444   POSTER HIGHLIGHT
A dietary study to investigate the effects of Soya milk ingestion on steroid hormone biosynthesis in women with a high risk of developing breast cancer compared to those at normal risk

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Epidemiological studies have been taken to suggest that women who have a diet rich in soy products have a lower incidence of breast cancer. Phytoestrogens, which are present in Soya milk, are thought to be the active constituent. They have been shown to increase SHBG levels, prolong the menstrual cycle and decrease the level of free oestrogens in some studies. This may result in a reduction of breast cancer risk. There is currently no conclusive evidence in the literature on the effect of dietary phytoestrogens on the metabolism and availability of endogenous oestrogens. This study examines the levels of the steroid metabolizing enzymes, steroid sulphatase and steroid sulphotransferases, before and after the daily ingestion of 500 ml of Soya milk for 7 days in women with a high risk or a normal risk of developing breast cancer. The effect of this dietary manipulation on circulating oestrone levels was also investigated. The results show that ingestion of phytoestrogens had no effect on steroid sulphatase activity but differentially inhibited the activity of the sulphotransferases. In the high risk population SULT1A1 activity was reduced by 37.9% (p<0.01) following the dietary intervention, whereas in the normal population there was a 3% decrease (non significant). E2 sulphation was decreased in the normal risk population by 56.8%, p<0.01, a 4% reduction was seen in the high risk group (ns). Such changes in enzyme activity may lead to increased levels of free oestrogens and thus increase the risk of developing breast cancer. However the analysis of oestrone levels revealed no such increase in free oestrone. Although the measured changes in enzyme activity did not lead to changes in circulating oestrone levels, they may influence intracellular steroid concentrations.

In conclusion our results demonstrate modification to sulphotransferase activity following the ingestion of Soya milk. The clinical significance of these changes and whether they translate into an effect on breast cancer risk is unclear. However our results suggest that we should observe caution in encouraging women at high risk of breast cancer from ingesting large doses of soy phytoestrogens.

445   POSTER HIGHLIGHT
Pre screening breast history in women participating in the prevalent screening round in the Norwegian Breast Cancer Screening Program

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Previous breast biopsies and abnormalities in the breast are shown to increase the risk of breast cancer. The aim of this study was to investigate the pre screening breast history in women participating in the prevalent screening round in the Norwegian Breast Cancer Screening Program (NBCSP). The NBCSP invites all women aged 50–69 resident in Norway to a two-view mammography biennially. The women receive a questionnaire together with the invitation letter that states place and time for examination. The questionnaire is self-administered and handed over when attending the screening unit. It is filled in by approximately 97% of the women who participate. A bar code at the questionnaire makes it possible to identify all the women, including the breast cancer cases. The questionnaire maps among other factors, the women's breast history (self declared lump at screening time, previous biopsies, surgical treatment and previous mammograms) in addition to other known risk factors for clinical breast cancer. The results in this study are based on data from 182,100 women aged 50–69 years who answered the questionnaire before their prevalent screening examination in the NBCSP. The number of breast cancer cases was 1104 (0.61%). A total of 59.7% of the participating women reported to have a mammogram before their prevalent examination in the NBCSP. The OR for having a breast cancer was significant lower (OR=0.53, 95% CI; 0.47–0.60) among earlier examined. A self-declared lump had an OR for having a breast cancer of 3.36 (95% CI; 2.72–4.15), while a previous breast biopsy makes an OR of 1.4 (95% CI; 1.21–1.66) and a surgical treatment an OR of 1.33 (95% CI; 1.12–1.58). Previous mammography decreases the OR of being diagnosed with a breast cancer in the prevalent screening round in the NBCSP, while a previous biopsy and surgical treatment has the opposite effect. An increased OR of having a breast cancer among women who have a self-declared lump at screening point requires further diagnostic work up.

