Therefore, the 2000 raw incidence rate of breast cancer is approximately 10.6 per 100,000 women in the north of Iran.

Conclusions: Cases in this cancer account for 10.7% of total malignant neoplasms. Also, breast cancer constitutes nearly a quarter of all female cancers in Mazandaran and Golestan provinces during the last 3 years. The available epidemiological data suggest that breast cancer is a common disease in the north of Iran, and this point to the increasing need of establishing a cancer registration center in the north of Iran.

448 POSTER

Induction of apoptosis in mouse mammary epithelial cells RIII/MG by epigallocatechin gallate (EGCG)

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Green tea is a natural food ingested in daily life in Japan, and many studies regarding its preventive effect on carcinogenesis and anticancer effect have been performed. A major component of tea, epigallocatechin gallate (EGCG), has potent biological and pharmacological activity. EGCG has been reported to exert an antitumor effect on brain tumor, colon cancer, prostatic cancer, hepatoma, gastric cancer, lung cancer, Leukemia, oral cavity cancer, and a similar effect was shown for breast cancer. Although many studies of the antitumor effect of EGCG have been performed, there are few basic studies regarding how EGCG prevents carcinogenesis and the effect of EGCG on precancerous cells, and many points remain unclear. It is of interest to clarify how green tea ingested in daily life prevents cancers with few adverse effects. Thus, in this study, we investigated the effect of EGCG on precancerous mammary cells using the RIII/MG cell lines, which are mouse models of viral carcinogenesis in mammary epithelium, in vitro and in vivo to investigate whether green tea commonly ingested in Japan prevents carcinogenesis of precancerous cells. In the in vitro experiment, crude catechin (catechin) containing 50% or more EGCG significantly inhibited the growth of RIII/MG cells, which were precancerous cultured cells. Many cells died and a DNA ladder was observed. In the in vivo experiment, RIII/MG cells formed a tumor after 13 weeks in a group without catechin treatment and the tumor formation rate in the 20th week was 40%. In a group treated with 0.1% catechin, a tumor began to grow in the 13th week and the tumor formation rate in the 20th week was 20%. In a group treated with 1% catechin, no tumor was detected even in the 20th week. There was no significant difference in the change in body weight between the catechin treatment groups and the non-treatment group during the observation period. Tissue samples were stained by the nick end labeling method and apoptosis was observed in many cells. Based on the above findings, catechin inhibited growth in the mouse viral mammary epithelial carcinogenesis model, RIII/MG, and induced apoptosis, suggesting the usefulness of catechin as a chemopreventive substance.

449 POSTER

Familial risks of cancer as a guide to gene identification and mode of inheritance

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Background: Familial clustering of a disease is caused by shared genes or shared environment. If the effect of environment can be quantified, the remaining familial clustering can be assigned to heritable causes. Occurrence of cancer in parents and offspring may be due to dominant causes, whereas cancer affecting only siblings may indicate a recessive causation. Systematic comparisons of mode of inheritance have not been available for most types of cancer.

Methods: We use the nationwide Swedish Family-Cancer Database, which includes the Swedish population in families, totaling over 10.2 million individuals and cancers from the Swedish Cancer Registry up to year 2000. Standardized incidence ratios (SIR) and 95% confidence limits (CI) were calculated for offspring whose parents or siblings were diagnosed with the same cancer.

Results: The degree of environmental causation was assessed by spouse correlation and by comparing risks among siblings of different ages. We identified reliable familial risks for all common neoplasms, SIRs ranging from 1.6 to 4.3 when only a parent was affected and up to 8.5 when only a sibling was affected. Risks between siblings were particularly high for renal cancer. Spouse correlation was found only for lung and stomach cancer but the analysis of sibling risks by their age difference suggested that even for some other cancers environmental effects in childhood may contribute to familial aggregation.

Conclusions: The results from these analysis suggest that familial cluster of cancer at most sites is heritable, caused by dominant effects; for renal cancer recessive effects may be most important.

450 POSTER

Set-up of a population-based familial breast cancer registry in Geneva Switzerland: Validation of first results

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Background: This study evaluates the accuracy of family history (FH) of breast and ovarian cancer among first-degree relatives (FDRs) of breast cancer patients, retrospectively collected during the set-up of a population-based family breast cancer registry.

Methods: FHs of cancer of all women with breast cancer recorded at the Geneva cancer registry between 1990–1999 were retrospectively extracted from medical files. The accuracy of these FHs was validated among Swiss women born in Geneva: all 119 with a FH of breast cancer (n=110) or ovarian (n=9) cancer and a representative sample of 100 women with no FH of breast or ovarian cancer. We identified the FDRs of these women with information of the Cantonal Populational Office. All FDRs, resident in Geneva between 1970–1999, were linked to the cancer registry database for breast and ovarian cancer occurrence. Sensitivity, specificity, and level of overall agreement (kappa) were calculated.

