Material and Methods: Cross-sectional study, prospective, nonrandomized. Between the period 2008 to 2009, evaluated 79 female patients, those with LABC, included in a research protocol for specific treatment NC at HOSPITAL DE CANCER BARRETOS. We evaluated the variables related to breast imaging studies, measures tumor (dermatography) and the distance between the tumor and the skin, which were related by correlation analysis, with the gold standard values of the pathological anatomy. An analysis with descriptive purpose of evaluating the different points between the measures was also made.

Results: We evaluated 79 patients, excluded from the protocol 40 (50.6%), 16 remain under treatment and 23 completed chemotherapy and underwent surgery. The average size of tumors was 8.4 cm (4−17). The clinical response showed a complete response, partial, stable disease and progression in 8.7%, 60.9%, 13.0% and 17.4% of patients. In clinical and radiological complete response was observed, observing a partial response, stable disease and progression in 65.2%, 21.7% and 13.0% of patients. Held 13% of skin-sparing mastectomy, 17.4% of quadrantectomy with glandular remodeling, 4.3% were contralateral breast lift, but were made radical mastectomy 39.1% and 30.4% modified radical mastectomy. The pattern of pathological response was different, occurring macrofragmentation of single and multiple tumor, with or without carcinoma in situ.

Conclusions: The pathological findings showed a wide range of possibilities. Futhermore they corroborate the need for resection of the tumor area defined before chemotherapy. Most of the remaining findings showed lesions often not palpated or hidden methods of image. The oncoplastic technical approach, as well as skin-sparing mastectomy with immediate reconstruction strategy allows a wide and safe resection, including always the previous tumor area.

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Updated results of a monocentric phase II trial of Axillary Reverse Mapping (ARM) in breast cancer

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Background: The aim of axillary reverse mapping (ARM) is to preserve arm lymphatics in breast cancer patients submitted to surgical axillary staging.

Materials and Methods: From June 2007 to November 2009, 61 patients requiring axillary dissection (AD) were submitted to ARM. One ml of Patent Blue dye was injected in the ipsilateral arm and all blue nodes identified during AD were sent separately for pathological examination. Main variables associated with the detection rates of blue lymphatics, the pathological status of blue and non blue nodes and the complications of the procedure were analyzed. The study is ongoing and more patients are being recruited.

Results: Identification rates of blue lymphatics and blue nodes were 70% and 54% respectively. Blue node identification was influenced by the time elapsed between injection of blue dye and surgery ($p = 0.002$), but not by the learning curve of the procedure. Although the blue node was clear of metastases in 29 out of 33 patients, 5 cases with extensive nodal metastatic involvement (pN2a and pN3a) showed breast cancer metastatic cells in the blue nodes as well. The only side effect of the procedure was represented by skin tattooing at the injection site, which disappeared within 4 months in almost 80% of the cases. More updated results will be presented at the meeting.

Conclusions: In patients with clinically negative axillary nodes further study is warranted to assess whether ARM may be used to spare the lympathics from the arm, whereas in the presence of extensive nodal disease this technique may identify metastatic blue nodes, demonstrating that there is not reliable separation of arm and breast lymphatic pathways.

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Phase I and II studies on radiofrequency ablation for early breast cancer patients

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Background: To evaluate the safety and reliability of thermal ablation therapy instead of breast-conserving surgery (BCS), we are performing radiofrequency ablation (RFA) for early breast cancer patients.

Patients and Methods: First, we conducted phase I study for T1N0 breast cancer patients without extensive intraductal components. Under general anesthesia, RFA followed by BCS was performed. Resected specimens were examined at 5-mm intervals by hematoxylin–eosin (H&E) staining and nicotinamide adenine dinucleotide (NADH) diaphorase staining.

Results: Thirty of the 34 eligible patients were enrolled. RFA-related adverse events were observed in 9 patients: 2 skin burn and 7 muscle burn. Twenty-six cases (87%) showed pathological degenerative changes in tumor specimens with H&E staining. In 24 of the 26 cases (92%) examined by NADH diaphorase staining, tumor cell viability was diagnosed as negative.

Conclusions: As RFA proved to be reliable and feasible, phase II study started for T1 and sentinel node-negative breast cancer patients with or without primary chemotherapy. Primary endpoint is breast deformity after RFA and secondary endpoints are ipsilateral breast tumor recurrence and quality of life. We will discuss future direction of RFA in early breast cancer.

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Revision and contralateral surgery rate after skin-sparing mastectomy with immediate breast reconstruction

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Background: Immediate breast reconstruction (IBR) after mastectomy using silicone implants or autologous tissue is the most effective procedure to decrease psychological trauma in breast cancer patients.

With the lapse of time, skin-sparing mastectomy with different reconstructive options was advocated as an oncologically safe method with very good aesthetic results. But late results of this surgical approach, including the rate of complications, revision surgery and contralateral surgery aimed at achieving symmetry are not well established.

Materials and Methods: From 1995 to 2008, 144 skin-sparing mastectomies with IBR were performed in 141 breast cancer patients.

Three patients have DCIS, 19 have I stage of breast cancer, 105 − II stage and 14 − III stage. Locoregional recurrence rate was 2.8%, in patients with median follow-up 6.5 years.

