36th Annual Symposium of the American Society of Breast Disease

THE BREAST JOURNAL AWARDS
The Breast Journal Awards

First Award Winner


Ng Char Hong, MD; Nirmala Bhoo-Pathy, MD; NurAishah Taib, MD; Ho Gwo-Fuang, MD; Anthony Rhodes, MD; Yip Cheng-Har, MD

University Malaya Medical Centre, Kuala Lumpur, MALAYSIA

Second Award Winner

“Impact of Re-Excision and Margin Status after APBI: Analysis of William Beaumont Hospital and the American Society of Breast Surgeons (ASBrS) MammoSite® Registry Trial Data.”

J. Ben Wilkinson, MD; Chirag Shah, MD; Martin Keisch, MD; Peter Beitsch, MD; Douglas Arthur, MD; Maureen Lyden, MD; Frank A. Vicini, MD

William Beaumont Hospital, Michigan, USA

Third Award Winner

“Upregulated TYRO3 is Associated with Advanced Invasive Ductal Carcinoma of the Breast.”

Shaun Shi Yan Tan, MD; PJ Chua, MD; VC Koh, MD; AA Thike, MD; PH Tan, MD; BH Bay, MD

Singapore General Hospital, SINGAPORE
First Award Winner


Ng Char Hong, MD; Nirmala Bhoo-Pathy, MD; NurAishah Taib, MD; Ho Gwo-Fuang, MD; Anthony Rhodes, MD; Yip Cheng-Har, MD

University Malaya Medical Centre, Kuala Lumpur, MALAYSIA

Abstract: The significance of the single hormone receptor positive phenotype which is still poorly understood and the use of hormone therapy has been found to be less effective in the single hormone receptor positive phenotype and they have a survival outcome midway between double positive and double negative phenotypes. The aim of this study was to investigate the difference in patient and tumor characteristics and survival between double-receptor positive (ER+PR+), double receptor negative (ER-PR-) and single receptor positive (ER+PR- and ER-PR+) breast cancer in an Asian setting. 1992 patients with newly diagnosed stage I to IV breast cancer between 2003 and 2008, and where information on ER and PR were available, were included in this study. The majority of patients had ER+/PR+ tumors (n=903: 45.3%), followed by 741 (37.2%) ER-PR-, 247 (12.4%) ER+/PR-, and 101 (5.1%) ER-PR+ tumors. Using multivariate analysis, ER+/PR- tumors were 2.4 times more likely to be grade 3 compared to ER+/PR+ tumors. ER+/PR- and ER-PR- tumors were 82% and 86%, respectively less likely to be grade 3 compared with ER-PR- tumors. There were no survival differences between patients with ER+/PR+ tumors and ER-PR+ tumors. However, ER+/PR- tumors have poorer survival followed by ER-PR- tumors with worst survival. Adjuvant hormonal therapy with tamoxifen was found to have identical survival advantage in patients with ER+/PR+ and ER-PR+ tumors whereas impact was slightly lower in patients with ER-PR- tumors. In conclusion, we found that ER+/PR- tumors were more aggressive and have poorer survival when compared to ER+/PR+ tumors. However ER-PR+ have similar survival to ER+/PR+ tumors implying that ER-PR+ tumors do not exist and are due to technical failure of the immunohistochemical assay.

Table 1a Association between patient/tumor characteristics and ER+/PR-phenotype (breast cancer)

<table>
<thead>
<tr>
<th>Patient/tumor characteristics</th>
<th>ER+/PR- vs ER+/PR+</th>
<th>ER+/PR- vs ER-/PR-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Univariable odds</td>
<td>Multivariable odds</td>
</tr>
<tr>
<td></td>
<td>ratio (95%CI)</td>
<td>ratio (95%CI)*</td>
</tr>
<tr>
<td>Age</td>
<td>1.01 (1.00-1.02)</td>
<td>1.01 (1.00-1.02)</td>
</tr>
<tr>
<td>Tumor size</td>
<td>1.06 (1.02-1.10)*</td>
<td>1.03 (0.99-1.08)</td>
</tr>
<tr>
<td>Metastasis</td>
<td>2.12 (1.22-3.71)*</td>
<td>1.58 (0.85-2.94)</td>
</tr>
<tr>
<td>Grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.56 (0.88-2.76)</td>
<td>1.38 (0.78-2.45)</td>
</tr>
<tr>
<td>High</td>
<td>2.73 (1.51-4.95)*</td>
<td>2.40 (1.31-4.40)*</td>
</tr>
<tr>
<td>Unknown</td>
<td>1.69 (0.92-3.10)</td>
<td>1.50 (0.79-2.86)</td>
</tr>
<tr>
<td>Histology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDC</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>ILC</td>
<td>0.89 (0.46-1.70)</td>
<td>1.04 (0.52-2.10)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0.66 (0.34-1.28)</td>
<td>0.69 (0.34-1.45)</td>
</tr>
</tbody>
</table>
First Award Winner – Additional Supporting Material

Figure 1 Overall Survival curve by hormone receptor status
Second Award Winner

“Impact of Re-Excision and Margin Status after APBI: Analysis of William Beaumont Hospital and the American Society of Breast Surgeons (ASBrS) MammoSite® Registry Trial Data”

J. Ben Wilkinson, MD; Chirag Shah, MD; Martin Keisch, MD; Peter Beitsch, MD; Douglas Arthur, MD; Maureen Lyden, MD; Frank A. Vicini, MD

William Beaumont Hospital, Michigan, USA

Abstract:

Purpose: Determine impact of re-excision and margin status following Breast-Conserving Surgery and Accelerated Partial Breast Irradiation (APBI).

Materials and Methods: 2,041 cases of early-stage breast cancer (592 treated at William Beaumont Hospital (WBH) and 1449 treated on the ASBrS MammoSite® Registry Trial) were evaluated. Three forms of APBI are used at WBH while all ASBrS Trial participants received applicator-based brachytherapy. Efficacy of re-excision (WBH data) and impact of final margin status on outcomes (ASBrS data) were analyzed.

Results: Median follow-up was 6.2 years (WBH) and 4.9 years (ASBrS). 122 WBH patients (20.6%) had an initial positive (n=34/5.7%) or close (n=88/14.9%) margin and 78.7% underwent re-excision. Positive-margin patients (88%/p=0.08) and those with invasive disease (83%/p=0.10) received additional surgery more often than those with close margins or DCIS. More residual disease was found if the initial margin was positive versus close (17.9% vs. 8.5%, p=0.02), while invasive/non-invasive cases had similar yield rates (9.3% vs. 8.3%, p=0.78). ASBrS MammoSite® Registry patients with close/positive margins (n=123/8.5%) had larger tumors (11.0-16.5mm vs. 10.0mm; p=0.03/p=0.04), increased ER-negative rates (13.6-15.4% vs. 9.2%, p=0.01/p=0.03), and more positive nodes (15.4% v. 2.5%, p=0.01). The six-year IBTR rate was progressively higher for patients with close margins, positive margins, and DCIS (Table 1) with a trend towards significance when close/positive-margin cases were pooled (9.3% v. 4.1%, p=0.07).

Conclusion: Increased rates of IBTR were noted in patients with close or positive margins. This analysis supports the recommendation to obtain margins of 2mm or greater prior to adjuvant application of APBI.
Table 1: Six-year IBTR Rate by Margin Status
American Society of Breast Surgeons MammoSite® Registry Trial

<table>
<thead>
<tr>
<th>All ASBrS Patients (n=1449)</th>
<th>IBTR</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close vs. Negative</td>
<td>8.7%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Positive vs. Negative</td>
<td>14.3%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Positive/Close vs. Negative (Pooled)</td>
<td>9.3 %</td>
<td>4.1%</td>
</tr>
<tr>
<td>Pure DCIS Only (n=194)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Close vs. Negative</td>
<td>17.6%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Positive/Close vs. Negative (Pooled)</td>
<td>15.7%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Third Award Winner

“Upregulated TYRO3 is Associated with Advanced Invasive Ductal Carcinoma of the Breast.”

Shaun Tan, MD; PJ Chua, MD; VC Koh, MD; AA Thike, MD; PH Tan, MD; BH Bay, MD
Singapore General Hospital, SINGAPORE

Abstract:

**Background:** TYRO3 is a member of the TAM family of receptor tyrosine kinases, and is involved in the regulation of cellular processes including proliferation, differentiation and motility. Overexpression of this protein has been reported only in myeloid leukemia and multiple myeloma. The purpose of our study was to determine the role of TYRO3 breast cancer and whether expression of this protein has prognostic significance. Methods In-vitro mRNA expression of TYRO3 was evaluated in 5 breast cell lines, MCF-12A, MCF-7, T47D, ZR-75-1 and MDA-MB-231 using Western blot, RT-PCR and immunofluorescence. We then evaluated 192 invasive ductal breast carcinoma clinical specimens, constructed with tissue microarray, using immunohistochemistry. Two independent observers blinded to outcome data graded the specimens according to their Immunoreactivity or H-Score.

**Results:** TYRO3 mRNA transcripts were expressed in all the breast cancer cell lines examined. Expression of TYRO3 protein was observed to be localized mainly to the cytoplasm. Regression analysis of TYRO3 was performed and showed that poorly differentiated tumors (n=86) exhibited significantly higher average TYRO3 expression (78.7 + 46.7) compared to well and moderately differentiated (n=103) tumors (57.1 + 49.4) (P=0.02). In addition, tumors which stained positive for both TYRO3 and HER2 receptor demonstrated correlation with greater tumor size (P=0.036), higher AJCC staging (P=0.034) as well as T staging (P=0.038). Performing Kaplan-Meier survival plots also showed that positively stained TYRO3 cases had significantly lower disease-specific survival compared to negatively stained ones (P=0.044, Log Rank Test).

**Conclusion:** Upregulation of TYRO3 is associated with more aggressive breast carcinoma and TYRO3 could serve as a potential biomarker in the carcinogenesis of breast cancer.
Mini Oral Abstract Index

First Mini-Oral

“Management of Positive Subareolar Margins in Nipple Sparing Mastectomies”
Melissa Camp, MD; Suzanne B. Coopey, MD; Rong Tang, MD; Michele Specht, MD; Rachel A. Greenup, MD; Amy Colwell, MD; Barbara L. Smith, MD
Massachusetts General Hospital, Massachusetts, USA

Second Mini-Oral

“Impact of Delays in Time to Treatment on Recurrence in Triple Negative Breast Cancer”
Amy Eastman, MD; Valerie Andrews, MD; David Euhus, MD; James Huth, MD; A. Marilyn Leitch, MD; Amy Moldrem, MD; Roshni Rao, MD
Texas, USA

Third Mini-Oral

“Breast Cancer Subtypes, Associated Variables, and Prognosis.”
Jana Lewis, MD; Paul Tartter, MD; Beth Freedman, MD; Karen Ching, MD
St. Luke’s-Roosevelt Hospital Centers, New York, USA
First Mini-Oral

“Management of Positive Subareolar Margins in Nipple Sparing Mastectomies”

Melissa Camp, MD; Suzanne B. Coopey, MD; Rong Tang, MD; Michele Specht, MD; Rachel A. Greenup, MD; Amy Colwell, MD; Barbara L. Smith, MD

Massachusetts General Hospital, Massachusetts, USA

Abstract:

Objectives: Nipple sparing mastectomies (NSM) are increasingly common due to their cosmetic advantage. Retention of the nipple areolar complex (NAC) is safe when histopathology of a subareolar/nipple margin specimen shows no malignancy on permanent section. We sought to determine the rate of positive subareolar margins and their subsequent management at our institution.

Methods: Retrospective chart review of all NSM in our institution from 2007-2011 was performed and demographic, operative, pathologic and treatment related information collected. A descriptive analysis was performed of cases with positive subareolar margins.

Results: Of 328 NSM (163 cancer-bearing breasts and 165 prophylactic), 18 (5.49%) had positive subareolar margins; 3 contained invasive lobular carcinoma (ILC) +/- lobular carcinoma in situ (LCIS) and 15 contained ductal carcinoma in situ (DCIS). There were no positive margins in any prophylactic mastectomies. An additional 13 subareolar margins contained LCIS alone and 2 contained atypia. Management of positive subareolar margins included removal of 6 nipples and 9 NAC. The nipple or NAC was removed for 100% with invasive cancer, 80% with DCIS, 8% with LCIS and 0% with atypia. 4 nipple and 6 NAC specimens had no residual malignancy, 3 NAC had DCIS and 2 nipples had LCIS. There have been no nipple/NAC tumor recurrences.

Conclusions: 5% of NSM subareolar margins contained invasive cancer or DCIS. The majority of nipple/NAC specimens excised for a positive subareolar margin had no residual malignancy. Future studies are needed to determine the extent of NAC tissue removal required when positive subareolar margins are identified.
Abstract:

**Background:** When compared to other breast cancer subtypes, triple negative breast cancers (TNBC) are associated with high recurrence rates and worse survival. It has been proposed that due to the aggressive nature of TNBC, outcomes in this breast cancer subtype may be more sensitive to delays in time to treatment. This study evaluates the impact of time to treatment on locoregional recurrence (LRR) in TNBC.

**Methods:** Retrospective review of patients with TNBC undergoing treatment between January 2004-January 2011 in a multidisciplinary breast oncology program was performed. 301 TNBC's were identified. Data collected included demographics, pathology, stage, initial treatment, recurrence, and survival. Patients with Stage IV disease at initial presentation, and patients with distant recurrence were excluded from evaluation. Interval to treatment was calculated as the number of days from pathologic diagnosis to first local or systemic treatment. Median time to treatment was compared between patients with LRR versus those with no evidence of recurrence.

