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Onco-plastic concept (tumor specific immediate reconstruction – TSIR) in breast cancer surgery

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Purpose: This surgical concept is based on the idea suggested by John Bostwick of the immediate reconfiguring of the breast after partial or total mastectomy. There is a dilemma between extent of the local disease control and aesthetic results.

Methods: The basic techniques used for reconfiguring of the breast are volume reduction of local tissue (some sort of reduction mammaplasty) as well as volume replacement by the use of distant tissue (flap techniques).

Results: From October 1996 to March 1998, 148 patients with breast cancer were treated at our clinic. 26 out 148 patients or 18% were treated according to new treatment protocol. There were 12 reduction mammaplasty operation, type of extent quadrantectomy with nipple/areola recentralization, and 8 after "down sizing" therapy by using TRAM or LATISS flap techniques. There were six immediate breast reconstruction with flap techniques (5 with LATISS and one TRAM) with achieved breast simmetry.

Conclusion: Tumor- specific immediate reconstruction (TSIR) of the breast is tailored to the individual anatomical and oncological situation with special regard to the relative size and the site of the tumor. According to our first experience (26 patients), combination of the standard surgical treatment and the options of TSIR provides maximum of local control. Long term results, however, still need evaluating.

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Return of touch sensibility in the breast after immediate free microvascular tram reconstruction

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Purpose: To study the return of sensibility in skin flaps and TRAM skin after skin sparing mastectomy with immediate free microvascular TRAM breast reconstruction.

Methods: Touch sensibility was assessed in four quadrants, areola and mamilla of the contralateral and the reconstructed breast with von Frey's filaments and Dellon two point discrimination test 3, 6 and 12 months after operation in 29 women.

Results: The von Frey test was 0.75 grams in the skin and areola and 0.05 grams in the mamilla of the contralateral breast. At 6 months the skin flaps recovered up to 6 grams and at 12 months to 2 grams, and the TRAM surface to 5 grams after twelve months. The Dellon test was 16.5. mm in the normal breast, and in the contralateral breast 28 mm after 6 months and 24.5 mm after 12 months.

Conclusion: The sensibility of the skin flaps does not return to properative values within a year, but exceeds by far the sensibility of the TRAM surface. This demonstrates the importance of preserving as much skin as possible during immediate breast reconstruction.

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Breast reconstruction (BR) in breast cancer (BC) patients

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In this paper we compare some variations of immediate and delaying BR.

223 BC $T_{1-4}N_{0-2}M_0$ patients were operated, operations in 97 patients contained immediate BR, in 136 patients delaying BR was made. We performed the next types of operations included immediate BR: *a*) modified radical mastectomy + BR by means of transversal recto-abdominal flap (TRAMF) in 77 BC patients, *b*) modified radical mastectomy + BR by means of the musculus latissimus dorsi flap in 5 patients, *c*) subcutaneous mastectomy with axillary dissection + BR TRAMF in 3 patients, *d*) radical resection + BR TRAMF in 5 patients, *e*) radical resection + bilateral BR as it made in reduction plastic operation in 6 patients, *f*) modified radical mastectomy + bilateral BR TRAMF in 1 bilateral metachronous BC patients. BC stage III patients were undergone to preoperative chemotherapy and irradiation and chemotherapy +/– endocrine therapy as adjuvant treatment. All patients after breast conserving operations were undergone to breast irradiation, including irradiation of the TRAMF in dose 50 Gy. Delaying BR operations after modified radical mastectomy were: by means of the musculus latissimus dorsi flap in 1 patient, by means of the expander inserting subcutaneusly – in 15 patients, by means of the TRAMF – in 120 patients.

We prefer the TRAMF as the method of BR, TRAMF did not made any problem to irradiation. Complications, were reviewed in patients after expander inserting lead to loss of cosmetic results, than partial necrosis of TRAMF – do not.

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Use of mesh to repair the submuscolar pocket in breast reconstruction: A new possible technique

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The reconstruction of the female breast after mastectomy has become an integral part of primary breast cancer therapy. In our Dept. we perform breast reconstruction using tissue expanders and silicone gel filled prosthesis. In same cases patients present at the end of mastectomy different holes on the major pectoralis muscle or the muscle result too much damaged or thin to insert an implant. However, in consideration of pts. desire we tried a new tecnique in order to perform the reconstruction. A Maarlex mesh was applied and sutured on the lower part of major pectoralis muscle reaching medially the sternal insertion, laterally the anterior serratus and inferiorly the rectus abdominis fascia. In this way tension of the submuscolar pocket is reduced and than an implant is inserted. A complete description of the surgical tecnique will be discussed.

No pts. who received the mesh coverage presented complications: no seroma, haematoma, infection, hyperemia, dislocation or capsule contracture.

Pts. are controlled as outpatients every three months. The cosmetic results are judged by the operator and a plastic surgeon reaching a very good results and a great satisfaction of pts..

This new tecnique seems to be easy and safe to perform. It seems to be a good solution for all cases in which an immediate reconstrucion whith implants is considerd not possible for the major pectoralis muscle conditions resulted at the end of mastectomy. In order to evaluate the real effettiveness of this method a larger number of cases will be necessary.

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Reconstructive surgery using titanium plate for osseous defect after wide resection of chest wall for locoregional recurrence of breast cancer

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Purpose: Monofilament knitted polypropylene (Marlex® Mesh) and/or methyl metacrylate (Resin) have been utilized for osseous defect after wide resection of chest wall for breast cancer. Neither material completes to avoid flail chest and foreign body reaction, to protect thoracic organs. We report 2 experience of reconstructive surgery using Titanium plate.

Methods: We experienced 550 cases of breast cancer in our hospital from 1987 to 1997. 12 cases underwent chest wall resection and reconstructive surgery by myocutaneous flap. We analyzed the effectiveness of materials for reconstructive surgery, morbidity of flail chest and foreign body reaction in these cases.

Results: Marlex® Mesh and/or Resin were used in 10 cases (group A) and Titanium plate in 2 cases (group B). The mean of osseous defect area was 78.5 cm^2 in group A and 176.5 cm^2 in group B. The morbidity of flail chest was 15% in group A and 0% in group B. Both groups had no morbidity of foreign body reaction. The morbidity of postoperative infection was 7% in group A and 0% in group B.

Conclusion: In case of locoregional recurrence of breast cancer, reconstructive surgery using Titanium plate for osseous defect after wide resection of chest wall is an effective option to avoid flail chest and foreign body reaction, to obtain improvement and local control of symptoms.