difference in the height of lower angles of shoulder-blades. The women after mastectomy with immediate breast reconstruction with the use of the Becker prosthesis showed statistically essential smaller disorders in body posture in comparison with the group of women after mastectomy.

Conclusions:

1. The obtained results can point to a role of immediate breast reconstruction in maintenance of regular body posture after mastectomy.
2. The selected parameters of estimation of body posture at women after mastectomy with immediate breast reconstruction with the Becker prosthesis show smaller tendency to changes in body posture in comparison with women, who were subjected only to mastectomy.
3. The comparative analysis of the selected parameters of body posture in groups of women after mastectomy with immediate breast reconstruction with the use of the Becker prosthesis and healthy women did not show any statistically essential differences.

383 POSTER

Treatment of arm lymphedema in postmastectomy patients by ultrasound liposuction; a preliminary report

I. Grobelny, J. Jaskiewicz, J. Grudzinski, W. Nyka. *Medical University of Gdansk, Poland., Department of Plastic Surgery and Burns, Gdansk, Poland*

An annual figure of over 8000 women in Poland will undergo mastectomy for cancer and subsequently, some of them will be subjected to adjuvant radiotherapy. Despite conservative prophylaxis, 30% of those patients will develop some lymphatic oedema of the upper limb that will necessitate intensive rehabilitation or other forms of conservative treatment. Notwithstanding that treatment, 20% of the subjects will suffer from permanent lymphatic oedema that will call for a surgical procedure. The aim of the paper was to work out our own method of associated treatment for permanent lymphatic oedema in mastectomy patients and to assess the early and late results of the therapy as well as to compare the effectiveness of treatment instituted on the basis of the degree of oedema subsiding and the patients' quality of life. The study embraced a group of 18 patients coming from the Department of Plastic Surgery and Treatment of Burns, Medical Univesity of Gdańsk. The current paper was conceived to be of prospective character. When qualifying patients for the procedure the pressure test was applied. The lymphedema showed clinical signs of grade II fibrosis. The treatment consisted of ultrasound liposuction and subsequently controlled compression garment. Assessment of treatment results was done by showing percentage differences in the circumference of both upper limbs at particular levels, the average value of oedema volume (the difference between the volume of the oedema-affected upper limb and the volume of the healthy limb), and the percentage reduction of average oedema volume in the two groups under study. Assessment of patients' quality of life was done on the basis of answers to carefully drawn up questionnaires filled in by the subjects before and after the treatment. The material thus obtained was statistically analyzed. With all the research done in the current study, the associated method applied was found to be safe and well tolerated by the subjects. Following the ultrasound liposuction procedure, there was an effective and permanent diminishing of lymphatic oedema – the reduction in oedema was 83.7% one year after the operation. The study also demonstrated some improvement in patients' quality of life after ultrasound liposuction procedure. Treatment of permanent lymphatic oedema continues to be a serious problem Poland-wide, is a difficult, multi-discipline and time-consuming task and as such, should follow the algorithm the current study has proposed and be done by the team of specialists combating the condition.

384 POSTER

Local administration of anaesthetics with subpectoral epidural catheters in patients who undergo immediate breast reconstruction with implants

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Purpose: Patients who undergo breast reconstruction with subpectoral implants can respond poorly to opioids. Until now standard post surgical pain treatment has been oral and intravenous administration route using a combination of paracetamol, NSAID and/or opioids, with well documented side affects. Our purpose is to retrospectively evaluate an alternative supplementary method of pain relief following immediate breast reconstruction (IBR).

Patients and methods: Between 2001 and 2003 a total of 30 patients underwent 36 mastectomies with IBR. Inclusion criteria for IBR were risk reducing surgery, DCIS and invasive breast cancer not suitable for breast conservation in low risk patients. Twenty-two patients underwent unilateral reconstruction (one patient was operated on, on two separate occasions) and 5 had bilateral procedures. Three patients underwent IBR and contralateral reduction mammaplasty. Their mean age was 48.4 years (range 30–63). No patient had any documented regular use of analgesics preoperatively. In 20/36 mastectomies, an epidural catheter was inserted behind the pectoralis major muscle. Postoperatively 10–15 ml ropivacain 2 mg/ml was given every 1.5 hours, when needed through the catheter that extended out through the incision. This regimen was discontinued after 2–7 days. In addition these patients received a standard of oral analgesics when needed. In the group of patients without catheters a combination of analgesics was administrated. Antiemetic drugs were given to both groups when needed.

Results: The consumption of opioids was significantly lower in patients with subpectoral epidural cathethers. No significant difference in the total consumption of analgesics and antiemetics was found comparing the two groups. The average hospital stay was reduced with 1.3 nights in patients with subpectoral epidural cathethers. The method was not associated with any complication.

