

of anaesthetic. Placement of a 25 G needle around a lymph node or in the subfascial plane when lymph node was not visible was confirmed on ultrasound and 3–5 mls of LA was infiltrated in the loose areolar tissue. Sub areolar infiltration of LA was then done to allow injection of 2 mls of 2.5% Patent Blue dye. Surgical scars included a vertical incision for the axillary dissection and over the lump for the local excision.

Results: Five patients who were deemed unfit for GA for medical reasons have been operated on to date using the method outlined above. All had clinical T1N0 tumours. All patients tolerated the patent blue infiltration without any problems ensuring successful and adequate sentinel node sampling (upto 6 nodes). Total volume of LA did not exceed 40 mls. Dilution of LA with saline may be used for larger lumps but this was not required in our series. Local excision was adequate in all cases with no further surgical intervention required. There were no reported post operative complications.

Conclusion: Ultrasound guided infiltration allows accurate placement of anaesthetic and reduces the volume required. We believe that this method is a safe and feasible alternative for those patients found to be medically unfit for general anaesthetic and should be considered when discussing their management.

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Poster

Breast volume measurement – comparing five different techniques

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Aim: To know breast volume gives a chance to select more suitable surgical techniques in breast cancer and to evaluate postoperative cosmetic outcome more precisely. Here we are comparing five different methods of breast volume measurement regarding to accuracy, cost-effectiveness and simplicity.

Materials and Methods: The volumes of 30 breast are determined by using volume-meter (a scaled cylinder device) of mastectomy specimens in operating room. 5 different volume measurements are done in each patient preoperatively. A written informed consent is provided prior to measurement. The breast volume measurement methods are:

1. Grossman-Roudner Disc (GRD Technic): We used 2 more discs (700 and 1200 cc.) Adding to 3 original sizes (200–300–425 cc.)
2. Anthropometric Technique: We use quiao formula:
Breast volume = $(3.14)/3 \times \text{Breast height}^2 \times (\text{Breast length} + \text{Breast width} - \text{Breast height})$
3. Mammographic Calculation technic: We used Kalbhen Formula:
Breast volume = $(3.14)/4 \times \text{Breast length} \times \text{Breast width} \times \text{Breast compression thickness}$
4. Water Displacement Technique: We used Tezel at all's device (Plast Rec Surg 2000;105:1019)
5. Thermoplastic Casting Technique: We used some commercial cast products (Orfit and Polycast II).

The volume of specimens is divided into 5 categories. Ranging from 300 to over 1000 cc. The accuracy of results is evaluated statistically using SPSS version 5.

Results: In this study, Anthropometric and water displacement technique were more accurate in 0–200 cc volume group and GRD Technique was the best in 301–500 cc volume group in accuracy comparing to the others. But in all other groups (501–700, 701–1000 and over 1000 cc) mammographic calculation technique was the most efficient method regarding to the accuracy. In overall, the most accurate method was mammographic calculation technique regarding to reliability and homogeneity of measurements. From the point of view of cost-effectiveness, GRD and anthropometric techniques were the best. Regarding to the application, GRD was the simplest method.

Conclusion: Our study shows that GRD and anthropometric techniques are most simple and inexpensive methods than the others, but mammographic calculation technique is the best in accuracy.

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Poster

Bilateral breast carcinoma – synchronous and metachronous lesion – a retrospective analysis from a tertiary center in south India

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Background: synchronous lesions, presents at the time of the primary lesion. Metachronous presents after a period of 6 months since the primary. Bilateral carcinoma breast is a rare condition and the treatment and the clinical profile is not clear in the literature.

Materials and Methods: Study is among carcinoma breast patients who had from 1997 to 2004. 19 among 604 [3%] had bilateral carcinoma breast.

