Friday, 19 March 2004

POSTERS
Reconstructive surgery

379 POSTER

Oncological significance of the inframammary fold

K. Behranwala, N. Nasiri, G. Gui. *Royal Marsden Hospital, Breast Surgery, London, UK*

Introduction: The amount of breast tissue within the IMF is controversial. Preservation of the IMF during mastectomy facilitates breast reconstruction and has led to conservation of the IMF, contrary to traditional descriptions of total mastectomy. The aim of this study was to analyse the clinical significance of IMF tissue content.

Method: A total of 50 IMF specimens were studied from 42 patients who underwent mastectomy between January 2001 to December 2002. The amount of breast tissue within each IMF was evaluated.

Results: The median age of the patients was 46 (33–86) years. The median body mass index was 23.4 (18.1–38.3) kg/m^2. The median IMF volume resected was 2 (0.23–9.72) cm^3 which was 0.81 (0.1–2.97)% of the breast volume. Ten specimens contained breast tissue (20%) and one contained breast tissue and an inframammary lymph node (2%). Three specimens containing breast associated fibrofatty tissue had lymph nodes (6%). One of the specimens with a lymph node within the IMF contained metastasis in a patient who had a mastectomy for invasive ductal carcinoma. The presence of breast tissue or lymph nodes within the IMF is unrelated to patient age, body mass index, and percentage volume of IMF tissue or size of the breast.

Conclusion: Our finding that breast tissue and intramammary lymph nodes are present in 28% of IMF specimens requires re-consideration of the safety of preserving the IMF at mastectomy. When an immediate breast reconstruction is performed, the superficial fascial system should be reconstructed after excision of the IMF tissue in order to recreate the inframammary crease.

380 POSTER

Cosmetic outcome of prophylactic mastectomy followed by immediate breast reconstruction using a subpectorally placed silicone prosthesis in women at risk of hereditary breast cancer or with a proven BRCA1 or BRCA2 germ-line mutation

C. Contant[1], M. Menke-Pluymers[1], C. Seynaeve[3], R. Tjong-Joe-Wai[4], A. van Gool[5], P. Bresser[6], M. Vermaas[1], J.G.M. Klijn[3], C. Brekelmans[3], A.N. van Geel[1]. [1]*Erasmus MC/Daniel den Hoed, Surgical Oncology, Rotterdam, The Netherlands;* [2]*Erasmus MC/Daniel den Hoed, Medical Oncology, Rotterdam, The Netherlands;* [3]*MCRZ, locatie Zuider, Plastic and Reconstructive Surgery, Rotterdam, The Netherlands;* [4]*Erasmus MC/Daniel den Hoed, Psychiatry, Rotterdam, The Netherlands;* [5]*Erasmus MC/Daniel den Hoed, Medical Psychology&Psychotherapy, Rotterdam, The Netherlands*

Aim: Women with a proven BRCA1 or BRCA2 germ-line mutation or with a 50% risk of carrying the mutation, have an increased risk of developing breast cancer during their life. Regular surveillance, chemoprevention or prophylactic mastectomy (PM) are options to detect breast cancer at an early stage or to reduce the risk of developing breast cancer. We describe the cosmetic outcome of high risk women who haven chosen for PM followed by immediate breast reconstruction (IBR) using a subpectorally placed silicone prosthesis and investigate factors influencing cosmesis.

Methods: At different time intervals after PM photographs were taken of the reconstructed breasts. A panel of six persons (2 surgeons, 1 oncologist, 2 psychologists and 1 medical student) assessed the photographs by giving them a score ranging from 1 (very poor) to 10 (excellent). Seven cosmetic items were defined, i.e. symmetry, shape of the breast, position of the inframammary fold, aspect of the nipple reconstruction, aspect of the scar, aspect of skin surplus, cosmetic result in general.

Results: The mean patient age at PM was 40 years (range 23–58 years). Most women (67%) were germline mutation carriers. Twenty-three women were treated in history for unilateral breast cancer; 12 by breast conservation therapy and 11 by mastectomy. Most women (n=78) underwent bilateral PM with IBR, 11 women underwent unilateral mastectomy with IBR for breast cancer and contralateral PM with IBR, and 11 women underwent unilateral PM with IBR and contralateral secondary breast reconstruction. Early complications (within 6 weeks after PM and IBR) were seen in 27% of the women. One third of the women had a nipple reconstruction. Fifty-four percent of the women were non-smokers.

The photographs of 98 women were evaluated with a mean time of 3.1 year after PM and IBR. The mean scores were for symmetry 6.5, for aspect of the inframammary fold 6.9, for aspect of the nipple 6.6, for aspect of the scar 6.6, for skin surplus 7.2 and for cosmesis in general 6.8.

Cosmesis was significantly improved by young age at PM with IBR ($p=0.003$), nipple reconstruction ($p=0.03$), absence of early complications ($p=0.04$), a negative history for breast cancer ($p=0.007$), and no previous radiation of the breast ($p=0.05$). Smoking and time interval of cosmetic assessment after PM and IBR had no significant influence on cosmesis.