**Results:** 218 met final inclusion criteria. At median follow-up of 40 months, LRR was seen in 20 (7%) patients. Overall survival was worse in patients with LRR versus those with no evidence of recurrence (p < 0.001). Median time to recurrence was 16 months. Median survival for patients with LRR was 30 months. Mean+SEM time to treatment was 38+6 days for patients with a LRR compared to 44+2 days for patients without a recurrence (p=ns).

**Conclusion:** Time to treatment was not significantly different in TNBC patients with LRR versus those without recurrence. Time to treatment does not appear to impact LRR.
Third Mini-Oral

“Breast Cancer Subtypes, Associated Variables, and Prognosis.”

Jana Lewis, MD; Paul Tartter, MD; Beth Freedman, MD; Karen Ching, MD
St. Luke’s-Roosevelt Hospital Centers, New York, USA

Abstract:

Introduction: Breast cancer subtypes, based on gene expression for estrogen receptor (ER), progesterone receptor (PR), and HER2/neu, influence patient treatments and outcomes. We correlated different molecular subtypes with common risk factors and determined their effects on disease free survival (DFS).

Methods: We studied 900 patients with invasive breast cancer who received either breast conserving therapy or mastectomy between December 1998 and October 2011. Molecular subtypes were: luminal A (ER+, PR+, Her-2-), luminal B (ER+, PR+, Her-2+), Her-2 (ER-, PR-, Her-2+), basal/triple negative (ER-, PR-, Her-2-).

Results: There were 647 (72%) patients with luminal A tumors, 83 (9%) luminal B, 41 (5%) Her-2, and 129 (14%) basal. Of tumors in patients < 50 years old, 25% were luminal A versus 75% in patients > 50 (p=0.002). African American patients were more likely to be triple negative (TN) compared to other races (24% vs. 13%, p=0.003). More smokers were TN (18%), than ex-smokers (14%) and non-smokers (15%, p=0.046). Luminal A tumors were smallest in size (1.6cm, p=0.001). 84% of TN tumors were poorly differentiated, compared to 18% of luminal A tumors (p=0.001). More TN patients underwent mastectomy than luminal A patients (76% vs. 16%, p=0.008). Five year DFS was 91% for the luminal A group, 89% for luminal B, 78% for Her-2, and 76% for TN (p=0.0004).

Conclusion: Luminal code was significantly related to age, race, smoking status, size and tumor differentiation. These molecular subtypes influenced treatment and DFS. Their importance in diagnosing and treating breast cancer continues to evolve.
36th Annual Symposium of the American Society of Breast Disease

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Ng Char Hong, MD; Nirmala Bhoo-Pathy, MD; NurAishah Taib, MD; Ho Gwo-Fuang, MD; Anthony Rhodes, MD; Yip Cheng-Har, MD
University Malaya Medical Centre, Kuala Lumpur, MALAYSIA

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Massachusetts General Hospital, Massachusetts, USA

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Texas, USA

**Poster 6 – Third Mini Oral Winner**
“Breast Cancer Subtypes, Associated Variables, and Prognosis.”
Jana Lewis, MD; Paul Tartter, MD; Beth Freedman, MD; Karen Ching, MD
St. Luke’s-Roosevelt Hospital Centers, New York, USA

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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO
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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

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Lacks Cancer Center, Saint Mary’s Health Care, Michigan, USA

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South Florida Radiation Oncology, Florida, USA

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American Society of Breast Disease, Texas, USA
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Magee Women’s Hospital, Pennsylvania, USA

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Magee Women’s Hospital, Pennsylvania, USA

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University Hospitals Case Medical Center, Ohio, USA

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Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract: We present a case report of a 46 years old female, she came to our institution after an excisional biopsy of a right breast tumor, slides and tissue samples were reviewed with a diagnosis of a malignant fibrous histiocytoma of the right breast (15x12x7cm) with positive margins. Extension imaging studies were negative for metastatic disease, and the patient was treated with total mastectomy without axillary staging + thoracic wall radiation therapy (50Gy), pathology reported a residual 3mm tumor. Three months later on follow up the thorax x-ray shows a suspicious nodule in left lung, confirmed by CT scan. Biopsy reported metastatic malignant fibrous histiocytoma. Patient underwent left inferior lobectomy + chemotherapy (ifosfamide + doxorubicin) without any complication. At present time, our patient is disease free at 5 years from diagnosis, and considering breast reconstruction. Primary sarcomas of the breast are malignant tumors arising from the connective tissue within the breast and account for less than 1% of all breast malignancies. Malignant fibrous histiocytoma is a rare subtype. Treatment of these lesions is surgical, wide excision or total mastectomy being the most frequent procedures. Radiation therapy and chemotherapy may be considered in patients with angiosarcomas and high-grade sarcomas because these lesions have a tendency to recur locally, and can also metastasize. In this case, we present a case of a right breast malignant fibrous histiocytoma treated with total mastectomy + RT with metastases to left lung treated with lobectomy + chemotherapy with 5 years disease free survival.
Abstract: We retrospectively reviewed patient registries with a mastitis diagnosis on our data base from January 2001 to October 2011. A total of 71 files were identified and reviewed, 59 were excluded with a diagnosis of non granulomatous mastitis. A total of 12 patients had pathology report of IGM, after a review of the histopathology 2 more were excluded because we couldn’t review the specimen report from another institution, we analyzed a total of 10 files.

Results: Average age was 40.2 years 25-62, 9 patients with unilateral 60% left breast, and one with bilateral disease. Most frequent clinical presentation was a palpable mass 6, 60%, followed by [INVALID] ed mammography 2, 20%. Mammography and/or Ultrasound were performed in all patients resulting 3 with BI-RADS category 5 and 5 patients with BIRADS category 4, obtaining diagnosis with core biopsy. Ziehl-Neelsen staining was performed in 7 cases, PAS staining in 2 and PCR in 1 more, all negative for M. tuberculosis. Prednisone was the first treatment in 9 patients 10 weeks average. Average follow up was 14.3 months 1-44. 6 60% patients with complete resolution of symptoms, 2 with a recurrent episode solved with partial mastectomy. 1 patient treated with Rifater, she had a recurrent episode solved with prednisone.

Conclusions: IGM is a disease that can mimic breast carcinoma and has to be ruled out. The most frequent clinical presentation was a palpable mass in this study, the majority of the patients responded with prednisone as first treatment, and partial mastectomy as second approach.
Poster 9

“Hyperkeratosis of the Nipple and Areola. Report of 3 Cases.”

Maria Teresa Mireles Aguilar, MD; Jose Luis Guzman Murguia, MD; Natalia Vilches Cisneros, MD; Raquel Cuevas Betancourt, MD; Jose Ramon Villarreal Cardenas, MD; Jose Armando Novoa Zamudio, MD; Ana Irma Vargas Saenz, MD

Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract: We retrospectively reviewed the files of patients with diagnosis of hyperkeratosis of the nipple-areola complex on our database from January 2000 until December 2011, a total of 3 patients were included. First patient, 43 years old female, presented with a scaly itchy 5mm lesion in the right nipple-areola complex, we treated it with topical prednisone for 7 days, the lesion persisted 1 year. Excisional biopsy reported hyperkeratosis of nipple-areola complex, no recurrences 4 years after. Second patient, 18 years old female, she presented with a bilateral scaly, ulcerated lesion. Incisional biopsy reported hyperkeratosis of the nipple-areola complex. She presented wound dehiscence. Complete resolution of the lesion with topical prednisone. Third patient, 15 years old female, with a bilateral scaly lesion in the nipple-areola complex, treated with topic steroids temporarily solved. Core biopsy reported bilateral hyperkeratosis of the nipple-areola complex. Complete resolution with topical and oral prednisone 5mg/day. Two patients responded to steroids, the other patient to resection. Incisional biopsy resulted on wound dehiscence, core and excisional biopsy with good results. The hyperkeratosis of the nipple and areola is a rare lesion, characterized for a verrucous thickening of the skin and hyperpigmentation. First described for Tauber in 1923, there are really few cases in the literature no more than 40, and therefore there’s no standard diagnostic or therapeutic approach. A variety of treatments have been used. Based on our three cases, we recommend to take a core biopsy whenever this lesion is suspected, and to use topical prednisone as first treatment.
Poster 10

“Giant Intracystic Papilloma of the Breast. A Case Report.”

Maria Teresa Mireles Aguilar, MD; Jose Luis Guzman Murguia, MD; Nataqilia Vilches Cisneros, MD; Raquel Cuevas Betancourt, MD; Jose Ramon Villarreal Cardenas, MD; Jose Armando Novoa Zamudio, MD; Jose Homero Lozano Enriquez, MD

Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract: We present a case of a 58 years old female, with a recurrent palpable cyst on her left breast that had been punctured and evacuated several times obtaining negative cytologies, referring one of those punctures with hematic content. Mammography showed a 5 cm heterogeneous nodular assimetric density in the left breast. Ultrasound showed a 2 cm solid intracystic mass contained inside the 5 cm cyst. Core biopsy was performed after evacuating the cyst obtaining 20 ml of clear liquid, and taking 6 core biopsy samples with a 14g spring loaded needle. Cytology of the cyst content showed papillary cells no atypia. Core biopsy reported atypical papilloma. The patient underwent lumpectomy with an excellent aesthetic outcome and pathology reported intracystic papilloma, size 7x5x5cm. Only one third of breast papillomas present with a palpable mass, the vast majority of them measure less than 1cm. We present an interesting case of a 2 cm papilloma inside a 4 cm cyst presenting as a recurrent palpable left breast mass. We propose as an alternative for diagnosis core biopsy of residual mass after evacuation of the cyst in lesions with these dimensions.

Maria Teresa Mireles Aguilar, MD; Jose Luis Guzman, MD; Natalia Vilches Cisneros, MD; Jose Ramon Villarreal Cardenas, MD; Jose Armando Novoa Zamudio, MD; Jose Homero Lozano Enriquez, MD

Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract: We present a case of a 36 years old female, with a history of invasive ductal carcinoma grade 2, pT1N1M0, ER(+), PR(+), Her2/Neu (-), with lymphovascular invasion, associated DCIS treated with lumpectomy, SLND (+), Axillary Dissection, conventional whole breast irradiation 50 Gy and boost, chemotherapy (AC x 4 + Tx 12) at age 33. During her 3rd year with Tamoxifen she suspended it for 2 months and got pregnant; on her follow up appointment she was on her 14th week of pregnancy, an US was performed and detected seven axillary nodes with complete disappearance of the hilum, one of them palpable. Core biopsy reported invasive ductal carcinoma. Metastatic work-up and breast MRI negative for other site of disease. Surgical resection of axillary tissue was performed; chemotherapy will be administer during pregnancy, and axillary irradiation, as well as chemical ovarian ablation with groserelin and aromatase inhibitors in postpartum, giving an alternative endocrine therapy since she presented a recurrence during Tamoxifen adjuvant therapy. Prognosis after nodal recurrence is related to which site is involved, and an isolated axillary recurrence generally has the most favourable prognosis. Gross surgical excision is associated with improved regional control. Questions of drug resistance and tolerance to further systemic treatment must be considered. Controversy emerges on which chemotherapy regimen should we use, since our patient already received AC + taxanes and presented a recurrence, and no guidelines exists on how to treat a recurrence on a pregnant woman.
Poster 12

“Correlation between 4A, 4B, and 4C Categories of BI-RADS in Breast Microcalcifications Groups and Histopathologic Diagnosis on Core Biopsy of Non-Nodular Lesions: Preliminary Results from a Cross-Sectional Diagnostic Accuracy Study.”

Jose Kandelman, MD; Angela FL Waitzberg, MD

Federal University of Sao Paulo – UNIFESP, BRAZIL

Abstract:

Purpose: The fourth edition 2003 of the American College of Radiology’s Breast Imaging Reporting and Data System BI-RADS contains three subdivisions of category 4: 4A, 4B, and 4C. This study compares the BI-RADS classification in non-nodular lesions represented by microcalcifications groups to the histopathology findings, and also investigates the predictive value of each sub-category according to the BI-RADS fourth edition. We also created a simulation of an alternative categorization, by grouping categories 4B and 4C into a unique sub-category with the purpose of simplifying the radiology report and providing a clearer message regarding appropriate patient management.

Materials and Methods: In this prospective cross-sectional diagnostic study, mammograms classified according to the BI-RADS fourth edition were compared to the histopathologic diagnoses in core biopsy breast samples. The study included 127 patients with non-palpable, non-nodular primary breast lesions represented by microcalcifications groups.

Results: There was a significant correlation between biopsy results and BI-RADS evaluation, both with the three subdivisions of category 4 separated and with categories 4B and 4C combined. The percentage of malignant biopsies was significantly greater in BI-RADS categories 4B and 4C. Taking into consideration the initial BI-RADS evaluation, the percentage of malignant biopsies was significantly greater in 4B category compared to 4C p = 0.006. Thus an initial BI-RADS classification as 4B is significantly associated with malignant results on biopsy. Conclusions: Combining the BI-RADS 4B and 4C imaging categories would still result in significant correlation with histological results, and provide a clearer clinical message to the treating physician.
“Adoption of Accelerated Partial Breast Irradiation (APBI) in a Community Setting.”

