

treated with breast conservation was 7 mm. One patient had mastectomy after neo-adjuvant chemotherapy. No patient required a second operation.

Conclusions: Clips detectable by ultrasound can simplify surgical treatment in breast conserving surgery for breast cancer. The clips may be inserted during the initial percutaneous breast biopsy or under anesthesia during sentinel lymph node biopsy prior to neo-adjuvant treatment. Pre-operative localization can then be omitted. Hydromark clips are detectable by mammography, are MRI compatible and remained easily visible on ultrasound six months after insertion in our patients. Surgical margins were adequate. Further investigation should focus on comparing this technique with standard pre-operative localization.

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Poster

Factors Other Than Margin Status Predict for Recurrence in Borderline and Malignant Phyllodes Tumours

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Background: Borderline and malignant phyllodes tumours (PTs) have the potential for disseminated disease. Surgical resection with adequate margins is therefore advocated. However, there is no consensus as to what constitutes an adequate margin, and furthermore, recurrence and disseminated disease may still occur despite apparently complete resection. In this study, we aim to review the outcome of surgical resection of borderline and malignant PTs, as well as to identify factors that may predict for recurrence.

Material and Methods: Retrospective review was performed of 56 patients diagnosed with borderline and malignant PTs at our institute from 1st January 2000 to 10th October 2011. All patients, except 1 with a malignant PT, underwent surgical resection. A margin of 1 mm was considered adequate. Primary endpoints evaluated included local and distant recurrence.

Results: Of the 56 patients, 38 had borderline PTs and 18 had malignant PTs. There was no significant difference in the age at presentation. Median tumour size in those with borderline PTs was 50 mm (15–215 mm), and was 65 mm (25–250 mm) in those with malignant PTs. Of those with borderline PTs, 24 patients underwent excision biopsy, 6 wide local excision (WLE) and 8 a simple mastectomy; 10 patients underwent further surgery for inadequate margins. Final surgical margins were considered inadequate in 20 patients, but only 2 of these developed local recurrence. Two other patients who developed local recurrence had adequate margins. None developed disseminated disease over a median follow-up of 21 months (1–144 months). In those with malignant PT, 8 patients underwent excision biopsy, 3 WLE and 6 mastectomy. Eight patients underwent a second surgery. Final surgical margins remained inadequate in 4 patients (all had undergone mastectomy). One of these received post-operative chest wall irradiation, but developed recurrent disease (both local and disseminated) after completion. Of the remaining 3 patients, 1 further patient developed recurrent disease and 2 others defaulted follow-up. Among those with adequate margins, 3 patients developed recurrent disease, which was disseminated in 2. Two patients died from disseminated disease.

Older patients were more likely to develop recurrent disease ($P = 0.02$). A malignant histology ($P = 0.04$, OR 5.26, 95% CI 0.04–0.89) and high mitotic count ($P = 0.01$, OR 7.30, 95% CI 0.02–0.76) correlated significantly with the likelihood of recurrence. Although larger tumours were more likely to recur, this did not reach statistical significance. Margin status did not correlate with recurrence.

Conclusions: Recurrence following surgical resection with a 1 mm margin was 10.5% for borderline PTs and 27.8% for malignant PTs. Surgical margin status did not correlate with recurrence. Rather, age, malignancy and the degree of mitotic activity appeared to predict for recurrent disease.

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Poster

Harmonic Scalpel Vs. Electrocautery Dissection in Modified Radical Mastectomy – Randomized Controlled Trial

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Background: To compare outcomes between harmonic and Electrocautery dissection in female adult patients who underwent modified radical mastectomy (MRM).

Methods: In this randomized controlled trial, the adult females who underwent MRM during 1st april 2010 to 30th may 2011 were randomized to receive either intervention A (harmonic scalpel) or B (electrocautery) by lottery method. The procedure was standardized except raising of the flaps that was performed as per randomization. Two drains were placed i.e. one in axilla and other in flap. Patients were followed up in clinic for four weeks. The outcomes were estimated blood loss (EBL), operating time, drain Volume and drain Days, seroma formation, surgical

site infection and postoperative pain. Comparison of groups was done with T-test for continuous and chi-square for categorical variables. Multiple linear regression was done to control the effect of age, BMI, breast volume, tumor size and neoadjuvant chemo radiotherapy.

