

143

Poster

An Abnormal Screening Mammogram Causes More Anxiety Than a Palpable Lump in Benign Breast Disease

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Background: Being recalled for further diagnostic procedures after an abnormal screening mammogram (ASM) evokes high state anxiety with lowered quality of life (QoL). We examined whether these adverse psychological consequences are found in all women with benign breast disease or especially in women referred after ASM. In addition, the influence of the personality characteristic trait anxiety was also analysed. Trait anxiety is defined as a relatively stable individual difference in anxiety proneness.

Methods: Between September 2002 and February 2010 we performed a prospective longitudinal study in six Dutch hospitals. Women referred after ASM or with a palpable lump in the breast (PL) were included. Before diagnosis was known and during follow-up questionnaires were completed concerning trait anxiety (baseline), state anxiety and depressive symptoms (baseline, one, three and six months after diagnosis), and QoL at baseline and 12 months after diagnosis.

Results: Women referred after ASM (N=363) were compared with women with PL (N=401). After ASM women scored similar on state anxiety compared with PL, but higher on depressive symptoms at baseline with lower scores on general and psychological QoL at 12 months.

Women were divided in four groups based on the score on trait anxiety (high or not-high) and ASM or PL. Women with high trait anxiety scored unfavourable on state anxiety, depressive symptoms and QoL compared with women not prone to anxiety.

No differences were found in women with high trait anxiety comparing ASM versus PL.

In women with not-high trait anxiety and ASM, higher scores on state anxiety at baseline, higher scores on depressive symptoms at all time points, with lower scores on general, physical and psychological QoL at 12 months were found compared with PL.

Conclusions: ASM evokes more momentary anxiety and depressive symptoms with lowered QoL compared with women referred with PL, especially in women who are not prone to anxiety. Women should be informed properly about the pro's and con's of the breast cancer screening program. We recommend to identify women who are at risk for adverse psychological consequences after ASM and offer them a tailor-made protocol to prevent decreasing QoL.

144

Poster

Women with Screen-detected Breast Cancer Re-attend the Breast Screening Programme More Often Than Women with Symptomatic Breast Cancer

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Background: In the Netherlands a population-wide breast cancer screening programme is fully implemented since 1996. All women aged 50–74 (70–74 since 1999) are invited biannually. After diagnosis with breast cancer all women are followed clinically until 5 or 10 years after diagnosis, according to the prevailing guideline. Thereafter, women then 50–74 years old can re-enter the screening programme. However, the relation between yearly clinical follow-up by mammography and the national screening programme is not well established.

This study evaluates the factors influencing which women are re-entering the regular screening programme after their breast cancer treatment.

Methods: All women 50–64 years of age, diagnosed with breast cancer between January 1996 and January 2005 in the northern region of the Netherlands, were selected from the Netherlands Cancer Registry and these data were linked with the National Cancer Screening Programme North to select those women who had attended the screening programme before diagnosis as well as after breast cancer treatment.

Results: A total of 5,090 women were included, 2,605 of whom (51%) were diagnosed with a screen-detected tumour. Twelve percent (n=609) re-attended the screening programme after treatment. In a multivariate multilevel analysis taking hospital into account, early stage tumours

(p<0.001), screen-detected breast cancer (p=0.002), and treatment without additional radiotherapy (p<0.001) were predictors of attending the screening programme after breast cancer treatment. Furthermore, women treated in a high volume hospital attended the screening programme more often (p=0.009). Forty percent (n=246) of the 609 women visited the screening within 5 years after diagnosis, the majority attending 2 years after diagnosis.

Conclusion: After breast cancer treatment 12% of women attended the screening programme, of whom 40% attended within 5 years after diagnosis, thereby overlapping with the regular 5-years of clinical follow-up in the hospital.

145

Poster

Cadmium Exposure and Breast Cancer Risk

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Background: Cadmium, a highly persistent heavy metal, is known as human carcinogen based on findings of lung cancer in exposed populations. A more controversial target site for cadmium is the human mammary gland, for which some studies indicate a link between cadmium exposure and cancer. There is evidence that cadmium is a new environmental estrogen that mimics the effects of estradiol in estrogen-responsive breast cancer cell lines. We aimed to assess an association between cadmium exposure and risk of breast cancer.

Material and Methods: A hospital-based case-control study of 661 women, aged 23–90 years, with breast cancer and 642 controls without cancer diagnose was carried out in Hospital of Lithuanian University of Health Sciences Kauno Klinikos. Cadmium concentration in urine samples was determined by atomic absorption spectrometry (Perkin-Elmer, Zeeman 3030). A questionnaire was used to collect information on demographic characteristics, family history on breast cancer, factors related to reproductive life of women and lifestyle. Odds ratios (OR) and corresponding 95% confidence intervals (CI) for breast cancer by cadmium levels were calculated by multivariable unconditional logistic regression analysis.

Results: After adjustment for age, income, family history on breast cancer, hormone replacement therapy, and alcohol use, women in the highest tertile of cadmium concentration (>0.48 µg/l) had 1.7 the breast cancer risk of those in the lowest tertile (≤0.24 µg/l) (OR = 1.67, 95% CI = 1.17–2.40). There was a significant increase in risk with increasing cadmium level in urine (p for trend 0.011).

Conclusion: The data obtained show a possible relationship between cadmium and breast cancer risk.

146

Poster

Huge Decrease in Risk of Breast Cancer Relapse in the Netherlands over the Last 3 Decades

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Background: To determine the risk of relapse in breast cancer patients treated with curative intent in 2003–2004, compared to the seventies and eighties of the previous century.

Patients and Methods: 8570 Women diagnosed with invasive breast cancer in 2003–2004 were selected from the Netherlands Cancer Registry and compared to a cohort consisting of 133 hospital-based patients treated in 1972–1980 and 174 in 1980–1986. Five-year risk of relapse, i.e., second primary breast cancer, locoregional recurrence or distant metastasis, were calculated by the Kaplan-Meier method. Multivariable Cox-proportional hazards models were applied to correct period-specific risks of relapse for tumour stage, nodal status and age at diagnosis.

Results: Patients diagnosed in 2003–2004 had smaller tumours and a less frequently nodal status 3 than patients diagnosed in the 1970s and 1980s. In 2003–2004 less women were treated with mastectomy and postmastectomy radiotherapy, but more received chemotherapy and hormonal therapy. Five-year risk of relapse decreased from 38% in 1972–1979 and 35% in 1980–1986 to 16% in 2003–2004 (Table). Adjustment for tumour size, nodal status and age hardly changed the improved relapse-free survival in patients diagnosed in 2003–2004 as compared with 1972–1979, yielding a hazard ratio of 0.38 (95% CI: 0.28–0.52).