Jessica Keto, MD; Jamie Caughran, MD; Arida Siripong, MD; Nicole Lorenz, MD; Gilbert Padula, MD

Lacks Cancer Center, Saint Mary’s Health Care, Michigan, USA

Abstract: APBI following breast conserving surgery (BCS) has emerged as an [INVALID] native to whole breast irradiation (WBI). We sought to improve quality by reducing treatment delay and minimize the total time with a device in the breast. An IRB-approved chart review of APBI patients from 2008 to 2010 was conducted. A protocol was developed to reduce delays in care. This included computed tomography simulation within 3-5 days of negative margins, brachytherapy catheter placement 1-2 days after, and final simulation and planning within 48 hours of catheter placement. All schedules were developed to allow no more than one weekend from placement date to catheter explantation including simulation, brachytherapy catheter placement and final simulation and treatment planning. Thirty-one patients were included, 2 prior to protocol development and 29 post-protocol. The mean number of days between definitive surgery was 15.5 days and 9 days respectively. No recurrence of disease was identified in our population during the study period. Pre-protocol, 1 patient had Grade 2 radiation toxicity. Ten post-protocol patients (35%) had grade 1 toxicity, 3 patients (10%) had grade 2 toxicity, and 16 patients (55%) had no toxicity during follow-up. Three of the 31 patients (9.7%) had seromas, with 2 (6.5%) of which required drainage. As the role of APBI in the treatment of breast cancer continues to evolve, quality in the delivery of this care will become of increasing importance. Our results are an initial review of strategies developed in a community cancer centers to rapidly adopt new technology and improve outcomes.
“Extracapsular Nodal Metastases in HER-2 Receptor Positive and Negative Breast Cancers: Implications of Prognosis.”

Sinisa Maksimovic, MD; Branislava Jakovlicevic, MD; Zdenka Gojkovic, MD

Abstract:

Background: Extracapsular extension of nodal metastases from cancer of the breast is a frequent histologic finding, but its significance for prognosis and treatment is unclear. Amplification of the protein product of the HER-2/neu oncogene in primary breast cancer specimens is associated with an adverse prognosis.

Methods: From January 2000 to June 2011, 793 breast cancer patients operated in General hospital “Sveti Vracevi” in Bijeljina. We selected 390 (49.2%) patients with breast cancer who had metastases to axillary lymph nodes.

Results: Extracapsular extension (ECM) was found in 152 (38.9%). The patients were identified and divided into two groups: patients in the HER-2 positive group (55 patients) and HER-2 negative group (97 patients). ECM was seen in 15 of 23 (65.2%) patients in the HER-2 positive group compared with 9 of 27 (33.3%) in the HER-2 negative group (P = 0.053). Total number of lymph nodes showing ECM were also significantly more in the HER-2 positive group (59 of 101, 58.4%) vs. (21 of 74, 28.3%) in the HER-2 negative group (P < 0.001). With a median follow-up of 114 months factors with independent prognostic value for disease-free survival by multivariate analysis included HER-2/neu overexpression with extracapsular extension (P < 0.005), pN category (P < 0.01), presence of lymphovascular invasion (LVI; P < 0.005), and ECM (P < 0.001). An independent negative prognostic effect on overall survival was observed for HER-2/neu overexpression with extracapsular extension (P < 0.05), pN category (P < 0.05), and presence of LVI (P < 0.005) and ECM (P < 0.001).

Conclusions: In patients whose tumors expressed HER-2/neu who had positive lymph nodes and extracapsular extension prognosis was significantly worse compared with those who were HER-2/neu negative and lymph node positive with extracapsular extension. These findings have led to the conclusion that HER-2/neu overexpression is associated with a more aggressive subtype of cancer.
“Factors Effecting Cosmesis After Breast Conserving Surgery without Oncoplastic Techniques in an Experienced Comprehensive Breast Center.”

Tolga Ozmen, MD; A. V. Polat, MD; A. Kamali Polat, MD; M. Bonaventura, MD; R. Johnson, MD; A. Soran, MD

ISTANBUL

Abstract:

Aim: To study the factors effecting cosmetic outcomes (CO) in breast conserving surgery (BCS) without oncoplastic techniques in our center with more than 60% BCS rate and greater than 1000 breast surgeries per year.

Patients & Methods: Two hundred and eighty four patients who underwent BCS without oncoplastic technique were included in this study. Surgeries were performed by 2 experienced breast surgeons with more than 25 years experience in breast surgery. These patients were followed in our established Wellness Clinic for the last 3 years. The CO is evaluated according to the “Harvard Breast Cosmesis Grading Scale” by a breast surgeon who did not participate in the patient’s surgery. The correlation among factors as patient age, tumor type, size, and location, tumor distance to areola, breast volume, menopausal status, axillary surgery, having neoadjuvant chemotherapy, radiation therapy and CO is evaluated.

Results: The mean age was 57.7 (±10.6) years and the mean follow-up time was 37.9 (±14.29) months. The CO was good or excellent in 88.7% (n:252) of the patients. Tumor size, retroareolar location of the tumor, adjuvant chemotherapy administration and whole breast radiation therapy were correlated with a poorer CO (p < 0.05). Statistically no significant correlation was found between other factors and CO.

Discussion: We have a successful CO in approximately 90% of patients. To increase this rate, oncoplastic techniques could be added to surgery for tumors of larger size and retroareolar location. Hypothetically, brachytherapy, rather than whole breast radiation, may be offered, where appropriate, for better CO.

(See next page for supporting material)
Table 1. Variables that may affect cosmesis in patients who underwent BCS.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Poor-Fair n: 32 (11.3%)</th>
<th>Good –Excellent n: 252 (88.7%)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tumor Type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasive Cancer</td>
<td>27 (12.3)</td>
<td>193 (87.7)</td>
<td>0.32</td>
</tr>
<tr>
<td>DCIS</td>
<td>5 (7.8)</td>
<td>59 (92.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Breast Volume</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;600 cc</td>
<td>22 (11.8)</td>
<td>165 (88.2)</td>
<td>0.93</td>
</tr>
<tr>
<td>600-1000 cc</td>
<td>8 (10.5)</td>
<td>68 (89.5)</td>
<td></td>
</tr>
<tr>
<td>&gt;1000cc</td>
<td>2 (9.5)</td>
<td>19 (90.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Axillary Surgery</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SLNB</td>
<td>20 (16.7)</td>
<td>152 (83.3)</td>
<td>0.29</td>
</tr>
<tr>
<td>ALND</td>
<td>7 (2.5)</td>
<td>35 (12.3)</td>
<td></td>
</tr>
<tr>
<td>none</td>
<td>5 (7.1)</td>
<td>65 (92.9)</td>
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</tr>
<tr>
<td><strong>Stage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5 (7.7)</td>
<td>60 (92.3)</td>
<td>0.17</td>
</tr>
<tr>
<td>1</td>
<td>15 (9.7)</td>
<td>139 (90.3)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10 (17.5)</td>
<td>47 (82.5)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2 (25)</td>
<td>6 (75)</td>
<td></td>
</tr>
<tr>
<td>Neoadjuvant (n: 16)</td>
<td>3 (18.3)</td>
<td>13 (81.3)</td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Adjuvant CT (n: 72)</strong></td>
<td>15 (20.8)</td>
<td>57 (79.2)</td>
<td>0.003</td>
</tr>
<tr>
<td><strong>WBRT (256)</strong></td>
<td>32 (12.5)</td>
<td>224 (87.5)</td>
<td>0.047</td>
</tr>
<tr>
<td>Mammosite (n: 17)</td>
<td>0 (0.0)</td>
<td>17 (100)</td>
<td>0.130</td>
</tr>
<tr>
<td>RT (n: 274)</td>
<td>32 (11.7)</td>
<td>242 (88.3)</td>
<td>0.251</td>
</tr>
<tr>
<td><strong>Hormonal Therapy (n: 236)</strong></td>
<td>26 (11)</td>
<td>210 (89)</td>
<td>0.767</td>
</tr>
<tr>
<td><strong>Reexcision (n: 32)</strong></td>
<td>6 (18.8)</td>
<td>26 (81.3)</td>
<td>0.155</td>
</tr>
<tr>
<td><strong>Retroareolar localization (n: 21)</strong></td>
<td>6 (28.6)</td>
<td>15 (71.4)</td>
<td>0.009</td>
</tr>
<tr>
<td><strong>Menopause (n: 284)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Pre-</td>
<td>0 (0.0)</td>
<td>14 (100)</td>
<td>0.386</td>
</tr>
<tr>
<td>Peri-</td>
<td>2 (13.3)</td>
<td>13 (86.7)</td>
<td></td>
</tr>
<tr>
<td>Post-</td>
<td>30 (11.8)</td>
<td>225 (88.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Age (year)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58.18±12.34</td>
<td>57.63±10.35</td>
<td>0.146</td>
<td></td>
</tr>
<tr>
<td><strong>Tumor size (cm)</strong></td>
<td>2.02±1.40</td>
<td>1.18±0.83</td>
<td>0.000</td>
</tr>
<tr>
<td>MLO tumor distance to areola (cm)</td>
<td>5.30±2.07</td>
<td>5.94±2.71</td>
<td>0.193</td>
</tr>
<tr>
<td>Dissected LN number</td>
<td>5.46±7.85</td>
<td>4.29±6.49</td>
<td>0.124</td>
</tr>
<tr>
<td>Positive LN number</td>
<td>0.65±1.77</td>
<td>0.40±1.61</td>
<td>0.222</td>
</tr>
<tr>
<td><strong>Follow-up (months)</strong></td>
<td>38.25±13.43</td>
<td>37.80±14.49</td>
<td>0.361</td>
</tr>
</tbody>
</table>
Abstract:

**Purpose:** We report our experience in utilizing the SAVI strut-based catheter in a multi-physician, multi-center setting for women with cavity-to-skin distance ≤ 6mm.

**Methods and Materials:** In 2009, 75 consecutive women with newly diagnosed breast cancer elected to undergo lumpectomy plus partial breast irradiation with the SAVI strut-based applicator. 16 breast surgeons referred patients for brachytherapy at one of 5 facilities. Eligibility criteria: DCIS or invasive ductal carcinoma < 3.0 cm, unifocal, with negative margins and lymph nodes. A post-implant CT scan was utilized for treatment planning with Oncentra. Standard prescription parameters were followed with a goal of limiting skin dose to < 100% regardless of skin bridge thickness. Herein we report on the 18 women with cavity-to-skin distances of ≤ 6 mm.

**Results:** This subset of patients completed treatment without difficulty. Mean minimum skin distance was 4.6 mm (range 2-6). Mean % maximum skin dose was 82% (range 53%-99%). Mean PTV was 62.6 cc (range: 32.3-152.9). Mean V90 was 91%. Mean V150 and V200 were 19.8 cc and 9.5 cc, respectively. Mean rib distance was 16.5 mm (range 0-50). Mean % maximum rib dose was 60.8% (range16%-115%). At a mean f/u of 11.4 months (range 5-21), 18 of 18 patients in this subset are cNED.

**Conclusion:** Partial breast radiation can be delivered to women with close cavity-to-skin distances with the SAVI device. Even with skin bridges ≤ 6 mm, skin dose was maintained < 100%. Long-term follow-up is necessary to assess local control and chronic local tissue effects.
Poster 17

“Recommendations for Training Guidelines in Oncoplastic Surgery.”

Gail S. Lebovic, MD; Werner Audretsch, MD; Cicero Urban, MD; Mauricio Costa, MD; Daryl Hoffman, MD; Joel Aronowitz, MD

American Society of Breast Disease, Texas, USA

**Abstract:** The recent surge of interest in the field of Oncoplastic Surgery has resulted in the need to help define guidelines for training. A multi-disciplinary Steering Committee was convened in order to recommend potential guidelines that can be used in order to update and expand the current curriculum for training surgical breast specialists. The committee agreed that International consensus was important in order to set some format for standardization in training, and in an attempt to help qualify surgeons in this area of expertise. The committee reached a consensus on how to stratify various levels of competency according to specific surgical procedures, and outlined educational goals for training. These will be summarized and presented.
**Poster 18**

“The Importance of Pre-operative Needle Core Breast Biopsy results on Cosmetic Outcome in Breast Conserving Surgery.”

Ayfer Kamali Polat, MD; Ahmet Veysel Polat, MD; Oya Andacoglu, MD; Kandace McGuire, MD; Emilia Diego, MD; Ronald Johnson, MD

Magee Women’s Hospital, Pennsylvannia, USA

**Abstract:** This study aimed to evaluate the relationship between pre-operative large needle core biopsy; LNCB; histopathology results and surgical resection volumes in breast conserving surgery; BCS; with attention to both margin status and cosmetic outcome.

**Methods:** A total of 217 women underwent BCS by the same experienced breast surgeon. Final pathology results were classified as benign, high risk lesion, ductal carcinoma in situ; DCIS; or invasive cancer. Breast volume BV, Initial Resected Volume IRV and Final Resected Volume FRV, Resected Volume Ratio RVR were compared according to histopathological diagnosis and cosmetic outcomes. The cosmetic results were graded as excellent, good, fair, or poor based on the Harvard breast cosmosis grading scale.

