LR) after a median follow-up of 34 months (range = 3−79 months). Overall survival was 98.8%, 3 patients developed distant disease and 1 patient died of metastatic breast cancer. No case of partial or total LD flap loss was observed. Morbidities included infection, requiring implant removal in 2 patients and 1 patient developed marginal ischaemia of the skin envelope. Significant capsule formation, requiring capsulotomy, was observed in 87% of patients who had either PMR or prior RT compared with 13% for those who did not have RT. Sixty-one (73.5%) of 83 patients completed the questionnaire with a median and mean satisfaction scores of 10.0 and 9.3 respectively (range = 6−10).

Conclusion: SSM with IBR is associated with low morbidity, high levels of patient satisfaction and is oncologically adequate for Tis, T1 and T2 tumours without extensive skin involvement.

Parameter	SSM & IBR	LD	IM	Median satisfaction score [range, number responding]	Implant loss due to infection	LR	SR	CA
All procedures in 83 patients	93	55	38	10 [6−10, n = 61]*	2	0	3	23
PMR	12	5	7	9 [6−10, n = 7]	2	0	0	5
Bilateral SSM and IBR	10	1	9	9.5 [8−10, n = 6]	0	0	0	-
NP-SSM and IBR	7	1	6	9 [7−10, n = 5]	0	0	0	-
Prior RT	4	4	0	9.5 [9−10, n = 2]	0	0	0	3

Key: IM, implant only; LD, LD + implant; RT, radiotherapy; PMR, postmastectomy radiation; LR, local recurrence; SR, systemic recurrence; CA, contralateral adjustment. *Overall satisfaction scores were available in 61 out of 83 patients (73.5%).

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Factors accounting for low nodal counts in axillary dissection following neoadjuvant chemotherapy

A. Casas-Balazote[1], M. Vernet-Tomas[1], M. Lopez-Yarto[1], J. Soler[1], I. Tusquets[1], M. Segura[1], J. Corominas[1], R. Carreras[1]. *[1]Hospital del Mar, Breast Unit, Barcelona, Spain*

Background: Lower node count rates in axillary dissection (ALND) are more frequent after neoadjuvant chemotherapy. The aim of this study is to investigate which factors account for this lower count.

Methods: A retrospective review from September 2004 to October 2007 included 154 patients receiving neoadjuvant chemotherapy followed by ALND. Nodal count was compared with the nodal count in 114 patients that underwent ALDN and did not receive chemotherapy during the same period. All patients received ALND at our institution by highly experienced breast surgeons. Nodes retrieved were divided in two categories (<10 for insufficient ALND and >10 for sufficient ALND). Patients age, pathologic classification, use of taxanes, pathologic complete response in tumour and Miller and Payne grading in lymph nodes were explored as potential factors for an insufficient nodal count. SPSS was used for the statistical analysis and Chi2 and Fisher's exact test applied when appropriate.

Results: Nodal count was significantly lower in patients receiving neoadjuvant chemotherapy (18% vs 6%, p = 0.05). The median nodal