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**Early complications after subcutaneous mastectomy and immediate breast reconstruction with silicone prosthesis**

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**Background:** Breast reconstruction with silicone prosthesis following subcutaneous mastectomy (SCM) has been shown to have a salutary effect on the overall psychological well-being of women being treated for breast cancer and at the same time does not threaten the oncological safety. The purpose of this study was to evaluate the incidence of early local complications after immediate breast reconstruction with a subpectorally placed silicone prosthesis following SCM.

**Materials and Methods:** Prospective study was performed on a consecutive series of 64 breast reconstructions in 63 patients over a one-year period. All complications during the six weeks after surgery were recorded. 12 prostheses were implanted after neoadjuvant chemotherapy and in all other cases surgery was the primary treatment for cancer.

**Results:** The overall complication rate was 22% (14), and in 3.2% (2) cases explantation of prosthesis was done due to major skin flap necrosis and prolonged seroma formation.

The most frequent complications were prolonged seroma formation 6.3% (4), minor skin necrosis 4.7% (3) and minor infections 4.7% (3). Haematoma, epidermolysis, major infection and major skin necrosis each occurred in 1.6% (1) patients. Neoadjuvant chemotherapy was not associated with higher rate of complications.

**Conclusions:** Immediate reconstruction with silicone prosthesis after SCM is safe and effective procedure and has a low morbidity rate. Neoadjuvant chemotherapy is not a risk factor for early postoperative complications.

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**Comparing two objective methods for the aesthetic evaluation of breast cancer conservative treatment**

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**Background:** Two objective methods (software) were recently developed for the objective evaluation of the aesthetic results of Breast Cancer Conservative Treatment (BCCT): the breast cancer conservative treatment cosmetic results (BCCT.core) (Cardoso JS, Cardoso MJ. *Artif Intell Med*, 2007) and the breast analyzing tool (BAT) (Fitzal et al. *The Breast*, 2007). Both try to overcome the lack of reproducibility of subjective methodologies traditionally used in this type of evaluation. The BCCT.core and the BAT make use of a face-only photographic view of the patient. The BCCT.core analyses several parameters related to asymmetry, color differences and scar appearance while the BAT takes in consideration only asymmetry measurements. The purpose of this study is to compare the performance of the two methods regarding the aesthetic evaluation BCCT.

**Material and Methods:** Digital pictures of 59 PORTO patients and 69 VIENNA patients were submitted to BCCT.core and BAT analyses and were additionally evaluated subjectively by two different panels with the Harris scale. The PORTO photographs were evaluated by an international panel of 23 experts, the VIENNA photographs were evaluated by 4 students and 2 breast cancer specialists. The agreement of the two software programmes with the consensus over the 119 cases was calculated using the kappa (k), weighted kappa statistics (wk) and error rate (er). A kappa score of 0 was considered poor agreement; 0.01–0.20 slight agreement; 0.21–0.40 fair agreement; 0.41–0.60 moderate agreement; 0.61–0.80 substantial agreement; 0.81–0.99 almost perfect; and 1.00 perfect agreement.

**Results:** Regarding the PORTO photographs the agreement was better between the BCCT.core and the consensus (k = 0.71; wk = 0.78; er = 0.14) than the one obtained with the BAT (k = 0.35; wk = 0.41; er = 0.51) while there was almost no difference between the BCCT.core and the BAT with the VIENNA images, with both methods presenting similar values of agreement with the subjective classification. When analysing results for all the photographs, the BCCT.core performs slightly better (k = 0.56; wk = 0.64; er = 0.20) than the BAT (k = 0.39; wk = 0.46; er = 0.42) for all the studied parameters.

**Conclusions:** The BCCT.core performed significantly better than the BAT in the PORTO patients while the differences were shortened when the two sets of photographs were evaluated due to the similar result in the VIENNA patients. The results show that inclusion of multiple parameters in the software analyses could improve results.

