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Breast cancer screening in Korea

M. Hur[1], J. Kim[1], C. Yoon[1], S. Ko[1], H. Lee[1], J. Lee[1], S. Kang[1].
[1]*Kwandong University Cheil General Hospital College of medicine, Surgery, Seoul, Korea*

Background: The screening campaigns of breast cancer have been constantly increasing since the benefit of screening in breast cancers had been established. The purpose of this study was to investigate the efficacy of annual breast screening, which included a mammography and a clinical physical examination.

Materials and Methods: From March 1995 to July 2004, we performed 110,588 annual clinical examinations and mammographies on 58,024 women, who wanted to undergo breast cancer screening. Two hundred fourteen breast cancers were detected during screening, and 161 patients of these were operated. The results are compared with the ideal rates for medical audits.

Results: Of the 110,588 cases screenined, the recall rate for further examination was 12.1% (n = 13,423). The biosy rate was 1.01% (N = 1,116). 214 breast cancers were detected: a detection rate of 0.19%. One hundred thirty four patients were the 1st visitors. The pathologic results of benign disease after biopsies were ordered fibrocystic change, fibroadenoma, adenosis, etc. Invasive ductal cancers is the most common among cancers. Stage 0 among cancer was 23.6%, stage I 40.4%, stage IIa 19.9%, stage IIb and IIIa 6.2%, stage IIIc 3.1%, and stage IV 0.6%. Positive predictive value (PPV) based on abnormal findings at screening examination was 1.6% (PPV1). PPV when a biopsy or surgical consultation were recommended, was 19.1% (PPV2). Tumor found as stage 0 or I was 64% (103/161). Tumor found as minimal cancer (stage 0 or tumor lesser than 1 cm) was 38.5% (62/161). There were 38 cases of axillary lymph node metastasis (23.6%). Cancers found per 1,000 cases was 1.7. Prevalence cnacer found per 1,000 first examinations was 2.3. Incidental cancer found per 1,000 follow-up examinations was 1.2. These results were compatible with the ideal rates for medical audits, except for PPV1, PPV2, cancers found per 1,000 cases.

Conclusions: On the base of these results, breast cancer screeing was properly performed in this institution. Breast cancer screeing using a clinical examination and a mammography is effective in the early detection of breast cancer.

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Initial results of national mammographic breast cancer screening program in Croatia

Z. Brnic[1], E. Grgurevic-Dujmic[2], I. Drinkovic[3], S. Jankovic[4], M. Marotti[5], I. Mazuranic[6], D. Miletic[2], R. Stern-Padovan[7], D. Stimac[8], M. Strnad[9].
[1]*Clinic Hospital Merkur, Radiology, Zagreb, Croatia;* [2]*Clinic Hospital Rijeka, Radiology, Rijeka, Croatia;* [3]*Ultrasound diagnostics I. Drinkovic, Radiology, Zagreb, Croatia;* [4]*Clinic Hospital Split, Radiology, Split, Croatia;* [5]*Clinic Hospital Sv. Duh, Radiology, Zagreb, Croatia;* [6]*Hospital Jordanovac, Radiology, Zagreb, Croatia;* [7]*Clinic Hospital Rebro, Radiology, Zagreb, Croatia;* [8]*Clinic Hospital Osijek, Radiology, Osijek, Croatia;* [9]*National Institute For Public Health, Menagement, Zagreb, Croatia*

Purpose: To present organization, scope and initial results of national mammographic breast cancer (MBC) screening program in Croatia.

Methods and Materials: In October 2006 national MBC screening program officially commenced in Croatia (population 4.3 millions), financed and coordinated by Ministry of Health. Women in the age group of 50−69 years (560 thousand) are included, and invited for mammography on biannual basis. Invitations and statistical evaluation of findings are managed by regional and central institutes for public health. BI-RADS lexicon was translated in Croatian language with permission of ACR. All radiologists participating in program received the lexicon and BI-RADS categorization is exclusively used for assessment of findings and statistical follow-up. The double-reading is mandatory. Program is coordinated centrally, with radiologists responsible for monitoring and quality-control of screening units in four geographic regions. Mammographic equipment must be less than ten years old, with regular maintenance and quality control. Centers for management of women with BI-RADS 3−5 findings were designated for various regions.

