free survival (RFS) in the intra-operative false negative SLNB compared with that in the negative SLNB was 3.49 (p = 0.0048; 95% CI, 1.46–8.32).

Conclusions: It is currently unclear whether ALND can be avoided in most patients with breast cancer with intraoperative, false-negative SLNB. However, patients with pN0 (i+) or with pN1mi had other poor prognostic factors and needed to receive more aggressive therapy.

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Occult Nipple Involvement in Breast Cancer

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Background: The treatment of breast cancer has evolved, with treatment options including skin-sparing and nipple-sparing mastectomy. But few studies concerned the oncologic safety of preserved nipple-areolar complex. The purpose of this study is to evaluate the occult nipple involvement rate and improve patient selection for nipple sparing mastectomy.

Methods: We retrospectively analyzed 492 breast cancer patients with grossly unremarkable nipples who underwent mastectomy at the Department of Surgery, Kangbuk Samsung Hospital between 2005 and 2010. We reviewed patient clinical data and tumor pathologic report; age, tumor size, tumor-to-nipple distance, multifocality, multicentricity, lymph node metastasis, histologic grade, hormone receptor status, p53, HER2/neu status, lymphovascular invasion.

Results: Among patients underwent mastectomy, we found a 8.13% (40/492) rate of occult nipple positivity with histologic examination. Occult nipple involvement was statistically associated with tumor-to-nipple distance, multifocality, multicentricity ($p < 0.001$), and p53 status ($p = 0.036$).

Conclusion: More than 90% of breast cancer patients undergoing mastectomy did not have occult nipple involvement. This indicates that even patients who had clinically normal appearing nipple-areolar complex should be carefully selected for nipple sparing mastectomy.

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Our Experience on Conservative Mastectomies − Focus on Nipple Areola Complex Sparing Mastectomy (NACSM) and Skin Reducing Mastectomy (SRM)

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Background: In the recent and rapid evolution of surgical techniques for the treatment of breast cancer, conservative mastectomies represent radical procedures with the reduction or sparing of the skin envelope and the immediate reconstruction with implants or autologous tissues.

Materials and Methods: Our indications for this kind of mastectomies were in situ and invasive cancer without nipple involvement in small-medium size breasts with minimal-moderate ptosis for the NACSM, and large breasts for the SRM. In our experience the contraindications included previous radiotherapy, smoke and diabetes. Regarding the NACSM, the skin incision was performed, as italic S, in the external-upper quadrant, while, for the SRM, following the WISE pattern. In all cases of NACSM and SRM with NAC preservation, an intraoperative histological examination of retroareolar tissue was performed.

From June 2007 to June 2011 we performed 44 NACSM (22 reconstructions with tissue expanders and 22 with permanent prosthesis) and from May 2008 to June 2011 12 SRM, with Nipple Areola Complex (NAC) preservation in 3 cases (including 1 on dermal flap and 2 as graft). The average age of the patients was 48 years (range 26−73) for the NACSM and 58 years (range 38−73) for the SRM.

Results: In one case, respectively, for the NACSM and the SRM, there was lower pole skin necrosis, with extrusion of the implant, so we had to remove it. The average follow-up was 18 months (range 0−48), with a local recurrence after 45 months, for the NACSM and 13 months (range 0−36), without recurrencies for the SRM.

Conclusions: For the SRM our experience confirms, according the new tecnique (variation of the Skin Sparing Mastectomy type IV) that the creation of a dermal-fat flap prepared during the mastectomy, has significantly reduced the incidence of lower pole skin necrosis.

We believe that, according to the correct indications and using a rigorous surgical technique, conservative mastectomy guarantees a safe oncological treatment with a good cosmetic result, without the need of others local complementary treatments.

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Short-term Outcomes of Immediate Breast Reconstruction After Mastectomy Using Implant or Tissue Expander in Patients with Breast Cancer

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Background: Mastectomy can be a definitive treatment in women with breast cancer. However, it may cause a significant psychological trauma and psychosocial withdrawal. This study was conducted to evaluate the outcome of immediate breast reconstruction after mastectomy using implant or tissue expander in patients with breast cancer.

Materials and Methods: Seventy-seven patients underwent breast reconstruction with permanent implant or tissue expander immediately after mastectomy from July 2007 to December 2010, and 14 patients were excluded because of follow-up loss. Therefore, a total of 63 patients aged 29 to 64 years (mean age: 44.1) were evaluated in this study. There were 32 cases of total mastectomy, 12 cases of skin sparing mastectomy, and 19 cases of nipple areolar complex (NAC) sparing mastectomy. Medical records of these patients were reviewed retrospectively, and to assess patients' satisfaction, questionnaires were sent to all patients.

Results: At pathology, 16 (25.4%) had ductal carcinoma in situ; 47 (74.6%) had invasive carcinomas. With a median follow-up periods of 22.4 months (range: 6−45 months), there was 1 case of loco-regional recurrence. Overall breast cancer specific survival was 100%. Overall complication rate was 20.6% (13 patients), such as NAC necrosis or implant removal. Among 10 patients who had NAC necrosis, 6 patients improved after observation, and 4 patients had nipple or NAC removal. Three patients were removed their implant due to infection or patients' dissatisfaction. According to the result of the questionnaires, 84.1% was satisfied with generalized operational result, and 77.8% was satisfied with cosmetic outcome.

Conclusion: Although this study needs further evaluation and long-term follow up, immediate reconstruction after mastectomy using implant or tissue expander can be an oncologically safe procedure, along with acceptable cosmetic outcome.

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Correlation Between the Area of High-signal Intensity on SPIO-enhanced MR Imaging and the Pathologic Size of Sentinel Node Metastases in Breast Cancer Patients with Positive Sentinel Nodes

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Background: Superparamagnetic iron oxide (SPIO)-enhanced MR imaging has been reported to be promising for the detection of metastases in sentinel nodes localized by CT lymphography in patients with breast cancer (Motomura K, Ann Surg Oncol 2011). A node was considered metastatic if there was high-signal intensity either in the entire node or in a focal area on SPIO-enhanced MR imaging. This study investigated the correlation between the area of high-signal intensity on SPIO-enhanced MR imaging and the pathologic size of sentinel node metastases in breast cancer patients with pathologically positive sentinel nodes.

Materials and Methods: This study included 150 patients with breast cancer. Sentinel nodes were identified by CT lymphography, and SPIO-enhanced MR imaging of the axilla was performed to detect metastases in the sentinel nodes. Sentinel node biopsy was performed using a combination of dye and radiocolloid. Imaging results were correlated with histopathologic findings.

Results: Thirty-three pathologically positive sentinel nodes from 30 patients were evaluated. Four false negative patients were excluded. Three patterns of SPIO uptake were demonstrated for positive sentinel nodes. Six nodes (18.2%) showed uniform high-signal intensity, 17 nodes (51.5%) showed partial high-signal intensity involving more than 50% of the node, and 10 nodes (30.3%) showed partial high-signal intensity involving less than 50% of the node. High-signal intensity patterns that were uniform or involved more than 50% of the node were observed in 23 nodes that contained macro-metastases and no node that contained micro-metastases, while high-signal intensity patterns involving less than 50% of the node were observed in 2 nodes that contained macro-metastases and 8 nodes that contained micro-metastases. When the area of high-signal intensity was compared with the pathological size of the metastases, there was no difference for nodes with metastases $\geqslant$4 mm, but there was a significant difference for nodes with metastases <4 mm ($p > 0.05$ and $p < 0.01$, respectively, paired t test).

Conclusions: High-signal intensity patterns that are uniform or involve more than 50% of the node are features of nodes with macro-metastases.