Women with a personal history of breast cancer and women who were not resident in the state of Victoria at the time of screening were excluded. Women who report a breast lump and/or a blood-stained or watery nipple discharge are defined as having 'breast symptoms' and women who report any other symptom, such as breast tenderness or pain, are classified as having 'other symptoms'.

The sensitivity for asymptomatic women, women with 'other symptoms' and women with 'breast symptoms' were 75.6% (95% CI 72%–79%), 60.0% (95% CI 48%–72%) and 80.8% (95% CI 72%–90%) respectively. After controlling for age, women with 'other symptoms' were more likely to have a false negative screen (Odds Ratio 1.89, 95% CI 1.1–3.3) compared with asymptomatic women while women with 'breast symptoms' were half as likely to have a false negative screen (Odds Ratio 0.52, 95% CI 0.28–0.99) compared with asymptomatic women.

One possible explanation for the low sensitivity in the 'other symptoms' category is that some of the symptoms, such as breast pain and tenderness, may be due to the presence of glandular tissue in the breast and breasts with a high proportion of glandular tissue appear radiodense on mammography.

422 POSTER

Pre-operative diagnosis of screen detected cancers: Increasing the diagnostic rate

H.A. Bradpiece, U.P. Khot, A.R. Patel, M.W.E. Morgan. *Breast Unit, St. Margaret's Hospital, Epping, UK*

The recommended standard for the pre-operative diagnosis of screen detected cancers by the NHSBP is 70%. Our unit over the period 1 April 1996–31 March 1997 achieved a pre-operative diagnosis rate of 64.1%. (44.8% by fine needle aspiration cytology alone and 19.3% by 14G core biopsy).

Over the period 1 April 1997–27 March 1998 the pre-operative diagnosis rate is 75%. Fine needle aspiration cytology alone was the method in 67.5% and core biopsy in 7.5%.

The mammographic and pathological features of all these cancers presented.

It is recommended that fine needle aspiration cytology should be the prime modality for pre-operative diagnosis of screen detected abnormalities with core biopsy being recommended in selected cases.

423 POSTER

A model of elderly Latina's breast screening decisions

C. Veit, T. Clairice. *RAND, Behavioral Sciences, 1700 Main Street, Santa Monica 90401, USA*

Purpose: The present study was designed to develop a causal algebraic barrier model of poor elderly Latina, s breast screening decisions to increase our understanding of these decisions and inform breast screening policy.

Methods: The study combined traditional survey techniques with a controlled judgment experiment to test among alternative models. Fifty-two women judged the chance of having yearly mammograms in 79 situations that varied in cost, perceived risk, and source of the recommendation (none, a cancer institution, a doctor); they also completed a background-opinion questionnaire.

Results: All 3 factors significantly affected judged screening decisions; interactions ruled out the class of additive models (e.g., expected utility). An averaging model that weights the difference between women's highest- and lowest-valued feature of a screening situation predicted situations that could increase utilization by non-compliers and decrease utilization by compliers. With a recommendation (73% of compliers, 5% of non-compliers), non-compliers will comply if mammograms are free, even with a low perceived risk (77% of women); with a high perceived risk, non-compliers will likely pay up to $50 and compliers to $100. A recommendation from a cancer organization is as influential as from a doctor for non-compliers, in contrast to compliers. Without a recommendation, however, non-compliers will not comply.

Conclusion: Low costs and more effective information dissemination about risk and recommended screening frequencies should retain compliers and motivate non-compliers to comply.

424 POSTER

Effectiveness of mammographic screening for breast cancer in women aged over 50 years in Japan

T. Morimoto[1], M. Sasa[2], T. Yamaguchi[3], H. Kondo[3], Y. Sagara[3]. *[1]School of Medical Sciences, The University of Tokushima; [2]Tokushima Breast Care Clinic; [3]Tokushima Health Screening Center, Japan*

Purpose: The optimal age for effective screening of subjects for breast cancer by mammography was studied based on the results of two mammographic screening systems in Japan.

Method: Two screening systems were investigated in this study. System I consisted of visit screening using a bus equipped with a mammographic apparatus. System II consisted of central screening performed at Tokushima Health Screening Center.

Results: The examinees numbered 4,156 and 5,704 in system I and II, respectively. The detection rates of breast cancer were 0.55% and 0.26% in system I and II, respectively, which are 2–5 times higher than that (0.12%) obtained by conventional screening using physical examination alone. The proportion of stage I was 69.6% in system I and 73.3% in system II. The rates of no nodal involvement were high, being 78.8% and 75% in system I and II, respectively. Breast conserving therapy was applied to 26 of the 38 patients with breast cancer detected by the two screening systems. In Wolfe's classification of mammograms, the proportion of DY pattern was remarkably low, being 3.2% in the sixth decade and 0.8% in the seventh decade, compared with 16.6% in women aged 49 years.

Conclusion: These results indicate that mammographic screening is effective in women aged over 50 years in Japan, as well as in other countries.