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**The oncological safety of axillary node clearance in the lateral decubitus position in patients with immediate ALD reconstructions**

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**Introduction:** The fundamental aim of surgery must be to provide safe and successful oncological treatment. Surgical techniques which reduce operating time are very important given the increased numbers of breast cancer patients and shortages of staff and theatre resources. Lateral decubitus positioning of patients during immediate breast reconstruction with autologous Latissimus dorsi (ALD) flaps significantly shortens the time of surgery, since the oncological resection and the flap-harvest can be performed concomitantly. It has been argued that ANC in the lateral decubitus position is technically more challenging than in the supine position and, therefore, regarded as oncologically unsafe by numerous breast surgeons. The aim of this study was to determine whether patient positioning would influence the lymph node retrieval and thus the oncological safety of the axillary node clearance (ANC).

**Methodology:** This study is a prospective analysis of 140 patients who underwent ANC at two breast centres in Glasgow. The study group contained 70 patients who underwent mastectomy, level II ANC and immediate ALD reconstruction in the lateral decubitus position. The control group consisted of 70 patients who had mastectomy and ANC in the supine position. This operation was chosen because it gives traditionally the best access to the axilla and offers the best visualization of axillary surgical anatomy. The total number of lymph nodes retrieved (pNtot) and the ratio of positive nodes to total number of nodes (pNratio) were recorded. All histological specimens were examined in the same pathology department to keep the evaluation of the axillary content as consistent, as possible. For statistical analysis student's t-tests were used.

**Results:** The two groups were comparable in terms of age, tumour size, grade and stage. The average numbers of lymph nodes retrieved were 12.96 ± 4.1 (5–23) in the decubitus position and 14.96 ± 4.7 (8–34) in the supine position (p > 0.05). The average pNratio was 15 ± 22% in the decubitus position and 27.5 ± 29% in the supine (p > 0.05).

**Conclusion:** The results show that within the confines of this study there is no statistically significant difference between the numbers of lymph nodes retrieved in either the lateral decubitus or supine positions. This suggests that ANC in the lateral decubitus position is an oncologically safe procedure in patients undergoing immediate breast reconstruction with ALD flap.

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**Breast reconstruction with extra-projection medium size implants**

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**Background:** Several manufacturer have introduced new extra-projection implants during the last few years. Reconstructive surgery in the past aimed to recreate a symmetrical breast mound using large and invalidating myocutaneous flaps and avoiding any contra-lateral procedure. Nowadays new anatomical prosthesis allow us to mould for all women undergoing breast reconstruction a cosmetically effective medium size bosom.

**Methods:** Two-hundred-thirty-four women received 238 extra-projection breast implants. Degree of ptosis, firmness, and symmetry were examined in outpatient clinics. Patients satisfaction and surgeons opinion was recorded; pre- and postoperative photographic evaluation was performed.

**Results:** Two-hundred-thirty-eight extra-projected implants were inserted (four bilateral procedures, mean follow-up 18 months). Thirty-two patients were lost to follow up, leaving 206 valuable implants. Mean volume was 456 cc; the mean volume according to contra-lateral procedures was 397 cc for augmentation, 441 cc for contra-lateral mastopexies, and 533 cc for reductions. A total of 197 patients received contra-lateral procedures, including 82 augmentations, 55 mastopexies, and 60 breast reductions. The complication rate was 9.5%. Baker Grade III capsular contracture was observed in 32 (15.5%) of 206 breasts. No cases of Baker Grade IV were described. Outcome evaluation at one year is reported for the whole population and in three subgroups subdivided according to contra-lateral technique. Hundred-and-thirty-six patients (66%) at examination reported a good opinion of result, shape and symmetry was considered good by plastic surgeons in 113 (54.8%), and 155 (75.2%). Subpopulations subdivided according to contra-lateral procedures revealed the highest rate of positive opinion in patients who underwent augmentation (74%, P = 0.001) and the highest rate of bad opinion in those who received a mastopexy (10.4%,