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Prognosis of breast cancer in young women: a population-based study

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Background: The effect of age on breast cancer survival is still a matter of controversy. Breast cancer in young women is thought to be more aggressive and to have a worse prognosis but previous studies showed neither consistent nor definitive results. We assessed the impact of age at diagnosis on the pathologic features and the prognosis of breast cancer.

Material and Methods: We considered all patients diagnosed with breast cancer between 1990–2001 at the Geneva Cancer Registry. Clinical presentation, tumour characteristics, extent of disease, treatment and outcome were compared between three groups of patients, $\leqslant$35, 36–49 and 50–69 years old. Effect of age on prognosis was evaluated by Cox model after adjusting for other prognostic factors.

Results: The study included 82 women $\leqslant$35, 790 women 36–49 and 2125 women 50–69 years old at diagnosis. Patients younger than 50 years were more likely to be diagnosed with stage II or III cancers (52.4% in the group $\leqslant$35 years, 52.2% in the group 36–49 years and 44% in the group 50–69 years, p=0.001), and had more nodal involvement (39%, 41% and 35%, respectively, p=0.006). Young patients' cancers were more often poorly differentiated (37%, 29% and 22%, p<0.001), and oestrogen-receptor negative (23%, 15% and 10%, p<0.001). We found no differences by age in tumour size and morphology. There was no difference among the three groups in the provision of mastectomy and breast conserving surgery. Conversely, younger women were more likely to receive chemotherapy (68%, 61% and 38%, p<0.001) and less likely hormonotherapy (31%, 38% and 59%, p<0.001). Specific 5-year survival was not different in the three groups (91%, 95% CI=83–99 for the $\leqslant$35 years; 90%, 95% CI=88–92 for the 36–49 years and 89%, 95% CI=88–91 for the 50–69 years old). When adjusting for all the prognostic variables, age was not significantly related to mortality from breast cancer yielding Hazard Ratios (HR) of 0.8, 95% CI: 0.3–2.0, and 1.0, 95% CI: 0.7–1.3, for $\leqslant$35 and 36–49 years old patients respectively, as compared to women 50–69 years. Tumour size, stage, nodal involvement, oestrogen-receptor status and surgery were all independent determinants of mortality.

Conclusions: Younger women were diagnosed with a more advanced cancer, presenting more frequently poorly differentiated and oestrogen-negative tumours and received more often adjuvant chemotherapy. However, breast cancer survival among young women was comparable with that of older women. Age *per se* was not an independent prognostic factor when accounting for tumour characteristics and treatment.

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Breast cancer in the north of Iran (1999–2001)

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Background: The aims of cancer registry in Babol Research Station (BRS) are to improve the quality, comparability and availability of information from population-based cancer registry in the north of Iran (Mazandaran and Golestan provinces). This work attempts to describe the trend analyses by focusing on cancer registry among all age groups in the above two provinces during three years (1999–2001). In general, breast cancer increases with age and it is most common after the age of 50. All over the world about 794,000 women are diagnosed with breast cancer each year. BRS has been the first center of cancer registry in Iran.

Material and Methods: The BRS has established a plan of activities to promote standard practice in data collection and data analyses. A comprehensive search was carried out to survey and register all cancer cases during a period of 3 years (1999–2001) in the indigenous population of Mazandaran and Golestan provinces. Diagnosis of cancer was based on histopathology and reports of radio and chemotherapy. All the age groups in both provinces were included in the analysis. Breast cancer rates were computed for each province, year and age group (<20, 20–34, 35–49, 50–64, >=65).

Results: A total of 6444 cancer cases were found during the study in Mazandaran and Golestan provinces; 54% of these cases (3480) were male, and 46% of cases (2964) were female. During a period of 3 years (1999–2001), 687 cases of breast cancer were diagnosed in the north of Iran. Among them 97% were female and 3% were male. The age range was 21–95 years with the mean of 45.5 years. Moreover, the highest frequency of breast cancers was found in the age group of 35–49 years (54%).