Conclusion: The cosmetic result of prophylactic mastectomy and immediate breast reconstruction using a subpectorally silicone prosthesis is acceptable. Young age at reconstruction, nipple reconstruction, absence of early complications and no previous radiotherapy of the breast had a significant positive effect on the cosmetic score.

381 POSTER

Immediate breast reconstruction in the UK: choice of reconstruction prior to radiotherapy and the evaluation of aesthetic outcome

K. Shokrollahi[1], I. Daltrey[1], Z. Rayter[1], Z.E. Winters[2]. [1]*Bristol Royal Infirmary, Surgery, Bristol, UK;* [2]*University of Bristol, Surgery, Bristol, UK*

Introduction: Aesthetic outcome after immediate breast reconstruction (IBR) may be influenced by the type of reconstruction, use of radiotherapy (RT) and duration of follow-up. Evidence is lacking on long-term aesthetic outcome dependent on RT and choice of technique. Variability in methods of assessing outcome and their application precludes comparative audit or research.

Methods: We performed a survey of 325 consultant breast surgeons through BASO to evaluate the types of reconstruction offered, the timing and types of reconstruction in relation to radiotherapy, whether aesthetic outcome was assessed and how this was undertaken, and their acceptance of a proposed scoring system for aesthetic outcome.

Results: Of the 81 respondents, 75% performed IBR. 47% and 59% of surgeons rarely or never assessed the breast or donor site. No preference for autogenous breast reconstruction versus an implant-based procedure in the likelihood of RT was apparent. Furthermore, 32% still offered a subpectoral implant prior to radiotherapy. 79% wished to formalize assessment methods and 90% favoured our proposed method.

Conclusion: There is marked variation between breast units in the types of reconstruction offered, timing relative to radiotherapy, and aesthetic evaluation undertaken after surgery. No consensus exists with regard to assessment, suggesting the need for a universal system for cosmetic evaluation.

382 POSTER

The influence of immediate breast reconstruction with the use of the Becker prosthesis on body posture estimation at women after mastectomy for cancer

S. Ciesla[1], M. Bak[2]. [1]*Wojewodzki Szpital Zespolony, Surgical Oncology Department, Leszno, Poland;* [2]*Hight Technical School, Leszno, Poland*

Purpose: The estimation of influence of immediate breast reconstruction with the use of the Becker expander prosthesis on a change of parameters of body posture at women with a breast cancer after radical mastectomy.

Material and Methods: The examination was conducted on 42 women with I and II stage of a breast cancer, operated on between 2001–2002 in the Oncological Surgery Department in Leszno Hospital. 21 women had radical mastectomy conducted with Patey's method (group A) whereas 21 others were subjected to radical mastectomy with immediate breast reconstruction with the use of the Becker expander prosthesis (group B). Both groups were compared in a range of age, weight, the degree of the disease progression and coexisting diseases. A comparative group (group C) was represented by 21 healthy women, not treated surgically. All women were subjected to one photogrametric estimation of body posture (three dimensional computer photometry – CQ Electronic System) 6 months after the surgical treatment. The statistical analysis of the obtained results was carried out with the use of Mann-Whitney' and Friedman's non-parametric tests.

Results: The comparison of results of photometric measurements in groups A and C showed statistically characteristic difference ($p<0.05$) in a range of: UK – the max. deviation in the spinous processes from vertical position, TT – the difference in the height of waist triangle, TS – the difference between width of triangles waist, UL – the difference in the height of lower angles of shoulder-blades (inclination), LBW – the difference in the height of shoulder position. Greater changes in body posture were ascertained at woman after mastectomy in comparison with the group of healthy women. The comparison of results of measurements in groups B and C showed lack of statistically essential differences ($p>0.05$). The comparison of groups A and B showed statistically essential differences ($p<0.05$) in a range of: UK – the max. deviation in the spinous processes from vertical position, KNT – the angle of pelvis inclination and UL – the

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

Z. Turan[1], L. Jørgensen[1], B. Jønsson[2], K. Sandelin[1]. [1]*Rigshospitalet, Department of Breast and Endocrine Surgery, Copenhagen, Denmark;* [2]*Rigshospitalet, Department of Plastic Surgery and Burns Treatment, Copenhagen, Denmark*

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

M. Hussien[1], L. Venkatraman[1], T. Lioe[1], E. Mithoff[2], R. Spence[1]. [1]*Breast Surgery Unit, Belfast City Hospital, Belfast, UK;* [2]*Plasic Surgery Unit, Canniesburn Hospital, Glasgow, UK*

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

S. Ciesla[1], M. Bak[2]. [1]*Wojewodzki Szpital Zespolony, Surgical Oncology, Leszno, Poland;* [2]*High Technical School, Leszno, Poland*

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