Conclusion: Our clinical impression is that local anaesthetics administrated as described seems to be an effective mode of pain relief after IBR with implants. However, the material to date is too small for any further conclusions and will serve as a source for a prospective randomised study.

385 POSTER

Assessment of tumour grade using core biopsy may help to avoid radiotherapy related complications of implant immediate breast reconstruction

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Background: Patients with high-grade breast cancer are likely to receive adjuvant radiotherapy following mastectomy. Implant immediate breast reconstruction is best avoided in these patients to avoid complications and cosmetic failure.

Aim: To assess accuracy of preoperative core biopsy in assessment of tumour grade in women with invasive breast cancer.

Patients and Methods: Forty-six patients with invasive breast cancer were reviewed retrospectively. Materials from core biopsy and definitive resection were available for each of these cases and reviewed independently by two pathologists. Six levels from each core biopsy and 3 sections from each tumour were processed in paraffin and stained with haematoxylin and eosin. Grading of the carcinoma was performed according to Scarf-Bloom-Richardson system.

Results: Thirty-five cases were invasive ductal carcinoma, 5 cases were invasive lobular carcinoma and in 6 cases the tumour was mixed. Histological type detected by core biopsy correlated to the type detected by definitive resection in 40 cases (86.9%).

Core biopsy grade \ Definitive grade	Grade I	Grade II	Grade III	Total
Grade I	6 (13%)	3 (6.5%)	1 (2.2%)	10 (21.7%)
Grade II	2 (4.3%)	24 (52.2%)	6 (13%)	32 (69.6%)
Grade III	–	1 (2.2%)	3 (6.5%)	4 (8.7%)
Total	8 (17.4%)	28 (60.9%)	10 (21.7%)	46

There was concordance in histological grade detected by core biopsy and that detected by definitive resection in 33 cases (71.7%). Among the 13 discordant cases (28.2%), 10 cases (21.7%) were over graded and 3 cases (6.5%) were under graded by the core biopsy compared to definitive resection grading. All discrepancies were within one grade. Sensitivity of core biopsy in grading breast carcinoma was 89.5% and the specificity was 75%.

Conclusion: Our results suggest that core biopsy can be used to assess tumour type and grade in patients with invasive breast cancer. This will help to avoid implant immediate breast reconstruction in patients who may receive postmastectomy adjuvant radiotherapy.

386 POSTER

Disorders of body posture at women after mastectomy in photogrametric estimation

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Purpose: An analysis of body posture disorders at women after mastectomy for cancer.

Material and methods: The examination was carried out on 91 women (aged 35–79 average 55.2) with breast cancer who had mastectomy conducted with Patey's method in the Oncological Surgery Department in Leszno Hospital between 1998–2002. Among them 50 women had mastectomy on the right side whereas 41 on the left side. A comparative

group was represented by 96 healthy women (aged 32–64 average 49.3). The body posture was analised by a computer using three-dimensional photometry (CQ Electronics System) consisting in three-dimensional reproduction of shapes and positions based on the photos of examined surface. The examination was conducted in Photogrametry Studio of Rehabilitation Centre "Akwawit" in Leszno in similar, repetitive conditions, five times every six months. The statistical analysis was carried out with the use of Mann-Whitney's and Friedman's nonparametric tests.

Results: The comparative analysis of variables defining body posture in frontal and sagital plane showed essential difference between measurements in group of women after mastectomy in comparison with group of healthy women. A greater intensification of changes in position of symmetrical osseous points (shoulder-blades, shoulders, pelvis) was noted in a group of women after mastectomy.

Table 1. A comparison of women after mastectomy and healthy women

Item	Abbr.	p value
1. Difference in distances of lower angles of shoulder-blades from spinal column	OL	0.04
2. Difference in height of lower angles of shoulder blades (inclination)	UL	0.01
3. Inclination of shoulder line to the level	KLB	0.04
4. Difference in height of shoulder position	LBW	0.02
5. Difference in height of waist triangle	TT	0.01
6. Max. deviation in the spinous processes from the vertical position	UK	0.01
No essential differences in both examined groups of women in the range of:		
1. Trunk inclination	KNT	0.1
2. Pelvis inclination	KNM	0.46

Conclusions:

1. The photogrametry estimation of the body posture shows essential disorders at women after mastectomyin comparison with a group of healthy women.
2. The noninvasive photogrametry method of body posture analysis is useful in the estimation of the quality of the postsurgical rehabilitation.

