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Definitive surgery of breast carcinomas diagnosed by mammographic wire-guided biopsy

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Background: Mammographic screening has decreased mortality from breast cancer. We compared surgery in carcinomas diagnosed after mammographic wire-guided biopsy (MWGB) with surgery of carcinomas diagnosed after palpable lump.

Material and Methods: We retrospectively analyzed 203 breast carcinomas diagnosed by MWGB, of a total of 483 carcinomas (years 2003 to 2005).

Results: Mean age of carcinomas diagnosed by MWGB (59.7±12.0 years) was similar to the diagnosed after palpable lump (61.6±14.3). From 50 to 65 years old (range of age of mammographic screening in those days) 50.7% of carcinomas were mammographically detected, 38.7% and 36.9% in the younger and older of that range of age respectively (p=0.008). In situ (85%) and microinvasive (62.5%) carcinomas were more frequently diagnosed after MWGB than after palpable lump, whereas invasive carcinomas were diagnosed in 65% after palpable lump (p=0.0001). There was no difference between carcinomas diagnosed mammographically and the rest regarding histological type (percentages of ductal, lobular or other histological types of invasive carcinomas). Breast conserving surgery (BCS) rate was 66.5% of mammographically detected carcinomas and 46% of the rest (p<0.0001). In the 54 ductal carcinomas in situ (DCIS) BCS rate was 58.3% in the mammographically diagnosed and 50% after palpable lump (p=0.69). In invasive ductal carcinomas, BCS rate was 68.3% after mammographical abnormality, and 47.2% after lump (p<0.0001). 70% of invasive carcinomas smaller than 1 cm, were wire-guided diagnosed. Axillary lymph node dissection (ALND) was performed in 81.7% of all invasive carcinomas (not performed mainly for advanced age or health pathology). In invasive carcinomas, 81% of not affected axillary lymph nodes was found in wire-guided diagnosed carcinomas, and 49% after palpable lump (p=0.0001).

Conclusions: 42% of carcinomas were diagnosed by MWGB. Invasive carcinomas diagnosed by MWGB, were smaller and had only 19% affected axillary lymph nodes. Years ago, breast cancer control depended entirely on the effectiveness of treatments. Nowadays, it is greatly influenced by the possibility of diagnosis at early stages.

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Surgical margins in palpable and non-palpable breast cancer tumors with the ROLL approach

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Background: Standard localization techniques of the nonpalpable breast lesions have several disadvantages. Radioguided occult lesion localization (ROLL) was recently proposed as a better alternative resulting in wider surgical margins. The objective was to determine the effectiveness of ROLL technique in non-palpable tumors compared with conservative surgery in palpable tumors.

Methods: We retrospectively reviewed breast cancer histologies done with ROLL technique between March 2005 and September 2006, and palpable breast cancers in which conservative surgery was the first treatment option for the same time period. To ascertain surgical margin status we followed the Northamerican National Surgical Adjuvant Breast and Bowel Project. We compared tumor size, margin status and mean distance from tumor. We collected histological type and grade, and the presence of extensive intraductal carcinoma (EIC) for invasive tumors to determine if these are risk factors for failing to obtain free margins.

Results: A total of 114 patients were reviewed (58 ROLL technique and 56 with conservative surgery in palpable tumors). The size of palpable tumors was significantly bigger (mean 17.54 mm, range 9–30, SD 5.13) than in the group intervened with ROLL technique (mean 13.97, range 4–30, SD 6.51). The distribution of free, close and affected margins was similar in both groups. Mean free margin distance was also similar between both techniques (palpable group 5.94 mm, range 2–10, SD 2.99 and ROLL group 6.18 mm, 2–13 and 2.80). Regarding potential predictive factors that were considered (histological type [lobular infiltrative] and grade, and presence of EIC) only the last one was associated with a higher risk of obtaining close or affected margins (Table 1) in both groups.

Conclusions: Clinical results of ROLL for nonpalpable breast cancer are comparable with those for conservative resection of palpable tumours.

Table 1: Presence of extensive intraductal carcinoma (EIC).

	Free margins	Close or affected	P value	Fisher's test
Palpable with EIC	0	10	0.00	
ROLL with EIC	1	5	0.02	

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Patients' preference and type of early breast cancer surgical treatment during 2006 at the Institute for Oncology and Radiology of Serbia – single center experience

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Introduction: Each year about 3700 women in Serbia are newly diagnosed with breast cancer (BC). About one fourth to one third of these women started their treatment at the Institute for Oncology and Radiology of Serbia (IORS). We analysed the surgical treatment of all newly diagnosed BC patients in 2006 (biopsies for advanced stages were excluded).

Patients and Methods: Multidisciplinary approach is routinely applied to all BC patients treated at the IORS regardless of the disease stage, including decision about the surgical treatment in early stages. A final decision which kind of operation was to be done further was discussed with each patient according to disease stage and patient's preference. The source documents for this analysis were the multidisciplinary team decision forms and surgical reports.

Results: One thousand two hundred and forty seven women were diagnosed with BC in 2006 at the IORS and 932 of them were surgically treated. Median age was 58 years (range 26–90) with 25% patients ≤50 years. Twenty eight percent of patients were diagnosed in stage I, 27% in stage IIA as well as in stage IIB, and 18% in stages III and IV. The following surgical interventions were done: modified radical mastectomy (MRM) in 441 patients, subcutaneous mastectomy with immediate reconstruction (SM-ImR) in 109 patients, wide excision with axillary node dissection (WE-AND) in 328 patients, wide excision (WE), and simple mastectomy (SM) in 46 and 8 patients, respectively. The subgroups of patients in stages I-IIB (n=764) were separately analyzed in relation to patients' age (≤35, 36–50, 51–65, ≥66 years) and type of surgery [MRM vs. SM-ImR vs. breast conserving surgery (BCS): WE+WE-AND]. These results are shown in the Table.

Age (years)	MRM		SM-ImR		BCS		Total (n)
	n	%	n	%	n	%	
≤35	0	0%	9	47%	10	53%	19
36–50	49	27%	49	27%	81	45%	179
51–65	162	47%	31	9%	149	44%	342
≥66	105	47%	1	0.4%	118	53%	224

Conclusion: Our results show that younger patients with stage I and II BC are more likely to accept SM-ImR than older ones, while breast conserving option was equally acceptable across all patients' age groups.

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Ultrasound guided infiltration of local anaesthesia in medically unfit patients allows adequate wide local excision and sentinel node sampling

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Background: Breast cancer patients who are medically unfit for general anaesthesia (GA) or who are elderly are often denied any surgery. While lumpectomy under local anaesthesia (LA) has been performed, axillary surgery has been avoided because of difficulty with adequate infiltration and volume required to achieve adequate anaesthesia. Ultrasound guided procedures are becoming routine in our practice. We describe our initial experience of a simple method of ultrasound guided infiltration of local anaesthesia to ensure complete excision of the breast lump and adequate blue node sampling.

Material and Method: 1% lignocaine with 1:200,000 adrenaline was used. Generally upto 40 mls were required. We did not have to dilute the anaesthetic. GE logiq 400 CL ultrasound machine with a hand held 11 MHz linear array probe was used. Ultrasound guided infiltration of the breast lump was done using a 22 G spinal needle – this allowed precise infiltration

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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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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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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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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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