Results: In each intervention group, 75 patients were recruited consecutively. Both the groups were comparable for baseline variables with age of 48.5 ± 14.5 and 50.5 ± 12.2 years, respectively. Harmonic dissection yielded better outcomes as compared to electrocautery with lower EBL (182 ± 92 vs. 100 ± 62 , p-value: 0.00), operative time (187 ± 36 vs. 191 ± 44 , p-value: 0.49), drain volume (1035 ± 413 vs. 631 ± 275 , p-value: 0.00), drain days (17 ± 4 vs. 12 ± 3 p-value: 0.00), seroma formation (21.3% vs. 33.3%, p-value: 0.071), surgical site infection (5.3% vs. 23%, p-value: 0.006) and postoperative pain (3.4 ± 1 vs. 1.8 ± 0.6 , p-value: 0.00).

Conclusion: Although the harmonic didn't reduce the operative time, however, it significantly reduced post operative discomfort and morbidity to the patient. Based on our results we recommend harmonic dissection in MRM.

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Poster

Why Some Surgeons Omit Sentinel Node Biopsy in Breast Cancer Patients? Barriers to Popularize Sentinel Node Biopsy in Low Resource Areas

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Background: Sentinel node biopsy (SLNB) is now standard of care in early breast cancer, but there are still some limitations for surgeons in low resource areas like some areas in Iran, to do this beneficial method for their patients. Popularizing a new technique like SLNB is the matter that is as important as standardizing it and may be more difficult than it. If we know the reasons for omission of SLNB by surgeons, we can find the ways to encourage them to do it routinely and prevent unwanted side effects of axillary dissection.

Materials and Methods: 105 General and breast surgeons of IRAN participating in CME programs answered questionnaire about if they do sentinel node biopsy for their patients when it is indicated and cause of omission if the answer was not. Surgeons also answered questions about their place of work and percent of their work that was related to breast and how they learned sentinel node biopsy.

Results: 65.75% of the surgeons said that they do not perform sentinel node biopsy routinely for their patients with early breast cancer. This rate was 55% for the surgeons that more than 30% of their surgeries were on breast cancer. Overall the cause of omitting SLNB was lack of facilities such as radioactive injection and detection probe (72.4%), lack of trustable pathologist for sentinel node assessment (6.8%) and Difficulty in discussion for the patients because of unawareness and fear of losing the patient's trust (3.6%). Also 17.2% of surgeons said that they are not educated for sentinel node biopsy or haven't passed the learning curve besides not access to equipments.

Conclusion: Even in present time that sentinel node biopsy is a known standard of care for early breast cancer, some surgeons omit it mainly because of insufficient facilities. If we could offer a low cost method for SLNB in district areas that do not have access to radio labeled drugs or detection probes, it can be done for most breast cancer patients that have tumors with clinical negative lymph nodes.

The low cost method may be using only dye for injection as some researchers reported it with good results (like experience of surgeons in Brigham and Women's Hospital in Boston). Education of pathologists and surgeons and raising awareness of the patients are also helpful to popularize this method.

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Poster

Minimally Invasive Nipple Sparing Mastectomy – One Year Monoinstitutional Experience of a Novel Technique

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Background: Minimally invasive breast surgery is in its infancy, since early reports from Oriental countries failed until now to find out a safe and reproducible procedure. We propose a new video-assisted nipple sparing mastectomy technique (V-NSM) aiming to avoid breast's scars

while ensuring rigorous oncological safeness and low morbidity rate. Here is reported our 1 year experience.

Materials and Methods: *Patients' selection:* Minimally invasive approach was prospectively offered to women candidate to nipple sparing mastectomy, both for breast cancer (BC) and risk reduction surgery (RRS).