**Results:** The resected volumes cm3, mean [range] were higher among patients who underwent LNCB than those who did not 54.3, 1-264 vs. 26.5, 6-69, p=0.005. The LNCB diagnoses were as follows: 16% benign, 19% high risk lesions, 16% DCIS, and 49% invasive cancers. Re-excision rates were 15.6% and 25.8% for DCIS and invasive cancer, respectively. Cosmesis was excellent in 79.8%. Re-excision was not related with the cosmetic outcome. Age, pathological tumor size, IRV and FRV were different between the benign, high-risk and carcinoma groups; p= 0.001.

**Conclusion:** The diagnosis of DCIS or invasive cancer by LNCB leads to the planning of a wider resection, but the need for re-excision is no different than less resection. High risk lesions are best approached with diagnostic excision, as there is no strong evidence that larger resections reduce the incidence of involved resection margins.

*(See next page for supporting material)*
### Table 1. The relation between core diagnosis and age, tumor size, margin and resected volumes.

<table>
<thead>
<tr>
<th>Core diagnosis</th>
<th>Benign diagnosis (n:32, 16%)</th>
<th>High risk lesion (n:37, 19%)</th>
<th>Invasive cancer (n:97, 49%)</th>
<th>DCIS (n:32,16%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> (mean±SD)</td>
<td>51±12</td>
<td>55±11</td>
<td>62±12</td>
<td>60±13</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td><strong>Path Tumor size (cm)</strong></td>
<td>1.3±1.5</td>
<td>1.5±1.5</td>
<td>1.4±0.8</td>
<td>0.75±0.7</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td><strong>Margin (positive)</strong></td>
<td>0</td>
<td>0</td>
<td>27(14%)</td>
<td>4(2%)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td><strong>Resected volume</strong> (mean-range)</td>
<td><strong>Initial resected volume</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24.7(1-73)</td>
<td>34.5(5-180)</td>
<td>65.8(10-264)</td>
<td>53.7(14-151)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td><strong>Reexcision volume</strong></td>
<td></td>
<td></td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>23.7(6-73)</td>
<td>25.7(9-71)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Final resected volume</strong></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.05</td>
</tr>
<tr>
<td></td>
<td>24.7(1-73)</td>
<td>34.6(5-180)</td>
<td>72.6(10-264)</td>
<td>56.8(14-151)</td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. Cosmetic outcomes of the patients with obtained core diagnosis

<table>
<thead>
<tr>
<th>Cometic outcome</th>
<th>Excellent (n:158, 79.8%)</th>
<th>Good (n:38,19.2%)</th>
<th>Fair (n:2,1%)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> (mean±SD)</td>
<td>58±12</td>
<td>59.6±10</td>
<td>56.5±10</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Reexcision volume</strong> - ellipsoid</td>
<td>21.6(7-71)</td>
<td>28(6-73)</td>
<td>23(6-40)</td>
<td>0.93</td>
</tr>
<tr>
<td><strong>Final resected volume</strong> - ellipsoid</td>
<td>50.7 (1-264)</td>
<td>73.4 (11-180)</td>
<td>65.5(57-74)</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>Path tumor size (cm)</strong></td>
<td>1.2±1</td>
<td>1.7±1.08</td>
<td>2.4±0.07</td>
<td>0.008</td>
</tr>
<tr>
<td><strong>Lesion type, Calcification vs. mass</strong></td>
<td>45 (27.8)</td>
<td>8(21)</td>
<td>-</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>113(71.5)</td>
<td>30(78.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reexcision</strong></td>
<td>84(80.8)</td>
<td>19(65.5)</td>
<td>0(0)</td>
<td>2(100)</td>
</tr>
<tr>
<td><strong>Yes</strong></td>
<td>20(19.2)</td>
<td>10(34.5)</td>
<td>2(100)</td>
<td>0.009</td>
</tr>
<tr>
<td><strong>Breast image volume</strong></td>
<td>105(66.5)</td>
<td>21(55.3)</td>
<td>0(0)</td>
<td>2(100)</td>
</tr>
<tr>
<td></td>
<td>40(25.3)</td>
<td>14(36.8)</td>
<td>2(100)</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>13(8.2)</td>
<td>3(7.9)</td>
<td>0(0)</td>
<td>2(100)</td>
</tr>
<tr>
<td><strong>Margin</strong></td>
<td>85(81.7)</td>
<td>19(18.3)</td>
<td>0(0)</td>
<td>2(100)</td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Positive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Resected volume ratio</strong> &lt;0.2</td>
<td>153(96.8)</td>
<td>3(86.8)</td>
<td>2(100)</td>
<td>0.009</td>
</tr>
<tr>
<td><strong>&gt;0.2</strong></td>
<td>5(3.2)</td>
<td>5(13.2)</td>
<td>0(0)</td>
<td>2(100)</td>
</tr>
<tr>
<td><strong>Final Resected volume</strong> - ellipsoid &lt;70</td>
<td>125(79.1)</td>
<td>24(63.2)</td>
<td>1(50)</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>25(15.8)</td>
<td>7(18.4)</td>
<td>1(50)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8(5.1)</td>
<td>7(18.4)</td>
<td>0(0)</td>
<td></td>
</tr>
</tbody>
</table>
Abstract:

Presentation Summary: Survivorship focuses on life and health after cancer diagnosis and treatment. Therefore, forging partnerships and advancing post-diagnosis action on cancer survivorship research reduces depression as a result of psychosocial and physical changes that breast cancer survivors experience after diagnosis and treatment. Participants benefit from knowledge exchange, networking, interactive sharing, and professional counseling.

Purpose: Being diagnosed with breast cancer is a frightening experience. However, great strides in treatment continue to be made to boost the patient’s self-esteem. Many breast cancer survivors are challenged as they struggle to overcome shock and the overwhelming situations they encounter, especially the fear of facing a recurrence. Provision of psychosocial support and counseling reduces the fears that breast cancer survivors experience after treatment.

Method: Participation in National and International Breast Cancer Survivorship Conferences and Symposia enables greater opportunities to build collaborations and strengthen partnerships related to survivorship.

Results: Addressing the post-treatment and health effects arising from radiotherapy and chemotherapy and increased awareness of effects experienced after breast cancer treatment. Networks of breast cancer survivors coming together and sharing common issues that influence survivorship and improvement of quality of life created. Conclusion: Establishment of a network of breast cancer survivors and advocates with a mission to advocate for joint coordinated survivorship research. Advocacy for improved quality of life for breast cancer patients enhanced.
Poster 20

“Case Report- Idiopathic Granulomatous Mastitis”

Ana Vargas, MD; Jose Luis Guzman, MD; Maria Teresa Mireles Aguilar, MD; Pedro Cuevas, MD

Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract:

Objectives: Case report and review of the literature with the objective of obtaining up to date information about the approach and management to this rare breast disease.

Method: A 51-year-old female patient comes to the breast clinic complaining of a palpable and painful mass in her right breast first noticed one week ago. The clinical, radiological and histopathological findings are presented. A core biopsy is performed, reported as Granulomatous Mastitis. The treatment is started with low-dose steroids with good response during follow-up.

Results: The management of this disease is controversial, the reviewed literature reports different treatments such as antibiotic therapy, steroids, lesion excision, use of drains, anti-rheumatic agents and mastectomy with complete breast reconstruction. Not one of these treatments is conclusive.

Conclusions: Granulomatous mastitis is generally presented as a palpable mass and it can mimic breast cancer. The imaging studies are not conclusive, a histopathological study has to be done for definitive diagnosis. There are no therapeutic guidelines regarding its management.
Poster 21


Rong Tang, MD; Suzanne B. Coopey, MD; Julliette M. Buckley, MB, MD; Owen P. Aftreth, MD; Elena F. Brachtel, MD; James S. Michaelson, PhD; Barbara L. Smith, MD, PhD

Massachusetts General Hospital, Massachusetts, USA

Abstract:

Introduction: Microscopically clear lumpectomy margins are essential in breast conservation, as involved margins increase local recurrence. Currently, 20-60% of lumpectomies have close or positive margins that require re-excision. We assessed the ability of micro-computed tomography (Micro-CT) to evaluate lumpectomy shaved cavity margins (SCM) intra-operatively to determine if this technology could rapidly identify margin involvement by tumor and reduce re-excision rates.

Methods: 25 SCM from 6 lumpectomies were evaluated with a Skyscan 1173 table top micro-CT scanner (Skyscan, Belgium), scanning 3 SCM at once with a 7 minute scanning protocol. Micro-CT results were compared to histopathological results of shaved cavity margins.

Results: Margins were scanned from 4 ductal carcinoma in situ (DCIS) and 2 invasive ductal carcinoma plus DCIS lumpectomies. Images of the SCM were evaluated blinded to histological margin status, for radiographic signs of breast cancer including clustered microcalcifications and spiculated masses [Figure 1]. SCM were negative by Micro-CT in 19/25 (76%) and negative (≥2mm) by histopathology in 19/25 (76%). Margin status by Micro-CT was concordant with histopathology in 23/25 (92%). Micro-CT overestimated margin involvement in 1/25 (4%) and underestimated margin involvement in 1/25 (4%). Micro-CT showed: 83.3% positive predictive value, 94.7% negative predictive value, 96% sensitivity and 96% specificity for evaluation of SCM.

Conclusions: Evaluation of shaved cavity margins by Micro-CT is an accurate and promising method of intra-operative assessment of lumpectomy margins in breast cancer patients. The scanning time required is short enough to permit real time feedback to the operating surgeon, allowing immediate directed re-excision.

![Figure 1](image)

A. negative margin with benign coarse calcifications;
B. positive margin (involved with DCIS by final pathology) with clustered microcalcifications;
C. positive margin (involved with invasive ductal carcinoma by final pathology) with a spiculated mass.
“Factors Associated With Discussion of Pre-operative Mammography in Women Undergoing Reduction Mammaplasty”

Amanda Kong, MD; Kristen Hudak, MD; Katherine Kelley, BS; John Hijjawi, MD

Medical College of Wisconsin, Wisconsin, USA

Abstract:

**Purpose:** Reduction mammaplasty is one of the most common procedures performed by plastic surgeons. Malignant and atypical lesions have been found in reduction mammaplasty specimens which may alter operative planning. Previous survey studies have demonstrated that most plastic surgeons do not require preoperative mammography prior to reduction mammaplasty. The purpose of this study was to examine the factors associated with discussion of undergoing preoperative mammography prior to surgery.

**Methods:** A total of 638 patients were identified between January 2000 and December 2010 who underwent reduction mammaplasty. Clinico-pathologic and treatment information was collected. Factors influencing discussion of undergoing preoperative mammography prior to reduction mammaplasty were compared using Chi square tests and Wilcoxon rank sum tests.

**Results:** Of 638 patients, the median age was 36 (range 18-77) with 44% ≥40. Approximately half (56%) were Caucasian and 37.5% were African-American. Mammography was discussed in 43.8% of patients and completed in 42.1%. On final pathology, 8 patients (1.25%) had high-risk lesions and 2 (0.31%) demonstrated malignancy (1 DCIS, 1 invasive). Of these patients, 20% were under the age of 40 and only 50% had preoperative mammograms. Factors associated with mammography discussion were age ≥40, being Caucasian, the presence of comorbidities, family history of breast cancer, prior breast surgery, prior breast biopsy (all p < 0.0001) and tobacco use (p=0.04).

**Conclusions:** Due to the potential risk of invasive cancer and atypical lesions found in the final surgical specimen, preoperative mammogram should be considered for most patients by plastic surgeons, especially for all patients ≥40.
Poster 23

“Management of Metaplastic Breast Cancer: Clinicopathologic Features, Prognosis and Response to Therapy”

Carolyn Thomas, MD; Veronica E. Cedillo, RN, BC; Sally M. Knox, MD; Michael D. Grant, MD; Ronald C. Jones, MD

Texas, USA

Abstract:

Background: Metaplastic breast cancer (MBC) is characterized by epithelial elements alone (e.g. squamous carcinoma) or in conjunction with mesenchymal elements, or with mesenchymal elements alone. The most common non-epithelial elements are spindle cells, chondroid and bone-forming neoplastic cells. Due to the rarity of these cancers, the prognosis and optimal treatment of these tumors is poorly defined. The goals of this study were to describe the patient characteristics, therapies instituted, and clinical outcomes of all patients with primary metaplastic breast cancer treated at a single institution.

Methods: Patients with a diagnosis of metaplastic breast cancer between 1992 and 2010 were identified retrospectively through the Cancer Registry at a large institution. Clinical information was abstracted from the medical record of each patient. Clinicopathologic features, therapies instituted, disease free survival and overall survival were assessed.

Results: Forty-one patients were identified with a mean age of 61 years (range 31 - 93 years). Histologies represented include: metaplastic not otherwise specified; sarcomatoid; adenocarcinoma with spindle cell metaplasia; adenosquamous; squamous; sarcoma; carcinosarcoma; myoepithelial. The mean tumor size was 36.4 mm (range 7 – 115 mm) and one patient presented with Stage IV disease. The median stage at presentation was 2A. The majority of tumors were hormone receptor negative; 10.8% and 5.4% were estrogen and progesterone receptor positive respectively. Surgeries performed included lumpectomy (26.8%); total mastectomy (39%); modified radical mastectomy (29.3%); radical mastectomy (2.4%). Axillary metastasis at diagnosis was observed in 6 of 41 patients (14.6%). Chemotherapy was offered to 22 of 41 (53.6%) of patients, one of which received neoadjuvant chemotherapy. Radiotherapy was offered to 18 of 41 (43.6%) of patients. At a mean follow-up of 52 months, three patients (6.97%) had distant disease recurrence and one patient (2.3%) had local disease recurrence. The three-year disease-free survival was 87.6%. The five-year overall survival rate was 68.9%.

