

(CDI) may have a role in the detection of neovascularity in axillary lymph node metastases in breast cancer patients. 'Power' doppler is a further technical development of CDI that enables flow in smaller vessels to be detected. This technique has been applied in 50 patients with breast cancer and the results compared with the histological findings from surgical clearance of the axilla. The 'power' doppler analysis was based on a subjective assessment nodal vascularity. Nodal size and spectral blood flow patterns were also recorded using conventional grey-scale ultrasound and pulsed-wave doppler.

Results: Ultrasound detected only 8 out of 16 patients with histological involvement of axillary nodes (sensitivity 50%). In only 1 case did the 'power' doppler provide additional information that led to a positive diagnosis. One false-positive and eight false-negative studies were observed (specificity 97%; positive predictive value 89%; negative predictive value 80%).

Conclusion: The low sensitivity of ultra sound (including 'power' doppler) suggests that this modality has a limited role in the detection of axillary node metastases in patients with breast cancer.

PP-4-35 Breast Screening for Women Aged < 50 — Results from a Family History Clinic

J. Kollias*, D.M. Sibbering, P.A.M. Holland, A.J. Evans, J. Litherland, A.R.M. Wilson, C.W. Elston, I.O. Ellis, S. Pinder, J.F.R. Robertson. *RW Blamey City Hospital, Nottingham, UK*

The Nottingham City Hospital breast family history clinic commenced in 1988 due to an increasing demand for screening women at risk. Between 1988 and 1995, 1366 asymptomatic women aged < 50 years presented with a strong family history of breast cancer. The median lifetime relative risk was 2.3 X. They were accepted for screening which consisted of regular clinical assessment and mammography.

Twenty-eight cancers were detected during a median follow-up of 15 months (range 0–96 months). The histological prognostic features of cancers detected in the family history clinic (FHC) were compared with cancers from 65 women aged < 50 with similar family histories but were referred with symptomatic cancers during the same time period. 6/28 (21%) of cancers detected in the FHC were DCIS compared with 3/65 (3%) symptomatic cancers. The numbers of invasive cancers in good, moderate and poor prognosis categories according to the Nottingham Prognostic Index for FHC detected and symptomatic cancers were 6/22 (27%) versus 14/63 (22%), 13/22 (59%) versus 33/63 (52%) and 3/22 (14%) versus 16/63 (25%) respectively.

Patients aged < 50 who attend a family history clinic have a higher proportion of cancers detected as DCIS and fewer poor prognosis cancers than similar patients referred with symptomatic cancers.

PP-4-36 The Position of the Internal Mammary Lymphnode Chain by Scintigraphy and Sonography: A Comparative Study

L. Scheijmans¹, H. Struikmans¹, C. Imhof¹, A.V. Dalen², J.V. Isselt³. ¹ Dept. Rad. Oncol., Univ. Hosp., Utrecht, The Netherlands; ² Dept. Nucl. Med., Univ. Hosp., Utrecht, The Netherlands; ³ Dept. Radiol., Univ. Hosp., Utrecht, The Netherlands

The position of the internal mammary lymphnode chain (IMC) of patients with breast carcinomas was determined both, by lymphoscintigraphy (LSG) and sonography (SG). In the case of radiotherapy, it is necessary to make an accurate assessment of the position of the IMC. SG is a non invasive technique, the position of the IMC is determined in an indirect way. LSG is an invasive technique, determining the position of the IMC in a direct way. We entered 120 patients into a comparative study. In the first 4 intercostal spaces (ICS), the distance to the skin (depth in mm) and the distance to the midline (lateralisation in mm) were measured. SG was performed with a 7.5 MHz transducer. The lateralisation of the centre of the internal mammary artery (IMA) was measured by putting the transducer in a transversal position just parasternal in the ICS. This position was marked on the overlying skin. The depth of the centre of the IMA was measured by putting the transducer in a longitudinal way, above this marker. In the case of LSG, 20 MBq Tc-99m nanocolloid was injected close to the posterior fascia of the rectus abdominis muscle, 4 cm below the xyphoid process and 3 cm in lateral direction. To represent the midline, cobalt markers were placed onto both, the jugular notch and the xyphoid process. The first 4 ICS were marked. A radioactive marker (M) was fixed onto the skin above the hotspot (N). Gammacamera images were made 2–4 hours after injection. Lateralisation was measured from the centre of N. Depth (D) was calculated according to the formula $D = 1.4 \times F \times d$ (F = augmentation factor of the film, d = distance between M and N). We found a mean depth by SG of 22

mm (range 13–43), by LSG of 30 mm (10–80); a mean lateralisation found by SG of 34 mm (12–52), by LSG of 27 mm (10–65). Major differences in the position of the IMC, as determined by SG and LSG, were still present after correction for ICS. All these differences could not be explained by the type of surgery: BCT (35%) or mastectomy (60%). Quality control studies could not explain these differences. We will perform further investigations.

