Conclusion: The technical modifications of the BAT-software have lead to the achievement of accurate and reliable results. This qualifies the use of BAT in prospective and retrospective trials on breast cosmesis.

604 Poster

The additional value of whole-breast ultrasonography in the evaluation of women with mammography-negative dense breast

M. Najafi[1], E. Hashemi[1], A. Kaviani[2], T. Beheshtian[3], N. Alavi[4], L. Fonooni[3], N. Sedighi[5], S.H. Haghighat[6], A. Olfatbakhsh[1]. *[1]Iranian Center for Breast Cancer, Surgery, Tehran, Iran; [2]Tehran University of Medical Sciences, Surgery, Tehran, Iran; [3]Iranian Center for Breast Cancer, Radiology, Tehran, Iran; [4]Iranian Center for Breast Cancer, Surgery, Tehran, Iran; [5]Tehran University of Medical Sciences, Radiology, Tehran, Iran; [6]Iranian Center for Breast Cancer, Research center, Tehran, Iran*

Background: Mammography is the standard method of breast cancer screening but increased breast density reduces the sensitivity of both diagnostic and screening mammography. In the present study, the clinical utility of bilateral whole-breast ultrasonography as an adjunct examination to mammography in asymptomatic women with dense (Breast Imaging Reporting and Data System [BI-RADS] density category 2−4) breast tissue was examined.

Materials and Methods: Between January 2006 and January 2008, 592 asymptomatic women with normal mammography and physical examination and dense breasts (density grade 2−4) on mammography were evaluated with breast ultrasonography by three expert radiologists in a referral breast center. The findings of ultrasound were recorded by the radiologist in a separate sheat. According to ultrasound findings; the patients were offered routine follow up, repeat ultrasound in 6 months or biopsy.

Results: The mean age of the study population was 42.3±5.7. Positive family history for breast cancer was found in 16.6% of the patients. Ultrasound was normal in 57.5% of patients. Simple cyst or duct ectasia were diagnosed in 12.6% of patients and no further intervention was performed in this group. In 11 patients ultrasound found a suspicious or indeterminate lesion. Biopsy was performed for this group of patients according to ultasound finding but no malignancy found on pathology report of the lesions. In 29.9% of patients complex cyst or benign appearing mass lesions were diagnosed on ultrasound. In repeat sonography, the lesions were either disappeared or not changed. No cancer was detected in the study population.

Conclusions: The findings of the present study do not support the routine use of ultrasonography in women with normal physical examination and mammography-negative dense breast. More studies in special high risk subgroups are recommended.

605 Poster

Thin slice multidetector-row computed tomography for the preoperative evaluation of axillary nodal status in patients with breast cancer

M. Shiotani[1], T. Higuchi[1], N. Takahashi[1], S. Sato[1], H. Makino[2], K. Kuninaka[2], C. Yoshida[2], H. Shibuya[3], H. Hashidate[3]. *[1]Niigata City General Hospital, Diagnostic Radiology, Niigata, Japan; [2]Niigata City General Hospital, Breast Oncology, Niigata, Japan; [3]Niigata City General Hospital, Pathology, Niigata, Japan*

Background: Sentinel lymph node biopsy (SLNB) is now widely accepted in breast cancer treatment, and being spared from complete axillary lymph node dissection (ALND). The role of a non-invasive imaging modality to assist in the preoperative diagnosis of axillary lymph nodal status (ALNS) has become very important. Multidetector-row Computed Tomography (MDCT) is one of the most useful methods of evaluating the clinical state of patients with breast cancer, and its high spatial resolution can offer an accurate diagnosis of distal metastasis. We retrospectively evaluated the effectiveness of thin slice MDCT for detecting ALNS in patients with breast cancer.

Material and Methods: Between November 2007 and October 2009, 246 patients with breast cancer enrolled in this study. We obtained CT images with a slice thickness of both 5 mm and 2 mm, by using helical CT scanning. A metastatic lymph node on MDCT was defined as more than 5 mm on the short axis and extinguishing fatty infiltration in hilum of lymph node. We estimated ALNS by both 5 mm-thick MDCT and 2 mm-thick MDCT, and performed either SLNB or ALND as part of the surgical treatment. The diagnostic accuracy for ALNS was evaluated based on the histological findings of either SLNB or ALND as a reference standard.