All patients were divided in two groups according to the reconstruction type. There were 76 reconstructions using TRAM-flap, and 68 with silicone implants.

Results: Overall complication rate in group of TRAM-flap was 17.1% including skin necrosis, partial flap necrosis and abdominal wall bulging. Seroma, skin flap necrosis and capsular contracture were established as complications in implant group and they were more frequent (20.5%).

Complications and asymmetry of reconstructed and contralateral breast were the indications for 17 secondary surgeries in TRAM-flap group. There were also 9 revision surgeries including abdominal wall repair, flap lift and creation of inframammary fold in new position in cases of flap ptosis. In 2 cases the volume and the projection of the reconstructed breast were enhanced by a silicone implant. Contralateral surgeries were performed in 7 patients.

In implant group 35 cases required a secondary surgery. In 10 patients the implant was removed due to seroma or skin flap necrosis with implant exposure. Six implants were changed with capsulectomy due to capsular contracture Baker grade III-IV. There were three successful delayed implant-based and one TRAM-flap breast reconstructions after failed implant reconstructions.

Thirteen patients have undergone the correction of the opposite breast to achieve symmetry. As a result, revision rate in TRAM-flap group vs. implants group was 11.8% and 32.3%, and contralateral surgery aimed at achieving symmetry was 10.5% and 19.1% respectively.

Conclusions: IBR is a complex surgical procedure, often requiring additional revision or correction of the opposite breast to obtain the same volume and shape in both breasts.

As we have seen, implant related complications such a seroma and capsular contracture make some limitation of the implant-based reconstruction method in contrast with TRAM-flap, despite of less cost and traumatic effect. Same tendency observed, when we compare revision rate and frequency of contralateral surgeries to obtain symmetry.

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Locoregional and systemic recurrence of breast carcinoma after breast conserving surgery versus modified radical mastectomy

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Background: Breast Conserving therapy (BCT) has been shown to be as effective as mastectomy in the treatment of early stage (I, II) breast cancer. However evidence of its safety and efficacy over long term in patients with tumors larger than 5 cm or stage III_A patients are limited but it is exclusively related to Breast size.

This study was designed to compare locoregional recurrence (LRR) and distant metastasis (DM) in the two treatment groups: Breast conserving surgery plus radiation versus modified radical mastectomy. Also it addresses the effect of locoregional and systemic recurrence on overall and disease free survival in the treatment arms.

Methods: In the time interval from 1998 to 2007, 357 patients with a diagnosis of in-situ or invasive breast cancer underwent surgical treatment at two medical centers in Tehran (known as AZAR sample). According to patient's clinical characteristics, tumor features and the patient's preference they were assigned to either breast conserving therapy or modified radical mastectomy groups. Tumor size per se was not a strict criterion for selection of surgical therapy; so breast conserving surgery was performed in selected patients with tumors larger, than 5 cm or stage III_A disease. Surgical team and technique, neo/adjuvant treatment plans and follow-up protocols were similar for all patients.

Results: Overall 204 (57%) and 153 (43%) patients underwent modified radical mastectomy (MRM) and breast conserving Surgery (BCS) respectively. 31 patients (8.75%) developed disease recurrence, namely 5 cases of locoregional (16%) and 26 cases of distant metastasis (84%). Clinical stage was the most important predicting factor for local recurrence, followed by tumor size (P = 0.0001), and premenopausal state.

Clinical stage and degree of lymph node involvement were important predictors of distant metastasis. There was no statistically significant difference in recurrence between BCS and MRM groups in similar clinical stages.

Conclusion: Locoregional and systemic recurrence is associated with a significant decrease in overall and disease free survival among patients with invasive breast cancer. Tumor size, clinical stage, lymph node involvement and premenopausal state are closely related to the risk of recurrence However, there seems no significant difference in the rate of recurrence, disease-free or overall survival in patients undergoing BCS or MRM. Moreover breast conserving therapy could be considered as a safe and effective treatment for selected patients with T3 tumors or stage III_A disease.

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Laparoscopic oophorectomy: should it be considered in pre-menopausal women requiring aromatase inhibitors?

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Introduction: For the last few years the role of aromatase inhibitors (AI's) in pre-menopausal women has been an area of interest to both surgeons and oncologists. In the past some women have been treated with AI's based on the absence of menses even though hormonal profiles may suggest otherwise. In these cases this had lead to the resumption of their menstrual cycle. This problem has been the main drive to employ different methods to suppress the ovaries by either temporary or permanent means. At our breast care centre we have performed bilateral salpingo-oophorectomy on this specific group of women for the purpose of re-commencing AI's. The aim of this study was to review the outcome of treatment in this patient group.

Methods: All women who underwent surgery between June 2003 and November 2009 were identified from a prospectively maintained data base. They were all pre-menopausal women with ER positive cancer initially commenced on AI's leading to the resumption of menses. Patients with a pre-operative hormonal profile were identified.