PP-4-37 Standards, Options and Recommendations (SOR) Project from the FNCLCC: Non Metastatic Breast Cancer

M.P. Blanc-Vincent^{1,2}, L. Labrèze^{1,2}, L. Mauriac², B. Fervers^{1,3}, T. Philip³, P. Bey⁴. The members of the SOR Breast Cancer Working Committee. ¹ FNCLCC: Fédération Nationale des Centres de Lutte Contre le Cancer, Paris; ² Institut Bergonié, Bordeaux, France; ³ Centre Léon Bérard, Lyon, France; ⁴ Centre Alexis Vautrin, Nancy, France

The SOR project is a collective work of the french cancer centers community with collaboration from out-centers experts. The objective is to develop clinical practice guidelines in oncology to improve quality of health care and patient outcome. The SOR methodology has been previously published and developed by the FNCLCC with the advice of ANDEM¹ and AHCPR². From a critical analysis of literature by a working committee, SOR (with scientific levels of proof) and decision trees for the management of patients with non metastatic breast cancer have been elaborated. Some SOR for other oncological subjects have already been published and the update process is going on. For non metastatic breast cancer, the working committee included 35 experts in the field of radiation, surgery, medical oncology, biology, statistics, and methocology who worked together during more than 2 years. Once the guideline had been defined, the document has been sent to 137 reviewers for peer review, and to the medical committees of the 20 french cancer centers for review and agreement. A final approvement by the FNCLCC executive committee has been obtained. These guideline and decision trees covered all decision steps from diagnosis and treatment to follow-up. The originality of the FNCLCC project was to create an electronic support (CD-Rom) entirely built up from decision trees which have been created to be very easily linked to scientific argumentation based on literature. These decision trees will be presented.

¹ ANDEM: Agence Nationale pour le Développement de l'Evaluation Médicale, France

² AHCPR: Agency for Health Care Policy Research, USA

PP-4-38 Screening for BRCA1 and BRCA2 Germline Mutations — Analysis of 50 Families with Clustering of Cancer

F.B.L. Hogervorst*, G. Brink, S. Hageman, M. Ligtenberg, C.J. van Asperen, F.H. Menko, G. Wiggout, E.J.T. Rutgers, L.J. van't Veer. *Family Cancer Clinic and Molecular Pathology, The Netherlands; Cancer Institute, Amsterdam, The Netherlands*

Family history of breast/ovarian cancer is one of the most frequently used reasons for visiting a genetic counselor. Studies have shown that app. 5–10% of these cases are associated with an inherited predisposition. Recently, two autosomal dominant susceptibility genes have been identified which confer high risk to breast/ovarian cancer, i.e., *BRCA1* and *BRCA2*. This made it possible to test individuals without performing detailed linkage analysis or, sometimes, involving their families. We have chosen to apply the Protein Truncation Test (PTT) because most germline mutations found in these genes result in premature truncated protein and this test can rapidly be set up and executed. Here, we report on the analysis of 50 families who were offered DNA testing. We have examined the largest exons of both genes after PCR of genomic DNA. Right now we have identified four families with a *BRCA1* and two families with a *BRCA2* mutation. Interestingly, four out of six families contained a member having bilateral breast cancer. This finding might be another strong indication for *BRCA1* or *BRCA2* involvement.

PP-4-39 Body Image after Breast Cancer: Results from a Patient Derived Measure

N. Baxter*, P. Goodwin, C. Bombardier, G.M. Devins, B. Toner, R. McLeod. *Departments of Surgery, Medicine and Psychiatry, University of Toronto, Toronto, Canada*

It is well recognized that the treatment for breast cancer can have an adverse effect on body image. A measure of body image was developed from interviews with breast cancer patients, spouses and content experts. The impact of the diagnosis of breast cancer on an individual's sense of