387 POSTER

Questionable successful pregnancy after chemotherapy and TRAM flap surgery? Case Report

J. Jankau, J. Jaskiewicz. *Medical University of Gdansk, Poland, Plastic Surgery and Burns, Gdansk, Poland*

The authors would like to present a case of a 30 year old woman with family history of breast cancer who were diagnosed in the age of 27, pending annual medical check-up, with breast cancer (USG guided punch biopsy – cellular carcinomatosis). Before the surgical removal of the cancer patient went two courses of chemotherapy (CMF Bonadonna trial – 5FU 1000 mg, MTX 70 mg). After this two courses of chemotherapy patient underwent mastectomy (Ca mammae dx ductale invasivum/T2N1aMx, no axillary's lymph nodes involved) with simultaneous ipsi-lateral-TRAM flap reconstruction. In the post op follow-up patient did not present any complication due to surgery and no hernia were present. After the reconstruction patient underwent additional four courses of chemotherapy (CMF Bonadonna trial – 5FU 1000 mg, MTX 70 mg). At that time the council advise her not to get pregnant, despite this warning after eight month patient made her own decision to be pregnant and she did. The council with oncologists, gynecologists and breast surgeons decide that in that case there is no reason to terminate as long as patient is self-conscious of possible complications. In 32nd week of pregnancy patient underwent caesarean section and deliver baby-girl with Down Syndrome with no additional abnormalities. The post-op period was without any complication like abdominal wall laxity and abdominal hernia or any infections; no abdominal revisions were required after delivery. In two years of follow-up due to controls mother and child has no major complications, abdominal contour is acceptable and there are no signs of cancerous disease in both mother and child.

The author would like to arise a question whether it was a successful pregnancy?, no complication before and after surgery, and what should council advice to a woman who had a history of breast cancer and underwent TRAM flap reconstruction with pre and post chemotherapy whether to have or not to have a child? Upon the presented case and literature we can state that TRAM flap reconstruction (if properly executed) is not a contraindication to pregnancy, rather chemo or radiotherapy may be.

388 POSTER

Arm lymphedema reduction in breast reconstruction with transverse abdominal island (TRAM) flaps

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Background: Tissue expander/implant breast reconstruction in patients after radical mastectomy and adjuvant radiotherapy is relatively contraindicated in cases of lymphedema of the arm. In such a clinical situation the use of autogenous tissue for breast reconstruction may have more advantages.

The aim of the study is determine why an autogenous well vascularised TRAM flap used for breast reconstruction may reduce symptoms of lymphedema.

The authors present material of 15 non-consecutive pts from three different dept. (Gdańsk, Warszawa, Grodno) with breast reconstruction with free and pedicle TRAM flaps where the tendency to reduce lymphedema of the upper extremity lymphatic edema as well as improvement in movements in the shoulder joint at the operated side were observed. Check measurements of swollen upper extremities were carried out in the pre-, early and late postoperative periods. The observation period is 3 years. The mentioned positive effects after autogenic tissues breast reconstruction is sustained successfully by wearing elastic compressive garment and physiotherapy exercises. Late results of the operation demonstrate a long term reduction in an upper extremity lymphatic edema. The authors presents possible explanations of this results on the basis of understanding of the lymphoedemas pathophysiology and classification. Thus, in the the basis ofpresence of an upper extremity lymphatic edema of post-mastectomy genesis, breast reconstruction with vascularized flaps is the method of choice because of a high level of rehabilitation and improvement in quality of patients life. Postmastectomy pts who are obese, have had previous chest wall radiation and slight symptoms of lymphedema, are not good candidates for tissue expander reconstruction. The reconstruction with autogenous tissue has a number of distinct advantages.

Friday, 19 March 2004 16:00–17:15

PROFFERED PAPERS

Pathology/Predictive and prognostic factors

389 ORAL

DNA damage control genes that predispose for radiation-induced breast cancer

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Background: The most important risk factor for breast cancer development is a family history of the disease. Genes implicated in family history of breast cancer include the high penetrance genes BRCA1 and BRCA2. 5–10% of all breast cancer can be explained by germline mutations in these high-risk genes. A larger part, ~10–30%, might be explained by mutations in low penetrance genes, for which candidates are ATM and CHEK2. The contribution of these genes might be explained by the role they play in the DNA damage control pathway. Radiation has been shown to be a strong risk factor for breast cancer and thus genetically predisposed individuals, especially women with inherited mutations in genes involved in DNA-damage repair and cell cycle control, may have an increased sensitivity to environmental exposures such as radiation. To evaluate the significance of germline mutations in ATM, CHEK-2 and BRCA1/2 to the risk of (radiation-induced) contralateral breast cancer (clbc), we assessed its mutation frequency in women who developed a clbc, with and without radiation treatment (RT) for the first breast tumor.

Methods: Clbc patients will be included if their first bc is diagnosed before age 50, and the interval between 1st and 2nd bc is at least 1 year. So far we collected 169 patients who did and 64 who did not receive RT for their primary bc. For each patient we obtained the full medical records for data collection. DNA was isolated from peripheral blood or paraffin tissue and currently screened for all ATM germline mutations, for one particular