Surgical technique: A 3–4 cm skin incision in axilla was used for all surgical procedures. Firstly, sentinel lymph node biopsy and/or axillary dissection were performed if indicated and breast tail was prepared under direct vision. Then the whole mammary gland was dissected under endoscopic assistance using ultrasonic or radiofrequency scalpel. The superficial skin flap was created through 2 different techniques: (a) Gasless technique: a retractor with the endoscope inside pulled up the skin; (b) Breast endoscopic single site (BESS) technique: the working space was created by a single-port device with injection of CO₂. The nipple-areola complex was accurately hydrodissected and cored with cold scissors and the retroareolar tissue marked for pathologic exam. Dissection of the breast gland from the deep fascial plane allowed to complete the mastectomy and to extract the gland from the axillary scar. Immediate reconstruction was performed by video-assisted subpectoral pocket creation and trans-axillary positioning of an anatomical permanent prosthesis.

Results: At the Breast Unit of Fondazione IRCCS Policlinico San Matteo in Pavia, Italy, from October 2010 to October 2011, 26 patients (45.6±7.3 years) underwent 30 V-NSM. Indications were: 21 BC and 9 RRS. In oncological patients 17 sentinel lymph node biopsies and 6 full axillary dissections were performed at the same time. The new V-NSM technique was feasible in all 30 cases. No nipple-areola complex was removed either for close/positive margin or for postoperative necrosis. Reconstruction was made with medium size 243±58 cc implants obtaining excellent/good symmetry. No early major complications developed.

Conclusions: Minimally invasive V-NSM is feasible and promises to become a good option in selected patients, if surgical and oncological safeness of this series will be confirmed by more extensive experience and appropriate follow-up.

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Poster

Neither Ductal Nor Lobular Invasive Breast Cancer and Sentinel Node

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Sentinel node biopsy is the gold standard technique for staging the axilla in early stage breast carcinoma.

Invasive breast cancer with special histological features comprises around 10% all breast cancers detected, and comprises a heterogeneous group of breast malignancies, with different prognosis and outcome.

The purpose of this study was to examine the accuracy and feasibility of sentinel node biopsy according these unusual subtypes of breast carcinoma.

Methods: From January 1997 to July 2008 all patients in 6 affiliated hospitals having early breast cancer, and clinically negative axilla, underwent sentinel node biopsy (SLNB) (n=2253). Patient data were entered in the multicenter data base.

For lymphatic mapping, all patient received an intrasclerous dose of nanocolloid Tc^{99m} (dose: 4mCi in 0.4 ml. saline), at least two hours before surgical procedure, by the same Nuclear team.

Results: For the whole series, detection rate was 95% (no migration in 123 patients), and positive sentinel node prevalence was of 22%.

Of 2253 patients in our data base, pathology reported in 144 cases, neither lobular nor ductal carcinoma, this is a 15.64% of the whole series.

Migration of nanocolloid was unsuccessful in 8 patients, so diagnosis accuracy rate has been of 94.5%.

Positive sentinel node prevalence was 7.3%.

	N	No migration	SN +	CAD+/CAD
Invasive apocrine	2 (1.4%)	0	0	–
Adenoid cystic	5 (3.5%)	0	0	–
Colloid	34 (14%)	4 (2.7%)	3 (8.8%)	3/7
Medullary	20 (13.9%)	1 (1.4%)	1 (5%)	1/2
Invasive Micropapillary	5 (3.5%)	0	1 (20%)	1/1
Papillary	19 (13.2%)	0	0	–
Cribiform	8 (5.6%)	0	1 (12.5%)	1/1
Tubular	41 (28.5%)	2 (1.4%)	4 (9.7%)	4/6
Neuroendocrine	5 (3.5%)	0	0	–
Metaplastic	5 (3.5%)	1 (1.4%)	0	0/1
TOTAL	144	8 (5.5%)	10 (7.35%)	

All patients with positive sentinel node (metastasis or micrometastasis) or no migration during the lymphoscintigraphy underwent complete axillary dissection (CAD).