Conclusion: Despite presenting more commonly with a larger tumor size, our cohort with metaplastic breast cancer presented more frequently as node-negative disease. Metaplastic breast cancer histologies are also more frequently hormone receptor negative. Although other studies have demonstrated lower overall survival and disease-free survival with metaplastic breast cancer compared with invasive ductal breast cancer, our study cohort experienced fewer local and distant disease recurrences than has been observed in other studies.
Abstract:

Objectives: Describe retrospectively our experience with breast pain related to ANDI and management with a sport brassiere, selective COX-2 inhibitor, and caffeine free diet.

Method: Between May 2002 and April 2010, 228 patients were attended in our Breast Clinic for breast pain. Patients with breast pain related to ANDI were thoroughly studied to rule out other causes of pain. A routine management consisting of a sport brassiere, selective COX-2 inhibitor, and caffeine free diet was established. Charts were reviewed retrospectively and data collected into a database. Response was measured after three months of treatment and patients were categorized in three groups: complete pain relief, partial pain relief or no pain relief. Other variables (pre or post menopausal status, contraception, menstrual cycle relationship, duration of pain, pain localization, recurrence, imaging and histopathological tests) were recollected.

Results: A total of 228 charts were reviewed. One hundred and fifty six (68%) cases were determined to be related to ANDI. Age range was 16 to 63 (average: 36.3). One hundred and fourteen (73%) patients referred duration of pain longer than 12 months and 42 (27%) shorter or equal than 12 months. Diffuse pain was present in 110 (70.5%) patients and localized pain in 46 (29.5%) patients. Pain was bilateral in 64 (41%) patients and unilateral in 92 (59%) patients with left side predominance. A palpable mass was associated with the localization of pain in 35 (22.5%) patients. Thirty one were cysts. Other causes were fibroadenomas and intramammary lymph nodes. One hundred and forty nine patients were managed with a sport brassiere, selective COX-2 inhibitor, and caffeine free diet. One hundred patients returned for follow up. Complete pain relief was reported by 69 patients, partial relief by 26 and no relief by 5. Breast cancer was diagnosed in 1 patient during initial workup. At long-term follow up 19 patients reported recurrence of symptoms. Eleven were of the complete relief group and 8 of the partial relief group. Patients were again worked up and in 17, ANDI was established as the most likely cause. The same management was started and 12 reported complete relief, 1 reported partial relief, 1 reported no relief and 3 patients were lost to follow up. Of the 5 patients who originally reported no relief, further interrogation revealed poor treatment adherence in four of them. We insisted on the treatment and 3 of them reported complete relief and 2 were lost to follow up.

Conclusions: The relationship with edema related to breast pain was initially proposed since the decade of the 1960s. The management of breast pain with a sport brassiere, selective COX-2 inhibitor, and caffeine free diet, is intended to reduce the edema produced by chronic use of supporting brassieres, specially wired brassieres. The relationship of breast pain and caffeine has been studied before and data is controversial. To better assess the benefit of this treatment we are designing a prospective study with different management groups based on the sport brassiere, selective COX-2 inhibitor, and caffeine free diet.
“A Single Hospital’s Experience with MRI Utilization and Interpretation after Accelerated Partial Breast Irradiation”

Betsy Washburn, MD; Nayana Dekhne, MD, FACS; Frank Vicini, MD; Linda Lewis, RN, BSN

William Beaumont Hospital, Michigan, USA

Abstract: Accelerated partial breast irradiation (APBI) is a viable treatment option for selected women with early stage breast cancer after breast conserving surgery. MRI could prove useful in detecting early in breast tumor recurrence or new primary carcinoma in the non-irradiated tissue. This is a retrospective review of 147 patients with early stage breast cancer who underwent APBI from 2000 to 2010. Post radiation MRI findings were studied and correlated with mammogram findings, patient management and complications. Thirty-three patients had post radiation breast MRI. Median time from the completion of radiation to MRI was 29 months (range 6-84). Four patients (12%) required biopsy due to findings on the MRI. One patient was diagnosed with an ipsilateral new focus of invasive ductal carcinoma 4 years after her APBI. An additional patient was diagnosed with recurrence at her lumpectomy site 3 years following her APBI. The remaining two patients had a diagnosis of fat necrosis. Mammography was noted as having benign post operative changes in both of these patients and failed to pick up either of these cancers. In all other patients the mammogram and MRI correlated with benign post operative findings. This study, though small suggests MRI would be a valuable modality to follow patients receiving APBI. It will be important to investigate a larger number of patients as to better categorize the normal changes that can be expected on MRI after APBI as well as to determine if MRI is a more reliable study than mammography in recognizing early recurrence.
Abstract:

Objectives: The sentinel lymph node (SLN) dissection is a reliable surgical method of staging the axilla in patients with breast cancer. Despite this, it is not a widely performed technique in Mexico and there is a total lack of data concerning the false negatives rates when axillary lymphatic mapping is done with radioisotope injection. There is no definition of isotope success, but there the “10% rule” determines that every node with counts > 10% of the most radioactive node, must be removed. In this study we sought to validate the hypothesis that the hottest SLN has the highest likelihood of harboring metastatic cells and that the 10% rule is sensitive enough that it may be applied without sacrificing the sensitivity of the procedure in Mexican patients with primary breast cancer.

Method: We retrospectively studied 141 breast cancer patients who underwent SLN biopsies between 2002 and 2011 using 99mTc sulphur colloid and patent blue dye, removing as SLN any node with any radioactivity count and/or blue nodes and taking counts from each node in situ and ex vivo. This was made in one single institution and by one single breast surgeon. Permanent sections with hematoxylin and eosin evaluation and immunohistochemical staining for cytokeratins examined all SLNs.

Results: We studied 141 patients from 24 to 88 years old (mean 50.18 years). 77.3% (109/141) where invasive ductal carcinoma. 26.9% of patients (38/141) had positive SLNs. 65.9% of patients (93/141) had more than 1 SLN (mean 2.09 per patient); from these patients 31.18% (29/93) had positive SLNs. Of these node positive patients, and more than 1 node harvested, the hottest node was positive in 62.9% (17/27). And 2 patients (2/27 7.4%) had counts less than 10% of those of the hottest node. The lowest radioactive count of a positive SLN was 3.4% of that of the hottest node. The false negative rate removing only the hottest node is 37.1% compared with 7.4% removing nodes based on the 10% rule.

Conclusions: The 10% rule, in our institutional experience has an acceptable false negative rate. This data is equal to the results obtained in large oncologic centers in the United States and Europe.
Abstract: Stereotactic core needle biopsy is a valuable tool to evaluate indeterminate abnormalities detected on mammography, such as, calcifications. This procedure can eliminate the need for surgery in cases where the findings are benign and, help to limit or tailor the surgery in those who need further intervention. As we are now using larger bore needles the amount of tissue that we remove on biopsy has increased and this may lead to a decrease in the false negative rate. For DCIS this accuracy, or likelihood that the diagnosis will be upgraded to invasive cancer at surgical excision, could make a difference in patient management. We believe that the careful evaluation of the morphology of the calcifications, size of the cluster of calcifications, and the histologic diagnosis on core biopsy may predict the likelihood of upgrading at surgical excision. We intend to illustrate such abnormalities and review the literature.
"Imaging of Gynecomastia."

Penny Saxon, MD; George Hermann, MD; Janet Szabo, MD; Neesha Patel, MD; Laurie Margolies, MD

The Mount Sinai Hospital, New York

Abstract: Imaging of the male breast is increasing in frequency; gynecomastia remains the most common finding. The appropriate role for ultrasound and mammography is not, however, well defined. The role of 3D mammography and the appearance of gynecomastia on tomosynthesis is not well established. The varied appearance of gynecomastia on 2D mammography, 3D mammography, 2D ultrasound and Doppler will be reviewed and demonstrated.
Abstract: In 18 year of oncoplastic surgery experience as a pure breast surgeon, we have performed more than 300 breast reconstructions, 235 LDF (81 %), 40 TRAM (12.55%), 25 Expander-implant (6.75 %). 76 % of these cases were immediate reconstructions, which is quite interesting, since in the USA according to the last San Antonio Breast Cancer Conference, only one out four patients that got a mastectomy received an immediate reconstruction. I strongly believe that this phenomenon has to deal as in this particular case with a breast surgeon who does his own reconstructions, which makes easier to get the patient involved in the procedure.

This 50 year old woman patient had a right tubular alveolar invasive, stage 2b breast cancer, and simultaneously had a huge big benign lipoma of the back (previously confirmed by a core biopsy), just over the right LDF that we used for reconstruction, the lipoma vascular supply was mainly given by the muscle itself, so we transported as a whole block to the mastectomy defect and got a very soft and natural breast with a good symmetry with the contra lateral breast, with no need of an implant, which is almost constant when this procedure is performed.

After a follow up of 12 month, the cosmetic results are very good, and the lipoma remains the same size.
“Sentinel Node Biopsy (SNB): Experience with 143 Cases; Methylene Blue Only, Median Follow-up 48 month (0-96).”

Miguel Oller, MD; Jaime Esteva Troncoso, MD; Virginia Frias, MD; Alexander Gil, MD

DOMINICAN REPUBLIC

Abstract: SNB is the standard of axilla management in early breast cancer. After we reported our learning curve of the first 40 cases in 2002-2003 with methylene blue also, in which we had 94% of identification rate, and 0% of false negative rate. Now we are presenting our therapeutic series of SNB of 143 cases in which we demonstrate that the procedure only with methylene blue is efficient and safe and what we consider is more important than the selected technique (The blue only vs. blue + radioisotopes), is the demonstrated efficiency of the group involve in the procedure. Efficiency that has to be measure in the learning curve which every group must accomplished before start doing it regularly.

Technique: we inject 4cc methylene blue under subareolar area 15-20 min before axillary approach, with 1 min massage over the injected site. Considering a sentinel node every lymph node that turns blue or its afferent ducts does. Sending with the specimen a significant segment of the afferent duct since the first section of the frozen biopsy is at the conjunction of the node with the duct. We avoid resecting lymph nodes that are not blue and lateral related to the long thoracic vein, since these nodes drain the arm, and are responsible of the 6% of lymph edema if you resect them unnecessary and we now for resent anatomical studies that sentinel lymph node are medial to the long thoracic vein in more than 98%.
“Decision Making and Influencing Factors on Long-Term Satisfaction of Prophylactic Mastectomy (PM) in Women with Breast Cancer”

Malak Kanbour, MD; Atilla Soran, MD; Kandace McGuire, MD; Christine Thomas, MD; Fatih Levent Balci, MD; Marguerite Bonaventura, MD; Gretchen Ahrendt, MD; Ayfer Kamali Polat, MD; Ronald Johnson, MD

Magee Women’s Hospital, Pennsylvania, USA

Abstract:

Introduction: Studies demonstrate an increasing rate of contralateral prophylactic mastectomy (CPM). It is essential to understand the factors impacting the quality of life of patients undergoing CPM. The purpose of this study is to evaluate decision-making and influencing factors on women’s long-term satisfaction with CPM.

Methods: We searched our institutional cancer registry for patients diagnosed with breast cancer between 2000 and 2010. An IRB-approved questionnaire was mailed to all consented participants to examine influences contributing choice of CPM and postoperative satisfaction. Demographic and psychosocial factors were examined in regards to decision-making.

Results: In the 206 women included in the study, 147 were age ≤50. Influencing factors were divided into demographic and psychosocial. Women with a bachelor degree or higher, married or partnered women and women earning > $60,000/year were more likely to select CPM. Almost all women were ‘happy with overall surgery’ and would recommend CPM to other patients. Psychological factors such as fear of recurrence were more commonly associated with a decision for CPM in patients with invasive carcinoma. Chemo-radiotherapy was a commonly reported factor in selecting CPM. Opinions of partners, relatives, friends and physicians further contributed to surgical decision. The availability and significance of reconstruction was too an influential factor in the overall decision (Table 1).

Conclusion: The results of this study demonstrate that almost all patients have experienced long term satisfaction with CPM. The study confirmed that fear of cancer recurrence along with the opinions of others are all influential contributors towards the decision of undergoing CPM.

(See next page for supporting material)
### Table 1. Demographic and Psychosocial variables of patients choosing contralateral prophylactic mastectomy.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>≤ 50</td>
</tr>
<tr>
<td>Education</td>
<td>High School or College</td>
</tr>
<tr>
<td></td>
<td>Bachelor or Higher</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Unmarried</td>
</tr>
<tr>
<td></td>
<td>Married/living with partner</td>
</tr>
<tr>
<td></td>
<td>Widowed/Divorced</td>
</tr>
<tr>
<td>Income</td>
<td>&gt; 60K</td>
</tr>
<tr>
<td>Occupation</td>
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<td>Healthcare/Other</td>
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<td><strong>Psychosocial</strong></td>
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<td>Happy with PM</td>
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<td>Recommend PM</td>
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<td>Fear of recurrence affected choice</td>
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<td>w/Invasive Carcinoma</td>
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<td>w/DCIS</td>
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<td>Chemo-radiotherapy affected choice</td>
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<td>Breast reconstruction affected choice</td>
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<td>Partner’s opinion affected choice</td>
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<td>Relatives and friends opinions affected choice</td>
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<tr>
<td>Physician’s opinion affected choice</td>
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<td>Same decision if marital status different</td>
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“Biomarker Search to Distinguish Atypical Ductal Hyperplasia (ADH) from Adjacent Breast Cancer on Core Biopsy”

Malak Kanbour, MD; Ayfer Kamali Polat, MD; Amal Kanbour-Shakir, MD; Fatih Levent Balci, MD; Gretchen Ahrendt, MD; Atilla Soran, MD
Magee Women’s Hospital, Pennsylvannia, USA

Abstract:

Background: Ten to twenty percent of cases diagnosed as ADH after core biopsy will show carcinoma on subsequent surgical excision. Currently, there is a significant debate regarding the need for mandatory surgical excision of these lesions. The purpose of the study is to identify biomarkers predictive of finding carcinoma on surgical excision to aid in decision making after the diagnosis of ADH on core biopsy.