Results: Family history was not significant. Except 4 all were post menopausal [79%]. Out of 19, 10 [53%] had synchronous, 8 post menopausal. 7 had T1T2 lesion with median size of 2.8 cms. 3 were detected by mammogram. Primary lesion medium size 6 cms, N1 disease. Total mastectomy axillary clearance in 6, sampling in 4 for the primary lesion. 4 had preoperative chemotherapy with FAC. 8 had ERPR negative. Infiltrating duct in 90% and rest had lobular carcinoma in situ. Synchronous lesion, 6 mastectomy with clearance, no post operative radiation. Nodes were negative for disease. 2 lost follow up. FAC was commonly used. Mean follow up was 48 months. One had skeletal mets and expired. Tamoxifen was used as per the ERPR. Among the 9 metachronous lesion 6 [67%] was picked by by mammogram. 3 were diagnosed as T1T2 with an average size of 3.1 cms during followup. The interval between the primary and contralateral lesion varies from 1 year to 18 years with mean of 72 months. Wide local excision axillary clearance in 3, SM+ANC was done in others due to patient choice. No radiation was used in the mastectomy group. ERPR was same. 90% had infiltrating carcinoma, 2 had positive nodes. FAC was used in 2. Average follow up was 48 months.

Conclusion: The incidence is 3% and the commonest tumour is infiltrating duct carcinoma. More common in postmenopausal, the mean interval of metachronous lesion is 72 months. Bilateral mastectomy may be a better choice as radiation to one lung can be avoided. Disease free survival and Overall survival is not influenced by bilateral disease.

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Poster

Trans-axillary retro-mammary (TARM) approach of video-assisted breast surgery (VABS) applied for breast conserving surgery of cancers even on inner-side of the breast

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Background: The endoscopic surgery for the breast is aesthetic and less-invasive. For cancers on inner-side of the breast, it is usually performed by periareolar approach, but it often makes deformation or malposition of nipple and areola and sensory disturbance. The trans-axillary (TA) approach is favorable without making any injuries on breast skin. Furthermore, we devised a new approach of retro-mammary (RM) route without subcutaneous exfoliation, from axillary skin incision, to preserve skin touch sensation.

Materials and Methods: We have performed video-assisted breast surgery (VABS) on 220 patients since December, 2001. The newly devised trans-axillary retromammary-route approach (TARM) was performed on 20 patients of early breast cancer. After endoscopic sentinel lymph node biopsy, we lengthened the axillary skin incision to 2.5 cm, and dissected retromammary tissue on major pectoral muscle fascia below the tumor, using endoscopic vein harvester (Opitcal Retractor®). The working space was made by lifting traction sutures penetrated from the skin through the gland. We cut the gland vertically at free margin 2 cm apart from the tumor edge toward the subcutane, and dissect skin flap over the tumor. The breast reconstruction was simultaneously performed by filling absorbable fiber cotton (oxidized cellulose). The aesthetic results were evaluated by ABNSW original scoring system (A: asymmetry, B: breast, N: nipple, S: skin, W: wound).

Results: Traction sutures made it easier to cut the mammary gland vertically. We did not experience any skin damages like burn. All surgical margins were negative. The operation time was needed 30 min longer but the blood loss was not different. The postoperative aesthetic results were all excellent. The sensory disturbance was minimum. All patients were satisfied with this operation.

Conclusions: This newly devised TARM approach need no injury on whole breast, and can become a single standard method for breast conserving surgery wherever the cancers situated.

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Poster

Breast reconstruction using latissimus dorsi myocutaneous flap with dorsal skin expansion

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The author presents an alternate procedure for delayed breast reconstruction using a temporary tissue expander under the thick back skin or the Latissimus Dorsi Muscle and posterior breast reconstruction by rotating the Latissimus Dorsi myocutaneous flap.

The present technique was used in 12 patients.

Two major advantages were observed such as avoiding the use of immediate tissue expander onto the area to be irradiated. The other would be fulfilling the soft tissue requirements for coverage of irradiated breast and thus surpassing the availability of donor site skin which was achieved in a group series of twelve patients. The expanders were located under the

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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Poster

Nipple preserving mastectomy with immediate reconstruction – evaluating necrosis possibility

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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 1 complete). Only this last patient needed a second surgery – complete ablation and replacement. We didn't find any correlation either with the type or reconstructive procedure 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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Poster

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

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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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Poster

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

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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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Poster

Predictors of wound complications following breast cancer surgery

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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,