425 POSTER

Factors influencing women's decisions to undergo genetic testing for breast cancer

M. Cappelli[1], L.D. Surh[1], S. Verma Logan[2], A. Hunter[1], L. Humphreys[1], J. Allanson[1]. *[1]Children's Hospital of Eastern Ontario; [2]Ottawa Regional Cancer Centre, General Division, Canada*

Purpose: This study examined the attitudes and preferences for BRCA1 testing among Canadian women with and without breast cancer. Factors predicting intentions to be tested were also assessed.

Methods: A face-to-face assessment was conducted with 102 women: 1) 52 women diagnosed with breast cancer under the age of 50 and 2) 50 unaffected women from the general population under the age of 50. Family history of breast and other cancers, demographic characteristics (including age, education, religion, number of children and family income), and knowledge and attitudes about breast cancer and genetic testing were assessed. Intended and actual uptake of BRCA1 testing was also determined.

Results: Overall, 59% of participants indicated a preference to undertake the test, and 41% either did not want it or were uncertain. While 71% of breast cancer patients wanted to be tested, only 52% had actually contacted a genetic counsellor about BRCA1 testing at follow-up 1–12 months later. In logistic regression analysis, independent predictors of "intent to be tested" were a diagnosis of breast cancer and fewer perceived costs of testing (including excessive worry, thinking it better not to know, and seeing testing as too much trouble).

Conclusion: There is a moderate level of demand for BRCA1 testing among women both with and without breast cancer, increasing significantly among breast cancer patients alone. Those who choose to be tested may perceive relatively few costs of utilizing this technological service. Other factors, such as socioeconomic and educational status, family history of breast cancer, and knowledge about breast cancer and gene testing were not associated with preference to be tested. This holds implications for genetic counsellors in terms of providing balanced and complete information to women considering genetic testing for breast cancer susceptibility.

426 POSTER

Improvements in survival from the NHS mammographic screening programme – A single centre study

H. Chan, L.A. Harris, B. Shepstone, R. English, M.J. Greenall. *University of Oxford/John Radcliffe Hosp., Dept. of Surgery, Headley Way, Oxford OX3 9DS, UK*

Introduction: There have been concerns about the value of the National Health Breast Screening Programme (NHBSP), as little outcome data

has been produced. This study compares the survival of screen detected cancers with symptomatic cancers treated in a single centre.

Methods: 219 women aged 50–64 were diagnosed with breast cancer from the prevalent round of the NHBSP in Oxfordshire between Sept. 1990–Aug. 1993. 279 control patients aged 50–64 were diagnosed with invasive breast cancer in the symptomatic breast clinic between Jan. 1987–Aug. 1993. All data were collected prospectively onto a computerised database.

Results: 5 yr overall survival (OS) in patients with screen detected cancer was significantly better than the control (89.6% v. 74.3%; p = 0.0049 logrank; 59.6% reduction in mortality). In patients with screen detected invasive cancer, this difference was still present (88.5% v 74.3%; p = 0.0048 logrank; 55.3% reduction in mortality). After correction for 1 year lead time bias, these differences were still significant. After 2 years correction, there was a trend to improved survival with screening, which was not statistically significant. OS in interval cancers & non-attenders did not differ from the control group (p = 0.79 & p = 0.27 logrank respectively).

Conclusions: These data refute some of the concerns about the NHBSP & confirm that mammographic screening programmes can lead to the significant improvements in survival as suggested by previous randomised & population based studies.

427 POSTER

Results of mammographic screening 1994–1997

V. Baldi, A. Cicalese, G. Coppola, M. Scarano, E. Gatto. *Department of Radiology, Hospital of Cava de'Tirreni (Salerno), ASL SA1 Campania Region, Italy*

Purpose: Mammographic screening has a determinative importance because reduces mortality-rate for breast cancer in women between 50 and 69 years. Authors report their results about a biennial (94–97) mammographic screening programme.

Methods: Women who accepted have been subjected to mammographic examination with axial and oblique projection. Diagnostic assessment has been performed with ultrasonography a/o eco-guidance FNAB. Results are compared with standards provided by the National Breast Screening Programme in the United Kingdom (UK) and also by Italian Group for Mammographic Screening (GISMa).

Results: 13768 women were invited form 1/11/94 to 31/12/97. 9073 have been tested. Attendance rate was 65.8%. Recall rate to diagnostic assessment was 5.8%. According to results of diagnostic assessment 61 surgical biopsies were performed. 56 carcinomas were detected in 56 women. Cancer detection rate was 0.61%. Detected cancer were non palpable in 60% of cases. Pathologic staging was pT1a in 1 case, pT1b in 8, pT1c in 19, pT2 in 13, pT3 in 1. 16 of 43 cancers involved axillary nodes. 13 of remaining cases were operated in other hospitals and we have no information about results of histologic examination.

Conclusion: Results are acceptable or excellent in comparison with UK and GISMa standards. So that authors suggest an extension of the screening programme to a wider geographic area.