Method: Seventy-five patients with ADH on core biopsy were retrospectively selected and categorized into two groups. Group I: 39 patients with ADH on surgical excision, and Group II: 36 patients who had carcinoma on subsequent excision. Groups were compared according to the variables such as age, radiological findings, breast density, calcification, proliferative lesions, and LCIS on final excision. IHC staining were performed and evaluated on the following biomarkers MUC1, Ki67, CyclinB1, and CyclinD1 were performed by using. Appropriate cut-off levels (5%-50%) were used for each of the biomarkers using X2 test.

Results: The Biomarkers used were not significantly different between the groups; the mean percentage of cells that expressed CyclinD1 in ADH was higher than DCIS and invasive cancer patients (65, 49, and 51, respectively; P < 0.017). LCIS on final excision was 20% in Group II and the only variable statistically significant between the groups (P < 0.000).

Conclusion: IHC evaluation on core biopsy specimens of ADH with MUC1, Ki-67, CyclinB1, and CyclinD1 failed to predict the likelihood of subsequent carcinoma. Further surgery is warranted for core biopsies that reveal pure ADH until a good discriminator is identified.
Abstract: The aim of this study is to show the characteristics of breast cancer therapeutic approach in Mexican women older than 65 years old among 8 years of private practice. We retrospectively reviewed the files of all patients older than 65 years with diagnosis of breast carcinoma in our database, since January 2001 through December 2008. We collected invasive pattern, therapeutic approach, and follow up. A total of 45 women older than 65 years with diagnosis of breast carcinoma were included. 2 (4.4%) patients presented with DCIS, one (2.2%) treated with lumpectomy; one underwent total mastectomy + sentinel lymph node dissection + immediate breast reconstruction because an extensive pattern. Invasive carcinoma was diagnosed in 43 patients (95.6%). 30 (70%) patients treated with breast preserving surgery + sentinel lymph node dissection + whole breast irradiation (50Gy). Radical modified mastectomy was performed in ten patients (23%) and neoadjuvant treatment was offered to three patients (7%) due to locally advanced disease. ER status was positive in 31 patients (69%), 5 years of Tamoxifen was prescribed to all of them. 22 patients (49%) were treated with adjuvant chemotherapy with a previous meticulous personal health analysis. Maximum follow up was 96 months; 2 patients (4.4%) have presented local recurrence, and 3 (6.6%) have developed metastatic disease (2 patients with hepatic metastases, one with lung metastases). Only two patients died because of the disease. We believed that treatment in older women should be individualized, with special attention on comorbidities, and life expectancy.
Abstract: The aim is to show the clinical case about a patient to whom a radial scar was diagnosed, as well as the current data about the treatment. This is a 51 years old female patient with the only medical history of hysterectomy with bilateral oophorectomy in 2005 who is referred to our center due to an alteration found during the screening mammographies. With a normal physical examination, a breast ultrasound was solicited identifying the distortion consisting with radial scar. Stereotaxic excisional biopsy was performed. There were no complications during the surgery. The patient had a satisfactory evolution. Pathology confirmed a radial scar, with no malignancies associated. Radial scar are non-palpable lesions which affects the architecture of the glandular tissue. Associated malignancies can be found in 4 to 8% of the patients. Due to percutaneous biopsy do not rule out the presence of any malignancy, surgical treatment should be performed in all the patients independently of the radiological or pathological findings.
“Palpable Ductal Carcinoma In Situ: Frequency, Treatment and Prognosis.”

Santiago Sherwell, MD; Jose Luis Guzman, MD; Teresa Mireles, MD

Instituto Tecnológico y de Estudios Superiores de Monterrey, MEXICO

Abstract: The objective of this study is to show our incidence of palpable ductal carcinoma in situ (DCIS), as well as the histological type, the treatment and prognosis. We retrospectively reviewed the patients in which pure breast carcinoma in situ was diagnosed through a palpable mass during April of 2003 and May of 2011. The follow-up ranged from 8 to 68 months. We found 51 patients in whom any type of breast carcinoma in situ was diagnosed from April of 2003 to April of 2011. Six (8.5%) of these patients presented as a palpable mass as a chief complaint. The age of presentation ranged from 29 to 55 years old. Four out of six patients (66%) where diagnosed with pure Ductal Carcinoma In Situ (DCIS), while Lobular Carcinoma In Situ (LCIS) was diagnosed in one (12.5%) patient presenting with a palpable mass. Another patient was found to have DCIS associated with microinvasion in a palpable and was excluded from the study. 3 of them were treated with breast preserving surgery and received radiotherapy as the standard of care. One underwent total mastectomy with immediate breast reconstruction and sentinel lymph node biopsy because of an extensive DCIS pattern. ER receptor status was positive in all patients and tamoxifen was prescribed for all 6 patients. None of the patients has presented local or distant recurrence as of today. Although it is infrequent to find pure BCIS in palpable breast mass, breast preserving surgery ± tamoxifen ± radiotherapy is feasible for palpable BCIS.
Poster 36

“Axillary Lymph Node Status in Breast Cancer Staging: What Patient and Tumor Factors Affect the Accuracy of Ultrasound-Guided Fine Needle Aspiration?”

Celin Chacko, MD; Tova Koenigsberg, MD; Bea Reig, MD

New York

Abstract: This is a retrospective review of patients with breast cancer who had ultrasound-guided fine needle aspiration (FNA) of the axillary lymph nodes (ALNs) as well as sentinel lymph node excision or complete axillary dissection. The objective of the study is to evaluate the sensitivity FNA of ALNs in patients with breast cancer, and determine what factors affect accuracy of FNA. Our findings indicate that axillary ultrasound and FNA of suspicious lymph nodes is valuable even in small tumors, which differs from findings in the literature. The overall negative predictive value of FNA is 52%, so sentinel lymph node biopsy is essential after negative FNA. Sensitivity of ALN FNA increases with the size of the metastatic deposit in the lymph node, but is not correlated to the number of positive ALNs found at the time of dissection.
"Accuracy of Axillary Ultrasound for Prediction of Nodal Metastasis in Breast Cancer"

Vijay Narendran, MD; Charlene Kan, MD; Abdus Sattar, MD; Janice Lyons, MD; Robert Shenk, MD; Paula Silverman, MD; Donna Plecha, MD

University Hospitals Case Medical Center, Ohio, USA

Abstract:

Objective: To assess the accuracy of axillary ultrasound (US) for staging newly diagnosed breast cancer (BC).

Methods: We retrospectively reviewed BC patients who underwent axillary US and pathologic lymph node (LN) evaluation between 1/2009 and 4/2011 at University Hospitals Case Medical Center. We compared US results with LN core needle biopsy (CNB) and axillary LN (ALN) pathology to determine the accuracy of axillary US. Patients with positive CNB before neoadjuvant treatment were included. Patient and tumor characteristics were analyzed by logistic regression analysis.

Results: 339 patients underwent US and LN evaluation. Median age was 60.5yrs. Median breast tumor size was 1.4cm by US (IQR:0.9cm-2.0cm). Receptor status: 79.9% ER+, 69.0% PR+, 13.3% triple negative, 11.6% Her2/neu positive. 110/339 had pathologic axillary involvement. 94 patients had suspicious ALNs by US with 82/94 undergoing CNB. Axillary US demonstrated a sensitivity of 59%, specificity of 87%, positive predictive value of 0.69, and a negative predictive value of 0.82. There were 45/339 (13.2%) false negative results. Histologic type was not predictive of axillary US result. Older age and smaller tumor size were predictive of true negative US results while larger tumor size and Her2/neu positivity were predictive of true positive US results. US was positive in 2/18 patients with N1mi nodes.

Conclusions: Axillary US can predict LN metastases in newly diagnosed BC. Accuracy improves with increasing tumor size and Her2/neu positivity. US poorly predicts N1mi disease. Patients with positive or negative US need pathologic LN staging.
“Docetaxel-Induced, Scleroderma-Like, Arm Lymphedema in a Her-2-neu Positive Breast Cancer Patient after Adjuvant Chemotherapy with TCH (docetaxel, carboplatin, and trastuzumab).”

Juan Herrada, MD; Nishaal Antony, MD; Anuradha Gupta, MD; Mark R. Pittelkow, MD; Andrea L. Cheville, MD

Texas Tech University Health Sciences Center, Texas

Abstract:

Background: Docetaxel (taxotere®), treatment is commonly associated with dermatologic toxicity, particularly alopecia and dermatitis. However, unusual chemotherapy reactions can mimic other skin disease processes.

Methods: Case report.

Results: A 65-year-old white female underwent left mastectomy for a Her-2-neu overexpressing breast adenocarcinoma in March 2010. Three out of 15 lymph nodes were positive for metastatic breast cancer. She received adjuvant chemotherapy with docetaxel, carboplatin, and trastuzumab (herceptin®) (TCH), followed by adjuvant external-beam radiation to the left supraclavicular apical axillary region along with tangential fields to treat the chest wall. Her regular medications included alendronate (fosa max®) weekly and triamterene daily. Upon completion of radiotherapy she presented with persistent edema of the left upper extremity, predominantly distal, that evolved into a diffuse, indurated and erythematos reaction of the arm. Cellulitis complicating lymphedema was diagnosed. Intravenous levofloxacin and subsequently daptomycin (cubicin®) afforded no clinical improvement. The patient was then evaluated at a referral institution, and she was diagnosed with sclerodermiform reaction in the setting of Stage II secondary arm lymphedema due to docetaxel exposure. A protracted course of complete decongestive therapy achieved gradual, but incomplete resolution of the reaction.

Conclusions: Clinicians must be aware of this unusual adverse reaction resulting from chemotherapy and lymphedema to prevent unnecessary and potentially toxic therapies.
“Eribulin Mesylate with trastuzumab as First-Line Therapy for Locally Recurrent or Metastatic Human Epidermal Growth Factor Receptor Two (HER2) Positive Breast Cancer: Preliminary Results from a Phase 2, Multicenter, Single-Arm Study”

Linda Vahdat, MD; Lee Schwartzberg, MD; Sharon Wilks, MD, FACP; Jessica Rege, PhD; David Cox, PhD; Joyce O’Shaughnessy, MD

Weill Cornell Medical College, New Jersey, USA

Abstract:

**Background:** Eribulin mesylate, a nontaxane microtubule dynamics inhibitor, was approved in the US for patients with metastatic breast cancer (MBC) who previously received at least two chemotherapeutic regimens. This study evaluates the efficacy and safety of eribulin + trastuzumab (T) as first-line therapy for HER2+ MBC.

**Methods:** Patients with locally advanced (LA) BC or MBC received eribulin mesylate at 1.4 mg/m2 IV on days 1 and 8 of a 21-day cycle and T at 8 mg/kg, followed by 6 mg/kg on day 1 of subsequent cycles. The objective response rate is the primary endpoint; safety, progression-free survival (PFS), time to response (TTR), and duration of response (DOR) are secondary endpoints. Tumor assessments were evaluated (RECIST 1.1) every 6 weeks for 6 cycles and 6-12 weeks thereafter.

**Results:** In preliminary results (from 1/19/2012), 26 of 52 planned patients were treated (Table 1). Treatment-emergent adverse events (AEs) are listed in Table 2. Three grade 3 serious AEs were reported (febrile neutropenia, neutropenia, and fatigue). Dose reductions/interruptions occurred in 5/26 (19%) patients. Three patients (12%) discontinued from eribulin due to AE (neuropathy: 2 grade 3; 1 grade 2). Individual best patient responses with at least 1 post baseline tumor assessment are 15 PRs, 7 SD, 1 PD, 3 NE. Median TTR was 40 days (95% CI 36, 42). PFS/DOR are immature.

**Conclusions:** These preliminary results suggest that eribulin + T appears to have considerable activity with acceptable toxicity as first-line therapy for HER2+ LABC/MBC. Further exploration of this combination is warranted.