Results: The mean age of the patients was 57 years and all were female. Among the 246 patients examined, 72 (29%) patients were diagnosed pathologically as node-positive, and 174 (71%) were as node-negative. For establishing the ALNS, 5 mm-thick MDCT shows a sensitivity of 35%, a specificity of 93%, a positive predict value of 68%, a negative predict value of 78% and an accuracy of 76%. On the other hand, 2 mm-thick MDCT shows a sensitivity of 35%, a specificity of 97%, a positive predict value of 81%, a negative predict value of 78% and an accuracy of 78%. By using 2 mm-thick MDCT, the specificity, positive predict value and accuracy of detecting ALNS in patients with breast cancer improved.

Conclusion: In patients with breast cancers, 2 mm-thick MDCT is more effective than 5 mm-thick for detecting ALNS. For current evaluation of ALNS, sufficient thin slice MDCT is required.

606 Poster

Mammographic and ultrasonographic findings after oncoplastic techniques and breast reconstruction for breast cancer

A. Guma Martinez[1], A. Valdivielso Ortiz[1], R. Perez Lopez[1], R. Ortega Martinez[1], A. Lopez Ojeda[2], D. Perez Sidelnikova[2], G. Gonzalez Rivas[2], J.M. Serra Payro[2], L. Prieto Alvarez[1]. *[1]Hospital Universitari de Bellvitge, Radiology, L'Hospitalet de Llobregat − Barcelona, Spain; [2]Hospital Universitari de Bellvitge, Plastic Surgery, L'Hospitalet de Llobregat − Barcelona, Spain*

Background: To describe the mammographic and ultrasonographic findings in patients treated for breast cancer with oncoplastic techniques in conservative surgery and with breast reconstruction techniques in mastectomy.

We review normal and pathologic findings and signs of recurrence.

Materials and Methods: Oncoplastic techniques after breast-conserving therapy and breast reconstruction techniques after mastectomy are a treatment choice for women with breast cancer, being an alternative treatment to conventional surgery in specialized centers.

Conservative treatment with oncoplastic techniques include tumorectomy with remodelling, tumorectomy with reduction mammoplasty, and partial reconstruction using prosthesis or autologous tissue.

After mastectomy, immediate breast reconstruction is the elected technique at our institution, and it includes the use of tissue expanders, prosthesis and autlogous myocutaneous flaps.

Follow-up mammographies are systematically carried out yearly according to our protocol, and sonographic exams are complementary to follow-up mammography.

We review exams performed to 355 patients treated between 2005 and 2008; 243 patients were treated with mastectomy and breast reconstruction, and 112 with conserving therapy (20 hemimastectomy).

Sixty one patients had bilateral reduction mammoplasty, 17 tumorectomy and remodeling, 196 reconstruction with myocutaneous flaps only, 51 autologous flap with implant, and 25 patients only implant.

Results: Implants are radiopaque, and autologous myocutaneous flaps are radiolucent, with variable density due to the muscle component.

Fat density surrounded by dense band and muscle fibers inside are normal findings of myocutaneous flaps. Implant wrinkles are seen with saline implants.

Parenchymal redistribution inferiorly, distortion and elevation of nipple are normal findings in reduction mammoplasty.

Unlike simple tumorectomy, postoperative scarring and fluid collecions inside cavities are not visualized in remodelling techniques.

Abnormal findings in these techniques are fat necrosis, dystrophic calcifications, epidermal inclusion cysts and recurrent carcinoma.

Conclusions: Treatment of breast cancer with oncoplastic techniques has increased in popularity. Mammography and ultrasound provide excellent visualization of normal and pathologic findings in reconstructed breasts.

For a better follow-up of these patients, radiologists dedicated to breast pathology need to be familiarized with these radiologic findings.

607 Poster

USG scan of the axilla complemented with clinical examination can help predicting positive nodes and avoid unnecessary axillary node clearance in invasive breast cancer

D. Ghosh[1], N. Das[1], G. Selenica[1], T.I.A. Abdullah[1]. *[1]Edith Cavell Hospital, Peterborough Breast Unit, Peterborough, United Kingdom*

Introduction: Axillary node status remains the most important prognostic factor in invasive breast cancer recurrence. Axillary Node Clearance (ANC) remains the mainstay of treatment for all patients who have lymph node involvement with metastatic disease. The information obtained from the axillary clearance helps in planning further adjuvant therapy. Sentinel Lymph Node biopsy (SLNB) has become the standard method of staging the axilla. In order to avoid unnecessary ANC ultrasound (USG) of the axilla followed by either FNA or core biopsy of the abnormal gland is being undertaken. This however commands additional resources and training which is not freely available. As a compromise, we relied on USG and