Conclusions: Sentinel node biopsy is also accurate and feasible in special histological subtypes of breast carcinoma.

Diagnosis efficacy and positive sentinel node prevalence in these tumours is not distinctive from ductal either lobular breast carcinoma.

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Poster

Long-term Results of Breast Conservation Treatment Without Axillary Lymph Node Dissection for Clinical T1/2N0M0 Breast Cancer – Comparison with Breast Conservation Treatment with Axillary Lymph Node Dissection

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Background: The number of pathological metastases of axillary lymph node (ALN) dissected during surgery is the most reliable prognostic factor, and the key indicator in determining the indication of the post surgical treatment. However, complications such as seroma, elevation disturbance, paresthesia, and edema of the upper arm are associated with a high incidence of axillary lymph node dissection (ALND). The aim of this study is to examine the effectiveness of breast conservation treatment (BCT) without ALND for clinical T1/T2N0M0 breast cancer.

Materials and Methods: We enrolled 212 breast cancer patients diagnosed clinically T1/T2N0M0 between July 1989 and January 2004. Patient age ranged from 21 to 84 years (median 49). Follow-up phase is from 1 year 6 months to 22 years 0 months (median 14 years 3 months). We provided BCT without ALND for 106 patients who agreed to receive this treatment and BCT with ALND for others. Criteria of negative ALN metastasis were that minor axis of lymph node was less than 5 mm on CT images and fat tissue in the hilum of ALN did not disappear on ultrasound images. In the case that hormone receptor expression was positive or unknown, nonsteroidal antiestrogen was administered for 5 years. In the case of T1c or T2 under 70 years old, neoadjuvant and/or adjuvant anthracycline-based chemotherapies were administered. After surgery, patients without ALND received tangential irradiation at the region of both breast and axilla, and patients with ALND received only at the region of breast.

Results: Ninety-one patients were pathological negative ALN metastasis among 106 patients who were performed surgery with ALND (true-negative rate was 85.8%). However, there were no patients with more than 4 ALNs metastases among them. Ten years overall survival was 95.5% and 96.9% in the case of BCT without ALND and with ALND, respectively, and there was no significant difference between two cases. Ten years disease-specific overall survival was 97.7% and 98.0% in the case of BCT without ALND and with ALND, respectively, and there was also no significant difference between two cases. Ten years disease free survival was 90.4% and 89.4% in the case of BCT without ALND and with ALND, respectively, and there was also no significant difference between two cases.

Conclusions: These results indicate that ALND is omissible in the case of BCT for clinical T1/T2N0M0 breast cancer by a combination of hormone therapy, neoadjuvant/adjuvant chemotherapy, and irradiation.

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Poster

Intraoperative Injection of Subareolar Radioisotope Results in Predictable Identification of Sentinel Lymph Nodes in Breast Cancer

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Objective: Our objective is to evaluate intra operative subareolar injection of technetium-99m (Tc99), after induction of anaesthesia, is safe, effective and pain free for identification of sentinel lymph node in breast cancer patients.

Background: Preoperative injection of Tc99 is routinely performed before sentinel lymph node biopsy (SLNB) for breast cancer. Blue dye is often used to help guide and confirm the localization. This method is limited because of painful injections and we hypothesized that giving the radioisotope after the induction of anaesthesia is practical for the identification of sentinel lymph node in breast cancer and avoid the significant impact of pain. Current standard of practice is to inject the radioisotope prior to the anaesthetic.

Methods: This is a single institution study. All patients with operable breast cancer that were eligible for a SLNB radioisotope injection after the induction of anaesthesia from November 2011 were included. After induction and before sterile preparation of the operative field 0.2 ml of Tc-99 was administered by a subareolar injection. Site and type of injection, injection time, incision time, and identification time of sentinel node along with other factors for the purposes of the study were recorded. Data comparing injection of Tc-99 preoperative and intraoperative are being analysed.