Results: A total of 42 women underwent surgery during the six years. Their median age was 45 years (range 33−57). Tumours were mainly invasive ductal carcinoma grade 2 to 3 with 15 patients found to have nodal involvement. Histological assessment of the ovaries revealed one case of primary ovarian malignancy and three cases of secondary metastatic deposits. For those with hormone profiles LH and FSH were not accurate predictors of menopausal status indicating that women were post menopausal when high levels oesrtradiol suggested otherwise. All women were able to commence treatment with AI. Only one patient required overnight stay for a haematoma, two developed wound infections and one suffered from severe menopausal symptoms for one month, for which she required no further treatement.

Conclusion: This study demonstrates that there is an increasing role for laparoscopic oophorectomy in pre menopausal women being considered for AI's and should be considered. Also when assessing menopausal status then oesrtradiol should be included.

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Early complications of mastectomy

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Background: Early complications of breast cancer surgery contribute to a worse experience for patients and may delay adjuvant treatment. We wished to determine predictive factors for complications and prolonged stay after mastectomy.

Method: We reviewed178 patients aged 29 to 89 (median 62) who underwent mastectomy from April 07 to August 08 under three surgeons. Haemoglobin concentration was measured preoperatively and on the first postoperative day as an indicator of peri/postoperative blood loss. Day one drain output was used as a marker of postoperative blood loss. Univariable and multivariable analysis with linear and logistic regression were undertaken using a number of possible explanatory variables. Hospital stay, wound complications and seroma formation were used as outcome measures.

Results: Both peri-operative and post-operative haemorrhage were significant predictors of prolonged in patient stay ($p < 0.0006$). The table shows factors associated significantly with blood loss.

Peri-operative blood loss	Post operative blood loss
Simultaneous reconstruction ($r = 0.314$, $p < 0.0001$)	Simultaneous reconstruction ($r = 0.603$, $p < 0.0001$)
Length of surgery ($r = 0.275$, $p = 0.0002$)	Length of surgery ($r = 0.564$, $p < 0.0001$)
Pre-op Temp <35.5 ($r = -0.146$, $p = 0.0398$)	Pre-op Temp <35.5 ($r = -0.221$, $p = 0.0018$)
Post-op Temp <35.5 ($r = -0.152$, $p = 0.0325$)	Post-op Temp <35.5 ($r = -0.215$, $p = 0.0024$)
Surgicel ($r = 0.292$, $p < 0.0001$)	Area of breast tissue excised ($r = 0.151$, $p = 0.034$)
Blade dissection ($r = 0.385$, $p < 0.0001$)	Pre op MAP ($r = 0.182$, $p = 0.0102$)
	Post op MAP ($r = 0.166$, $p = 0.0193$)

Multivariable analysis also demonstrated smoking as a significant predictor of post-operative blood loss ($p < 0.02$).

In addition to blood loss, other significant factors leading to prolonged in patient stay included diabetes ($p = 0.0276$), age >62 ($p = 0.001$) and ASA 3 or 4 ($p < 0.0001$).

Significant predictors of wound complications included diabetes ($p = 0.03$) and pre-op heart rate ($p = 0.01$). Low pre-operative temperature was inversely related ($p = 0.04$).

Conclusions: Blood loss was associated with a longer hospital stay. This study identified a number of factors contributing to blood loss including blade dissection, length of surgery, area of tissue excised, simultaneous reconstruction, pre and post operative MAP and smoking. This audit has led to a change in practice from blade dissection to diathermy. Diabetes and pre-op heart rate (HR) were associated with an increase risk of wound complications, with HR being highly significant.

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Endoscopy-assisted breast surgery for breast cancer: a comparison with conventional breast conserving surgery

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Background: Endoscopy-assisted breast surgery (EABS) has been used successfully for plastic surgery aesthetic procedures such as breast augmentation, breast disease, and even malignant diseases of the breast without reducing the therapeutic effects. EABS can be performed with small and remote incisions that are inconspicuous after surgery. We report herein the aesthetic and treatment results of EABS in patients with breast cancer compared to conventional breast-conserving surgery (BCS).

Materials and Methods: To improve the cosmetic outcome, EABS, which can be performed through minimal axillary, periareolar semicircular, or both, incisions, was undertaken. A 3-cm axillary skin incision was made along the axillary skin crease; the work space was created with a wound retractor. After the retromammary space was dissected through the axillary incision, we made a periareolar incision to excise tissues, partially or totally, under endoscopic assistance. We also performed a dye- or radioisotope-guided sentinel lymph node biopsy and dissected axillary lymph nodes (level I and II) under endoscopic assistance, and carried out frozen section biopsies to assess tumor invasion at the resection margins. In 13 cases that were to undergo BCS, volume replacement with absorbable 910 polyglactin mesh was placed into the defect to minimize the breast deformity after endoscopy-assisted BCS. The following information was obtained: patients' clinical and histopathological characteristics, operative procedures, surgical outcomes, cosmetic evaluation, and patient satisfaction.

Results: We retrospectively analyzed 50 consecutive patients with breast cancer that underwent EABS between June 2006 and November 2008. Thirty three underwent EABS, and 17 had conventional BCS. There was no significant difference in patient characteristics, tumor characteristics, operation time, or blood tests between patients undergoing EABS