Results: Overall attendance rate in the first year is 55%, with wide geographical variations between counties (38.4% to 70%). Distribution of BI-RADS finding is: BI-RADS 0 12.5%; BI-RADS 1 40.5%; BI-RADS 2 37.2%; BI-RADS 3 8.5%; BI-RADS IV 1.2%, BI-RADS V 0.14%. The rate of 5.5 cancers found per 1000 mammographies was observed according to initial incomplete statistical results. Shortcomings of project will be discussed and latest results presented.

Conclusion: Mammographic BC screening was introduced in Croatia on a national basis. Many problems are encountered, but initial results are acceptable.

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Breast density and indicators of screening performance in the Quebec Breast Cancer Screening Programme (PQDCS), 1998–2003

I. Théberge[1], J. Brisson[2], D. Major[1], N. Hébert-Croteau[1]. [1]*Institut National de Santé Publique du Québec, Systèmes de Soins et Services, Québec, Canada;* [2]*CHA Universitaire de Québec, Unité de Recherche en Santé des Populations – Université Laval, Québec, Canada*

Background: Evaluations of screening programs rely heavily on the use of indicators of performance such as sensitivity and specificity but also on indicators related to sensitivity (detection rate, interval cancer rate) and specificity (recall rate, false-positive rate). We examined the relation of breast density to all of these indicators and compared results obtained with sensitivity and specificity to those obtained with sensitivity and specificity related indicators respectively.

Methods: The analysis is based on 850,918 screening examinations (512,549 women) done in the PQDCS in 1998–2003 including 4,744 screen-detected cancer cases, 83,917 false-positive examinations, 478 interval breast cancers diagnosed in the year after a negative mammogram and 761,779 negative examinations at screening with no diagnosis of breast cancer in the following year. Breast density was evaluated at screening (<25%, 25−49%, 50−75%, >75%). Multivariate log-binomial regressions were done.

Results: Compared to women with <25% density, women with >75% density had a 2.15 fold increase in measured breast cancer prevalence. Women with >75% density also had a 28% decrease in sensitivity (RR = 0.82) but an 82% increase in detection rate (RR = 1.82), a 4.36 fold increase in 1-sensitivity but a 9.29 fold increase in interval cancer rate. Moreover, >75% density was associated with a 1.78, 1.78 and 1.77 fold increase in 1-specificity, recall rate and false-positive rate respectively. All of these associations were statistically significant.

Conclusion: Breast density affects both sensitivity and specificity. Variations in detection and interval cancer rates can be poor indicators of variations in sensitivity when the groups compared differ in breast cancer prevalence. Thus, variations in these indicators across centers, regions or programs can be interpreted as reflecting variations in sensitivity only if there are little or no variations in disease frequency. Adjustment for key risk factors may be needed for proper interpretation of variations in these indicators in terms of variations of sensitivity.

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Breast cancer screening: evidence for false reassurance?

R. de Gelder[1], E. van As[1], M.M.A. Tilanus-Linthorst[2], C.C.M. Bartels[2], R. Boer[1], G. Draisma[1], H.J. de Koning[1]. [1]*Erasmus MC, Public Health, Rotterdam, The Netherlands;* [2]*Erasmus MC/Daniel den Hoed Cancer Clinic, Surgical Oncology, Rotterdam, The Netherlands*

Background: Tumour stage distribution at repeated mammography screening is, unexpectedly, often not more favourable than stage distribution at first screenings. False reassurance, i.e. delayed symptom presentation due to having participated in earlier screening rounds, might be associated with this, and unfavourably affect prognosis.

Methods: A consecutive group of 155 breast cancer patients visiting a breast clinic in Rotterdam (the Netherlands) completed a questionnaire on screening history and self-observed breast abnormalities. The length of time between the initial discovery of breast abnormalities and the first consultation of a general practitioner ('symptom-GP period') was compared between patients with ('screening group') and without a previous screening history ('control group'), using Kaplan–Meier survival curves and two-sided log-rank testing.

Results: Of the 155 patients, 84 (54%) had participated in the Dutch screening program at least once before tumour detection; 32 (38%) of whom had noticed symptoms. They did not significantly differ from control patients (n = 42) in symptom-GP period (Table). Only two out of 53 patients (3.8%) with screen-detected cancer had noticed symptoms prior to