(See next page for supporting materials)
Table 1: Patient Characteristics

<table>
<thead>
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<th>Characteristic</th>
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<tbody>
<tr>
<td>Median age, years (range)</td>
<td>56 (31-81)</td>
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<tr>
<td>ECOG performance status, no. (%) of patients</td>
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<tr>
<td>0</td>
<td>19 (70.4)</td>
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<tr>
<td>1</td>
<td>7 (25.9)</td>
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<tr>
<td>2</td>
<td>1 (3.7)</td>
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<tr>
<td>Prior trastuzumab treatment, % of patients</td>
<td>69</td>
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<tr>
<td>Metastatic sites, % of patients</td>
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<tr>
<td>Liver</td>
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<td>Lung</td>
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<td>Bone</td>
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<td>ER+ disease, % of patients</td>
<td>70</td>
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<tr>
<td>Median treatment cycles, no. (range)</td>
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Table 2: Treatment-Emergent Adverse Events

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<th>Adverse Events in 26 Patients</th>
<th>%, Total</th>
<th>%, Grade 3/4</th>
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<td>Common AEs (≥30%)</td>
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<tr>
<td>Alopecia</td>
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<tr>
<td>Neutropenia</td>
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<tr>
<td>Fatigue</td>
<td>54</td>
<td>4</td>
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<tr>
<td>Peripheral neuropathy</td>
<td>42</td>
<td>12</td>
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</table>
Abstract:

**Background:** Cosmoses after breast conserving surgery depends on two main factors: the site of the lesion and the breast volume excised in relation to total breast volume. Latissimus dorsi miniflaps can replenish loss of > 25% of breast volume. The aim of our study is to evaluate the aesthetic outcome and complications of immediate breast reconstruction using this mini flap following partial mastectomy.

**Patients and methods:** Twenty eight patients with breast cancer underwent conservative breast surgery in the form of wide local excision with immediate reconstruction using latissimus dorsi mini-flap. Neoadjuvant chemotherapy was given in some cases to reduce the tumor size and after surgery; all cases received eligible adjuvant therapy.

**Results:** Most of the patients (71.4%) were having T2 tumor, while (14.3%) of the patients had T1 tumor and (14.3%) had T3 tumor. Neoadjuvant chemotherapy was given for 14 patients with overall response rate about 76.7%. Wide local excision with safety margin with immediate reconstruction using latissimus dorsi mini-flap was done. Seventeen patients had reconstruction with muscle only, while 11 patients had reconstruction by musculocutaneous flap. A deeply satisfied cosmetic result was achieved in (82.1%) and none of them subsequently required mastectomy. After median follow up of 28 month, no local recurrence was recorded and all the patients were alive till the end of the study.

**Conclusion:** The latissimus dorsi mini-flap is the mainstay of oncoplastic breast surgery after partial mastectomy and it has low donor site morbidity, deep patient satisfaction and low and temporary radiation effects.
Abstract: Phyllodes tumors are fibroepithelial neoplasms that are characterized by broad fronds of tumor cells with a “leaf-like” appearance in breast tissue. The incidence of phyllodes tumors is highest in the sixth decade of life and the diameter at presentation is highly variable. Although there have been some preliminary insights into the genetic mechanisms responsible for phyllodes tumor development, these mechanisms remain largely unknown. We present two cases involving a mother and daughter who developed large benign phyllodes tumors at a young age during the same year. To the best of our knowledge, this is the first case of phyllodes tumors in first degree relatives. Immunohistochemistry was performed on formalin fixed paraffin embedded tissue samples from both patients to elucidate expression of phyllodes tumor markers recently reported in the literature. The tumor markers p53, CD34, c-kit, B-catenin, and ER beta were analyzed and found to have similar patterns of expression for both cases. To the best of our knowledge, there are no known environmental risk factors for phyllodes tumor development and, other than early pregnancy, there were no other similarities in the two patients’ medical histories. In conclusion, our case report suggests a genetic predisposition for phyllodes tumor development in these two patients.
Poster 42

“Accelerated Partial Breast Irradiation Using a Strut-Based Brachytherapy Device: a Multi-Institutional Initial Report on Acute and Late Toxicity.”

Jon Strasser, MD; Dayee Jacob, MD; Christopher D. Koprowski, MD; Maureen R. Lyden, MD; Catheryn M. Yashar, MD; Robert Kuske, MD

Helen F. Graham Cancer Center, Delaware, USA

Abstract:

Purpose: Accelerated partial breast irradiation (APBI) is commonly used in early stage breast cancer. The SAVI Collaborative Research Group is a multi-institutional group created to study outcomes in patients who received APBI utilizing strut-based brachytherapy. This analysis reports the acute and late toxicities for patients with 1-2 years follow-up (F/U) from this study.

Methods: APBI patients (ductal carcinoma in situ or invasive breast cancer), received HDR brachytherapy (34 Gy in 10 fractions) using the SAVI device (Cianna Medical). Patients with dosimetry and documented F/U were evaluated within 6 weeks of treatment for early adverse events (AEs), and at 1 and 2 years for late AEs. Dosimetric parameters were evaluated with respect to toxicity and will be presented.

Results: Patients (median age 63 years, range 40-92) F/U were: Early (n=909), ≥1yr (n=413) and ≥2yr (n=181). Median F/U after RT was 18.5 months (range 0.5-60). Median tumor size was 12mm. At early follow-up (n=909), rates of infection (3.1%, all grades), erythema and edema were 1.3% & 2.0% (≥ Grade 2). For patients with acute and early ( <1 yr, n=578) F/U the incidence ( ≥ Grade 2) of erythema, telangiectasia, seroma and fat necrosis were 1.2%, 1.2%, 2.6% and 0.7%. Similarly, for those with acute and ≥1yr (n=413) & ≥2yr (n=181) F/Us, the incidence of erythema, telangiectasia, seroma and fat necrosis were 1.2%, 1.7%, 2.7% and 0.7%, and 1.7%, 3.3%, 2.8% and 0.6%, respectively.

Conclusion: AEs for APBI with SAVI are low in incidence, low in grade and comparable to other HDR APBI methods.
“Performance of the OncoVue® Polyfactorial Breast Cancer Risk Assessment Model in Several Racial/Ethnic Groups”

Eldon Jupe, MD; Thomas Pugh, MD; Nicholas Knowlton, MD; Daniele DeFreese, MD

Oklahoma, USA

Abstract: Models for accurate breast cancer risk assessment are important for effectively guiding clinical decisions on early detection and prevention. A polyfactorial risk model (PFRM; OncoVue®) for breast cancer risk was developed from simultaneous analysis of genetic and clinical data. Previously, in studies involving white women we have shown that the PFRM demonstrated significant improvement in risk assessment compared to the widely applied Gail model. Here we present analyses of the performance of the PFRM in lifetime risk estimation at the 20% threshold in women from several racial/ethnic groups. Study participants were enrolled in a case-control study conducted in six regions of the United States. DNAs were genotyped for 22 genetic polymorphisms and combined with clinical risk factor information to calculate PFRM risk estimates. Clinical factor information alone was used to calculate Gail model risk scores. Analyses were performed separately for women self-reporting as Black (149 Cases-346 Controls), Hispanic (79 Cases-233 Controls), and Asian-Pacific Islander (53 Cases-99 Controls). Odds Ratios (OR) were determined for both models at the 20% lifetime risk thresholds and fold-improvement was calculated. The ORs associated with a ≥ 20% lifetime risk are statistically significant in all three racial/ethnic groups and meet or exceed those observed for Whites. In addition, across the groups the PFRM fold-improvement ranges from 2.2 to 7.0. The PFRM performed well in these racial/ethnic groups in accurate lifetime risk stratification supporting its potential utility for guiding prevention and screening decisions.
“Self-Reported Race/Ethnicity of BRCA-positive Breast Cancer Patients versus Prevalent Mutations in the Population.”

Krizia Gupiteo, Charusheela Andaz MD, Sarah Bradley MS, Theresa Jacob PhD, MPH

Breast Center, Maimonides Medical Center, New York, USA

Abstract:

Introduction: Genetic testing for breast cancer susceptibility mutations is widespread. A patient’s genetic status can provide information for personalized medicine - treatment modalities and surveillance plans for both the patient and his/her family members. A by-product of genetic testing is information on ancestral origin as certain mutations are more prevalent in some groups than in others. Our purpose was to analyze this informational by-product of genetic testing – the possible ancestral origins, in our patients diagnosed with breast cancer.

Methods: Because mutations in tumor suppressor genes, BRCA1 and BRCA2, are the most tested ones, we built a retrospective database of BRCA-positive patients that included genetic status, family history, and reported race and ethnicity. Prior work on each mutation was reviewed to determine its prevalence in the reported populations.

Results: The mean ages in our study population for BRCA1 and BRCA2 carriers were 44.3 years and 41.2 years, respectively. As expected, patients who reported an Ashkenazi Jewish background tested positive for one of the three Ashkenazi founder mutations. However, in as many as 5% of the patients there was discordance in the data.

Conclusions: Although the reported ancestries of the majority of the patients matched the populations where each mutation has been demonstrated, our data suggest that geneticists should be aware of the limitations of using patient-reported ancestry information in guiding genetic testing. Tracing ancestry through breast cancer gene mutations, in addition to shedding light on population migrations and shifts, may allow for a more site-specific and cost-effective approach of genetic testing.
“Are Women Ready to Add Dietary Intervention to the Armamentarium of Breast Cancer Treatment?”

Colin Champ, MD; Danielle Daitch, MD; Katherine E. Duffey, MD; Mila Heersink, MD; Rosanne Iacono, MD; Anne Rosenberg, MD; Nicole L. Simone, MD

Thomas Jefferson University Hospital, Pennsylvania, USA

Abstract:

Objectives: Nutrition may play a significant role in breast cancer management, and recent data has revealed that patients with elevated blood glucose and metabolic syndrome have increased rates of death and reduced response to treatment. Nutritional intervention may be an attractive addition to standard treatment, but data on the willingness of patients to enroll in such trials is limited.

Methods: After obtaining IRB approval, we administered a survey to patients in an outpatient academic breast cancer clinic. Participants were questioned on their overall health, comorbidities, demographics, and desire to participate in clinical trials with the goal of potentially increasing treatment efficacy through dietary manipulation.

Results: A total of 90 breast cancer patients completed the survey. Of these women, 54% had comorbidities, defined as hypertension, diabetes, or coronary artery disease. While 60% were self or physician-described as overweight, a majority of women (74%) stated that their primary physician has never discussed nutrition with them. Of these patients, over 40% have searched online for nutrition and dietary information. Overall, 66% of women described a willingness to participate in clinical trials involving nutritional intervention during breast cancer treatment. Of these patients, most currently took vitamins (88%), exercised at least once per week (70%), and were not obese (62%).

Conclusions: Women appear to be interesting in participating in trials with nutritional interventions during breast cancer treatment. Women who exercise and take vitamins may be most likely to participate. Based on these results, clinical trials of dietary interventions in breast cancer treatment appear feasible and warranted.
Abstract:

**Purpose:** Breast surgeries, including breast conservation treatment, mastectomy and reconstruction, reduction and augmentation are common. Breast conservation treatment (BCT) is now performed for approximately 65% of all less than stage IIIa breast cancers. Cosmetic surgeries are also increasing, with a 40% growth in breast augmentation and a 19% increase in breast reconstruction procedures between 2000 to 2010. The purpose of this presentation is to understand the multi-modality imaging appearance of the post operative breast and be able to differentiate normal post operative findings from malignancy. This knowledge is critical to maximize cancer detection and minimize false positive results.

**Educational Goals:** Recognize normal patterns of distortion and calcification in post- BCT and imaged mastectomy patients on mammography. Become familiar with distortion and shadowing related to scarring on sonography. Understand normal post-operative enhancement and how to use specific sequences to identify seromas and fat necrosis on MRI. Identify parenchymal and skin changes associated with breast reduction and augmentation. Use this information to differentiate expected post-operative changes from residual or recurrent disease.

**Key Anatomic or Pathophysiologic Issues and Imaging Findings:** Normal post operative findings including calcification on mammography; shadowing and distortion on sonography; architectural distortion and skin thickening on mammography and MRI and enhancement on MRI overlap with classic appearances of malignancy. Subtle cues including scar density, morphology and distribution of calcifications, and utilization of various MRI sequences, in combination with patient history, help differentiate benign processes from malignancy.

**Conclusion:** Knowledge of the normal post operative breast and expected post surgical findings is important as they may both mimic and mask malignancy. The radiologist’s familiarity with benign post surgical changes can both decrease false positive results and increase cancer detection.
Abstract:

**Background**: Lymphomas constitute approximately 0.15% of all malignant breast neoplasms. Most lymphomas involving the breast are secondary lymphomas, with initial extramammary involvement. Primary lymphoma of the breast is much rarer and represents less than 0.50% of all malignant lymphomas. The mammographer should be familiar with the wide spectrum of imaging appearances of lymphoma, which make it challenging to differentiate from non-lymphomatous malignancies and benign tumors. This educational exhibit will familiarize the participants with various imaging appearances of breast lymphoma on mammography, ultrasound and MRI using illustrative imaging examples.

**Educational Goals**:
- Review the normal anatomy of the lymphatic drainage of the breast
- Review the pathology of breast lymphomas
- Discuss the spectrum of imaging appearances of breast lymphoma on mammography, ultrasound and MRI
- Discuss the potential pitfalls and imaging mimickers of breast lymphoma

**Key Anatomic/Physiologic Issues and Imaging Features**: Breast lymphoma can have a variable clinical presentation, as a solitary mass, multiple unilateral masses or with bilateral involvement. Mammography may show a mass, asymmetry or only interstitial thickening. While it is usually hypoechoic on ultrasound, breast lymphoma may be mixed echogenicity or pseudocystic. On MRI, lymphomas can have mass or non-masslike areas of enhancement.

