

Unit of Randomisation: Individual women.

Intervention: Eligible women are randomly allocated to either an intervention group who are invited to attend the rapid diagnosis clinic or to a control group who are invited to the routine outpatient clinic.

Outcome Measures: (1) *Psychological morbidity* — at baseline, 24 hours, 3 weeks and 3 months post attendance using validated scales (2) *Clinical morbidity* — false negative rate and benign to malignant ratio (3) *Cost* — average and marginal cost per women attending.

Findings: 321 women have been recruited so far. Preliminary results from the comparison of psychological and clinical morbidity will be presented.

PP-4-29 The Role of Digital Processing Mammography in Diagnosis of Breast Cancer

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Methods of Imaging Processing Systems are promising a lot in maximizing diagnostic sensitivity of mammography. In order to determine the role of digital processing mammography in diagnosis of breast cancer, we studied 50 women with normal mammography and another 50 with breast cancer at Radiation Oncology Department of Medical School and Clinical Oncology Dept. of Nursing School of T.E.I.. Digitalization of mammography has been done using a CCD camera (1024 × 1024 pixels) and the "Image-Pro Plus" software in an IBM-compatible Personal Computer (AT-386). In these cases sensitivity of mammography before digitalization was 81% and specificity 70% and after measurements of perimeter, area, counter and density of breast lesions and clusters of microcalcifications, sensitivity was 88% and specificity 76%. According to these study, the role of digital processing mammography was proved to be clinically valuable in diagnosis of breast cancer, because it improves the sensitivity of mammography ($P < 0.05$), especially in cases with multifocal disease, the pseudocolor menu maximizes the friendliness of the method and it offers the database and telecommunication facilities.

PP-4-30 Breast Cancer: A Retrospective Study of Two Ethnic Groups in the Center of Israel

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Analysis of a 21 years retrospective study of all new breast cancer patients at the "Kaplan" Medical Center was performed. In this region there are two homogenous major ethnic groups of women — of Ashkenazi or Sephardi origin (51.1% vs. 48.9%, respectively), which were studied according to their age, stage of disease and ethnicity. We found that breast cancer incidence in the Ashkenazi group was 2.4 folds higher than in Sephardi group ($P < 0.04$). The highest incidence was found in stage II in post-menopausal women in both groups. No significant differences were found in pre-menopausal women, although the occurrence of breast cancer was more frequent in young Sephardi women. Interestingly, the number of post-menopausal Ashkenazi women, in whom the disease was at stages I–III was significantly higher, 2–3.5 folds higher than in Sephardi women. The possible influence of genetic, economic and social differences between the two groups will be discussed.

PP-4-31 The Improvement of Aspiration Biopsy Cytology by Ultrasound Guided High Power Aspiration

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The efficacy of Ultrasonically guided fine needle aspiration biopsy cytology with high power aspiration machine (US-ABC) was compared with that of the conventional ABC using usual 20 ml cylind. US-ABC system made it possible to puncture under imaging and aspirate many cells. From 1992 to 1994, 281 breast tumors were evaluated with cytological and pathological findings, 78 tumors by US-ABC and 203 tumors by conventional ABC. The sensitivity of US-ABC was 93%, the specificity was 62% and the predictive value of a positive diagnosis was 89%. Those of conventional ABC was 78%, 62% and 81%, respectively. A total of 208 cases of breast cancer were evaluated by the tumor size. The US-ABC resulted in positive rate of 80% for tumor less than 1.0 cm, 93% for 1.1–2.0 cm and 100% for larger than 2.1 cm, respectively, and the conventional ABC resulted in 54%, 77% and 86% respectively. These results indicated US-ABC system was a useful

method to improve the diagnosis of breast cancer, especially for the tumors less than 1.0 cm.

PP-4-32 Breast Cancer in Albania: Incidence and Preliminary Results of Screening

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Albanian population, as known, amount at 3.5 millions and has been isolated from the rest of European countries for almost 40 years, without a real industrial development. Incidence of breast cancer in Albania has been studied by the University of Tirana in period 1984–86 on a series of 590 cases with an annual average of 173 cases, 169 females and 4 males. Within Albanian women, breast cancer represents 19% of all tumors, 24% excluding skin tumors. Albania's data, according to the standardization over the world population, reflect a state of low incidence (14/105). We must point that 70% of female population in Albania is in the range of 0–34 yrs. The annual incidence of the urban areas is 3.3 times higher than in rural areas (21.6 × 105 vs 6.4 × 105). These data coming from retrospective studies based on clinical observations because of until September 1995 there was no senologic centre in Albania. In this period with a grant of E.U. we started a project regarding the study of incidence of breast cancer in Albania. The study intends examining a sample of 6000 Albanian women which about corresponds to 10% of Tirana's population.

Women underwent a mammography and clinical examination. It's obviously remarkable that since mammography has been introduced in this country for the first time none of the enrolled had ever undergone before a mammographical examination, therefore this population must be considered as an unexplored population. Mammography is performed in two views: Medio-lateral and cranio-caudal. Processing and interpretation are performed on site. A double reading of the mammograms is undertaken at distance in Italy. After the X ray examination doubtful cases underwent clinical examination, ultrasound and F.N.A.B. if necessary. Until now 4000 mammographic examinations have been performed and 40 cases of breast cancer found. Final results after one year will be available in the next September at the end of the study.

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PP-4-33 Surveillance for Contralateral Breast Cancer: The Mode of Diagnosis and Subsequent Stage

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Background: Women treated for breast cancer are at increased risk for a 2nd primary. This risk remains equal in time. For this reason it is advised to follow women after treatment with curative intent for a primary tumour for live by at least annual physical examination and mammography.

Aim: To determine method (breast self examination – BSE, physical examination by physician – PE – or annual mammography – MG) and stage of contralateral breast cancer (CLBC) in women at routine follow up.

Method: Retrospective analysis of 161 pts with CLBC diagnosed between 1976–1994. In all, in this period 344 pts with CLBC were seen at the NKI/AvL, but 183 pts with synchronous or CLBC with in one year, with distant metastasis, ipsilateral local or regional relapse, LobCIS, or who were — partially — followed elsewhere were excluded.

Results: From the 161 CLBC, first suspicion was found by routine MG in 37%, by routine PE by the attending physician in 41%, and 22% by the pt herself. Disease stage was in 53% more favorable then the first cancer, in 21% equal to and in 23% tumor stage was less favorable. Data on pathological tumor stages and outcome will be presented.

Conclusion: Intensive surveillance by BSE, regular PE and annual MG results in 2/3 of the CLBC diagnosed on clinical grounds and only 1/3 by routine MG. Only half of CLBC is in a more favorable stage compared to the first breast cancer.

PP-4-34 Axillary Lymph Nodes in Breast Cancer: Assessment with 'Power' Doppler Ultrasound

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Previous studies have indicated that ultrasound colour doppler imaging

(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

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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

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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

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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.

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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

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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

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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