428 POSTER

The experience of breast cancer screening

V. Levshin, T. Fedichkina, V. Droggachih. *Cancer Research Center, Moscow, Russia*

Special interview of 1500 breast cancer (BC) patients show that 81% of them first notice BC symptoms themselves, 10.5% of all cases were revealed by check up nurses, 5.5%-by physician, 3%-by mammography. A prospective sudy has been conducted in Moscow to study the implementation posibilities and efficiency of two BC screening methods: breast self-examination (BSE), yearly clinical breast examination (CBE). Three cohorts two screening and one control, with about 3000 women ages 40–69 in each were formed. The follow up and control the adherence rate showed that regular BSE performed in the corresponding cohort only 31% of women, 24%-performed it unregular and 45%-not at all. 67% of women from other cohort invited for CBE have visited the corresponding screening unit. The analysis of reasons which keep women from screening examinations showed that most of them have not enough knowledge and beliefs concerning BC screening.

429 POSTER

Mass-screening for breast cancer in Japan

N. Fujishima[1], S. Itoh[2], T. Yamakawa[3], K. Izumi[4], T. Sugimoto[5], M. Yoshida[6]. *Department of Surgery; [1]Kochi Red Coss Hospital; [2]Itoh Breast Surgery Clinic; [3]Kochi Municipal Hospital; [4]Nakamura City Hospital; [5]Kochi Medical College; [6]Tonan Hospital, Japan*

In Kochi Prefecture in Japan, where the population of women over 30 is 292,000, we have carried out mass-screening for breast cancer since 1975. We examined women over 30 annually by physical examination, inspection and palpation. At that time we recommended them to perform self-examination every month.

Results: We examined 686,509 women since 1975. 19,602 women were introduced to the hospitals for further examination, and 475 breast cancers were detected. Detection rate gradually decreased from 0.1% to 0.07%, and repeaters increased to 90.2%. It was 0.12% in women who were examined first time, and 0.06% in the others. That did not changed from the beginning. But the rate of early stage breast cancer, 2 cm or less, increased up to 68% in 1996 compared with 40% at the beginning. Also during this period the corrected death rate has been under 8 per 100,000 in Kochi Prefecture, whereas it gradually increased to 12.4 in Japan in 1997. Standard mortality ratio (SMR) declined from 95 to around 80 (the average in Japan is 100). By survey, 69.2% of examiners who have experienced mass-screening performed self-examination.

Conclusion: Mass-screening by physical examination, promoting self-examination, contributed to increase the rate of early stage breast cancer and depress the death rate and SMR.

430 POSTER

Results of screening in a positive family history clinic

M. Lamont[1], A. Sheridan[2], Z. Rayter[1]. *[1]Department of Surgery; [2]Department of Genetics, Bristol Breast Unit, Bristol Royal Infirmary, Bristol, England, UK*

Purpose: It has been estimated that 1 in 200 women will develop breast cancer as a result of genetic predisposition, many of whom will have a positive family history. The aim of this study was to evaluate the utility of a family history clinic in the first year.

Methods: Clinics were held twice a month and guidelines for referral were established. Referral patterns with respect to age and family history were noted. Numbers of referrals to a clinical geneticist and the increased use of mammography were recorded.

Results: A total of 126 new patients were referred in the first year, of whom 89/126 (71%) had a significant family history and 95/126 (75%) were under the age of 50 years. One patient (0.8%) with asymptomatic breast cancer was diagnosed on mammography. It was estimated that the clinic would generate a demand for 783 screening mammograms over the first five years. Eighteen patients (14%) were referred to the clinical geneticist, all of whom were under 40 years of age.

Conclusions: Referral to the clinics was appropriate in most cases and high risk cases were referred for genetic counselling. The family history clinic detected breast cancer in 0.8% of the study population compared to 0.7% in the National Breast Screening Programme and is a worthwhile addition to the breast service.

431 POSTER

Can the mortality of breast cancer be reduced?

D.B. Kingsmore[1], D. Hole[2], C.R. Gillis[2], W.D. George[1]. *[1]Dept. of Surgery, Western Infirmary; [2]West of Scotland Cancer Surveillance Unit, UK*

Introduction: The mortality of breast cancer remains relatively unchanged by the therapeutic advances of the past twenty years. The aim of this study was to investigate the mortality curves of breast cancer and compare these with colorectal cancer.

Methods: All cases of breast cancer from 1980–96 were identified and the pathological stage derived. Cause of death was determined from the Registrar General. The yearly proportional mortality (YPMR) due to breast cancer was determined by tumour size and nodal status. From an existing database of long-term follow-up of colorectal cancer with accurate stage, similar survival curves were drawn.

Results: The YPMR remained almost constant over a ten year period of follow up for tumours that were node negative, or less than 30 mm. This reflects a constant mortality rate which does not decrease with time. For larger tumours and node positive tumours there was a rise in the YPMR for