**Conclusion**: The variable imaging appearances of lymphoma make it difficult to differentiate it from other benign and malignant tumors, and tissue diagnosis is required. However, familiarity with the spectrum of imaging findings will aid the radiologist to include it in an appropriate differential diagnosis, determine concordance and guide management.
“Atypical Vascular Lesion of the Breast Not Associated with Radiation Therapy”

Ana Paula Refinetti, MD; Cristina Checka, MD; Beth Siegel, MD; Osvaldo Hernandez, MD; Ronaldo Zamuco, MD; Amber Guth, MD

New York, USA

Abstract:

Background: Atypical vascular lesions (AVL) are known to occur in the setting of breast-conserving surgery (BCS) and radiation therapy for treatment of breast cancer. The relationship between these lesions and potential secondary angiosarcoma is yet undescribed. Additionally, there is no known literature on the relationship of AVL of the breast not associated with radiation therapy.

Cases: We had two patients in 2011 with AVL in the absence of radiation therapy. One is a 58yo female who presented with focal, lower outer quadrant right breast skin thickening and erythema. Punch biopsy to rule out inflammatory breast cancer identified mild perivascular chronic inflammation in the superficial and deep dermis. US and mammogram were negative. Breast MRI had diffuse skin thickening and marked cutaneous and subcutaneous edema in right lower outer quadrant as well as 1.3cm enhancing lesion in the anteriorly. Wide local excision identified atypical vascular lesions with fibrocystic change. The second patient is an asymptomatic 63yo female who had 1.1cm oval mass detected on screening mammogram. US had 1.1cm lobulated mass, core biopsy with AVL and excisional biopsy with AVL.

Conclusion: We presented an unusual case of a diagnosis of AVL without previous exposure to radiation after BCS. In the current literature, there is no report of AVL not associated with radiation therapy and it is unclear if these lesions have any potential to progress to angiosarcoma and how they should be monitored and managed.
Poster 49

“Surgical Management of Breast Cancer in the Elderly: Are We Under-treating this Growing Population?”

Andrea Steely, MD; Ted James, MD
The University of Vermont College of Medicine, Vermont, USA

Abstract:

Background: Current literature suggests that the surgical management of breast cancer (BC) in women > 65 years of age (65+) does not follow standard of care due to a lack of consensus guidelines. The purpose of our study is to identify potential discrepancies in the surgical management of BC in women 65+ in Vermont.

Methods: BC patients 65+ were reviewed from three databases: the VT Breast Cancer Surveillance System, the VT Cancer Registry, and the Centers for Medicare and Medicaid Services. Details of surgical management, including the number of repeat operations, and use of adjuvant radiation were recorded for each subject.

Results: 1135 patients were included in the analysis. 21 (38.2%) patients aged 65-69 years underwent repeat operations, compared to 1 (1.82%) patient > 85 years, p < 0.0001. 150 (30.3%) patients aged 65-69 years received XRT following BCT, compared to 14 (2.83%) patients aged > 85 years, p < 0.0001. 194 (28.7%) patients aged 65-69 years underwent axillary evaluation, compared to 23 (3.40%) patients > 85 years, p < 0.0001.

Conclusion: Patients > 85 years of age are less likely to undergo repeat operations in the management of their BC. This discrepancy likely represents fewer procedures for re-excision of margins. Older patients are also less likely to receive adjuvant radiation following BCT. Fewer women over age 85 had axillary staging procedures for invasive disease. Additional studies are required to explore the etiology of this variation in care and to identify any long-term impact this may have on the outcomes of BC in elderly women.
“Does the Detection of Additional Lesions on a Preoperative Breast MRI Influence a Woman’s Selection of a Mastectomy?”

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Abstract:

Introduction: MRI use for preoperative planning is increasing in women with breast cancer. The purpose of this study was to determine the effect of MRI on surgical decision-making.

Methods: Clinicopathologic and imaging data from 84 breast cancer patients who had preoperative MRI from September 2010 to October 2011 were reviewed. Twelve patients who had neoadjuvant chemotherapy were excluded. The remaining 72 patients formed the cohort of interest.

Results: A single ipsilateral lesion was noted in 49.3% patients. Of the 34 patients (47.9%) who opted for mastectomy, 18 (52.9%) had more than one ipsilateral lesion noted on MRI (p=0.814). Contralateral lesions were noted on MRI in 34.3% of patients. The finding of contralateral lesions on MRI did not correlate with contralateral mastectomy; 50% of patients with contralateral lesions opted for mastectomy while 34.8% of patients without contralateral lesions did the same (p=0.304). Contralateral findings on MRI correlated with the decision to pursue mastectomy on the ipsilateral side: 62.5% of patients with contralateral lesions opted for ipsilateral mastectomy, while 37.0% with unilateral disease alone did the same (p=0.048).

Conclusion: While MRI is often done to guide operative management, the finding of additional ipsilateral lesions was not associated with a higher rate of mastectomy. Preoperative MRI detects contralateral lesions in a third of patients and while these findings do not increase the rate of contralateral mastectomy, it correlates with a higher rate of ipsilateral mastectomy.
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“Extramedullary Hematopoiesis on Chemotherapy with Peg-Filgrastim for Metastatic Breast Cancer”

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Abstract: A 41 year old woman presented with metastatic estrogen receptor-positive, HER2 amplified invasive ductal carcinoma of the right breast. PET-CT showed nodal, bone, hepatic, adrenal and peritoneal metastases. She was diagnosed with hereditary spherocytosis at age 20 and had splenectomy. She was treated with nab-paclitaxel, trastuzumab and zolendronic acid. Peg-filgrastim was required for hematopoetic support. PET-CT following 8 months of treatment showed marked improvement at all sites of disease but a new right paravertebral mass of 3.6 cm with FDG avidity. Nab-paclitaxel and peg-filgrastim were discontinued. She continued trastuzumab and began ovarian suppression with goserelin. PET-CT 6 months later showed stability. The paravertebral mass was no longer FDG avid. She underwent oophorectomy then started exemestane. Imaging one year later showed progression of metastases in liver, lymph nodes and adrenal but stability of the paravertebral mass. Exemesetane was discontinued. Nab-paclitaxel with peg-filgrastim was resumed. Metastases significantly regressed by 6 months but the paravertebral mass became FDG avid. MRI of the thoracic spine showed a 4.8 cm enhancing paravertebral soft tissue mass. Percutaneous biopsy of the mass showed extramedullary hematopoesis. No malignancy was seen. We present this case to underscore the importance of pathological diagnosis when imaging findings are discordant. It is presumed that extramedullary hematopoesis evolved from use of granulocyte-colony stimulating factor in this asplenic woman.
Abstracts:

Background: Breast cancer is a heterogeneous disease with different morphologies, molecular profiles, clinical behavior and response to therapy. The triple negative is a particular type of breast cancer defined by absence of estrogen and progesterone receptor expression as well as absence of ERBB2 amplification. It is characterized by its biological aggressiveness, worse prognosis and lack of a therapeutic target the incidence of TNBC accounts around 10% to 15% of all Breast cancer.

Methods: Retrospective study [January 2007 -December 2010], 105 medical records of TNBC were analyzed. The expression of estrogen and progesteron receptor and HER2 are identified by immunohistochemistry technique. We have evaluated the clinical pathologic features such as the age, familial cancer, histological type, stage, and the follow up.

Result: Followed it after 48month showed that the majority of the patients are very young women age (25-47). 10% were familial cancer, of stage II, ductal cancer in 80%. The majority of recurrence has bone metastasis, followed by cerebral and liver.

Conclusion: Our study are showed that the tumor recur early < 12 month++. Cerebral and local metastasis are high developing in this study.
"Strategies for Increasing Early Detection of Breast Cancer Through Community Outreach"

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Breast Care International (BCI)

Abstract:
We have been actively engaged in organizing outreach programs educating the public on various issues of Breast and Cervical Cancers and conducting free screening exercises across the country. The scope of our activities has been concentrated in the remotest areas of the country with the ultimate aim of spreading the word of awareness to as many women as possible. Worldwide cancer rates including breast cancer are on the rise. Late presentation of breast cancer has been our major problem in Ghana. Early detection and treatment has been our focus. Lack of awareness on Breast and cervical cancers, myths and misconceptions are among the key factors that account for the late detection of cancers in Ghana. In our ardent desire to wage a vigorous war against the diseases has initiated various strategies to solve the problem in Ghana. Prominent among strategies used by our personnel in their education drive include the following;

1. Talks aimed at demystifying Breast and Cervical Cancers as incurable diseases.
2. Testimonies by survivors; question and answers.
4. Teaching of Breast Self Examination
5. Picture and flyers showing breast and cervical screening for the guidance of attendees.
6. That Breast and Cervical Cancers, in spite of their life-threatening potential are curable and can be overcome if detected at an early stage.
7. That not all problems with the breast and cervix are cancers.
8. That breast removal (Mastectomy) is not the only available solution/option for breast cancer. Breast Conservation is another possibility.
9. That all breast and cervical disorders experienced should be reported to the nearest health facility for proper diagnosis is half the chance for cure.
10. That most cases are referred to specialist TOO LATE when the cancers have reached advanced stage spread to other parts of the body thus rendering the patients not only inoperable but beyond recovery. It is universally acclaimed that a healthy individual is a great asset to his/her self and the nation at large. Conversely, a sick and unhealthy individual is a great liability to self and the nation. We believe firmly that sound health especially of the deprived women in our rural areas is a great asset that empowers the rural folk to embark on productive economic ventures that extricates them from poverty and hunger. Women threatened by diseases have very little time to attend to their traditional economic roles and are, therefore, depended on other relatives for their support and survival.

Results: Certainly, the number of patients presenting with late stage cancer is on the decline on account of education and the screening exercise mounted by our organisation. Attitudes of patients who would not visit health facilities for medical examination and treatment have changed following adequate conscientisation in the mind and attitudes of patients.

Conclusion/Implications: Women diagnosed with Breast Cancer are encouraged to visit hospitals for medical examination and treatment, since breast cancer is captured under the National Health Insurance Scheme. The myth and misconceptions surrounding Breast Cancer as an incurable disease are on the decline. More women voluntarily visit health facilities whenever they experience any disorder in their breasts. The need to train more nurses in Oncology is very demand driven and with our partners, like Susan G. Komen, the NCC has been started on a pilot basis with a grant from Johnson and Johnson of USA. Creating Awareness about breast cancer in Ghana, together with Clinical Breast Examination are the surest means by which Breast Cancer can be detected and treated early in a developing country like Ghana, where Screening Mammography is not yet available.

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Abstract:

Purpose: To report on early results of a single-institution Phase II trial of a 5-fraction once-weekly radiotherapy regimen for patients undergoing breast-conserving surgery (BCS).

Methods and Materials: Patients who underwent BCS for AJCC Stage 0, I or II breast cancer with negative surgical margins were eligible to receive whole breast radiotherapy to a dose of 30Gy in 5 weekly fractions of 6Gy with or without an additional boost. Elective nodal irradiation was not permitted. There were no restrictions on breast size or the use of cytotoxic chemotherapy for otherwise eligible patients. Patients were assessed at baseline, treatment completion and at first post-treatment followup to assess acute toxicity (CTCAE v.3.0) and quality of life (EORTC QLQ-BR23).

Results: Between January and September 2011, 42 eligible patients underwent WHBI immediately following BCS (69.0%) or at the conclusion of cytotoxic chemotherapy (31.0%). The rates of ≥ Grade 2 radiation-induced dermatitis, pain, fatigue and breast edema were 19.0%, 11.9%, 9.5%, and 2.4%, respectively. Only one observed Grade 3 toxicity was pain requiring a course of narcotic analgesics. One patient developed a superficial cellulitis (Grade 2) which resolved with the use of oral antibiotics. Patient-reported moderate-to-major breast symptoms (pain, swelling and skin problems), all decreased from baseline through one month, while breast sensitivity remained stable over the study period.

Conclusions: The tolerance of WHBI compares well with recent reports of daily hypofractionated whole-breast irradiation schedules. The regimen appears feasible and cost-effective. Further follow-up with continued accrual is needed to assess late toxicity, cosmesis and disease-specific outcomes.
**Introduction**: Mammographic breast density (MBD) is associated with increased risk of breast cancer. Malaysia has a unique population comprising three ethnic groups: Malay(M), Chinese(C) and Indian(I). Data from the Malaysian National Cancer Registry 2003 showed that Chinese women had the highest age-standardized rate of breast cancer, followed by Indians and Malays (59.7, 55.8 and 33.9 per 100,000). Our purpose was to determine whether there is a difference in breast density among the ethnic groups.

**Methods**: 3307 Digital mammograms performed at University Malaya Medical Center (UMMC) from January to December 2010 were assessed by a single reviewer. Age, ethnic group and indication for mammogram were recorded. MBD was assessed using BIRADS density classification system (BIRADS 1-4 = <25%, 25-50%, 51-75%, and >75% fibroglandular tissue, respectively). Univariate analysis was performed using non-parametric tests. Logistic regression analysis was performed on factors affecting MBD with SPSS v20 for Mac.

**Results**: Chinese had the highest percentage of BIRADS 4 MBD (C=13.1% vs M=7.3% vs I=6.2%) (p<0.05). Indian women had the least dense breast (BIRADS1: I=28% vs C=10.1% vs M=21.2%) (p<0.05) After adjusting for age, we found Chinese women were more likely to have BIRADS 4 MBD compared to Malays (Adj OR 2.4 (95%CI 1.8-3.2), while there was no difference among Malays and Indians (p=0.696).

**Conclusion**: Chinese women have a higher risk of having dense breast. This may explain the disproportionate higher incidence in Chinese women compared to the other races in Malaysia. This must be confirmed with a population-based study.
36th Annual Symposium of the American Society of Breast Disease

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