Results: Among 310 FDRs identified, 61 had breast cancer and 6 had ovarian cancer recorded at the Geneva cancer registry. The sensitivity, specificity and kappa of the reported FHs of breast cancer were respectively 98%, 97% and 0.97. For ovarian cancer, the sensitivity, specificity and kappa were respectively 67%, 99%, and 0.66.

Conclusion: This study indicates that retrospectively obtained FHs are very accurate for breast cancer. For ovarian cancer, FHs are less precise and may need additional verification.

451 POSTER

Increased rates of chromosome breakage in BRCA1 carriers are reduced by oral selenium supplementation

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Women who are born with constitutional heterozygous mutations of the BRCA1 gene face greatly increased risks of both breast and ovarian cancer. The product of the BRCA1 gene is involved in the repair of double-stranded DNA breaks and it is believed that increased susceptibility to DNA breakage contributes to the cancer phenotype. We measured the frequency of chromosome breaks in BRCA1 carriers and in non-carrier relatives in cultured blood lymphocytes following in vitro exposure to bleomycin. Carriers of BRCA1 mutations demonstrated significantly greater mean frequencies of induced chromosome breaks per cell than the control relatives (0.58 versus 0.39; $p<10^{-4}$). We then supplemented 35 BRCA1 carriers with oral selenium for a period of one to three months. In all 35 carriers studied, the frequency of chromosome breaks was reduced, from a mean of 0.63 breaks per cell to 0.40 breaks per cell ($p<10^{-10}$) and the frequency was then similar to that of the non-carrier controls (0.39 breaks per cell). Oral selenium is a good candidate for chemoprevention in women who carry a mutation in the BRCA1 gene.

452 POSTER

Identification of women at high risk of hereditary breast cancer

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Objective: To identify women with moderate to high risk of hereditary breast cancer in order to offer them specific management strategies for cancer prevention and early detection.

Setting: Centro di Senologia della Delegazione Alto Lario della Lega Italiana per la Lotta contro i Tumori at Gravedona (Italy) and Centro di Senologia della Sezione Provinciale di Sondrio della Lega Italiana per la Lotta contro i Tumori at Sondrio (Italy).

Methods: 234 women with family histories of breast cancer completed, by themselves, simple questionnaires prior to undergoing a breast cancer

screening examination. The questionnaires had been designed to identify women with moderate to high risk of hereditary breast cancer The same questionnaires were subsequently completed again by physicians who personally obtained the answers from each of the 234 women. The self-compiled questionnaires were compared to the physician-compiled questionnaires.

Results: 47 (20%) of the self recorded questionnaires, those fulfilled without the aid of a physician, were either incomplete or contained errors.

Conclusions: Complete and accurate family history data are required to identify women with moderate to high risk of hereditary breast cancer. We believe that a significant percentage of women who are asked to complete these questionnaires without the assistance of physicians or other appropriately trained health care personnel are not able to completely or accurately supply the information which we require. Therefore we recommend that appropriately trained personnel assist all women who are asked to fulfil the questionnaires.

453 POSTER

Male breast cancer. A ten year (1992–2001) review of 99 cases

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Introduction: although it occurs infrequently, breast cancer can affect men as well as women. Cases are rare in many countries, average of annual incidence of 1 case for every 100,000 males. In Lithuania annual number per year is 6.4 of breast cancer for males and 1051.6 for female. In overall cancer incidence it takes 0.1 for males and 17.8 for females. Age standardized rate per 100,000 is 0.3 for male and 37.7 for female. The risk factors are: familiar status, previous benign breast disease radiotherapy, family history, liver disease and testicular patology.

Patients and methods: 99 male breast cancer patients in Lithuanian oncological hospitals and departments of oncology in 1992–2001 year were studied. Statistical data was extracted from Lithuanian cancer register clinical information from patients case histories either by correspondence with the hospital. Follow-up information was obtained for 92 patients.

Results and conclusions: The incidence of breast cancer in men like breast cancer in women increases with age, but is rare before age 35, what is not so infrequent for women. Men older than 60 years makes 87.7% of incidence. This can be explained that in older men growth of breast tissue can be stimulated by several commonly used drugs, widely prescribed for cardiovascular like high blood pressure, cirrhosis of the liver and others comorbit diseases. All histological types of breast cancer common for women, can occur in men, although some – as lobular carcinoma are quite rare, because lobules are normally absent in the male breast. In our study infiltrating ductal carcinoma was in 86.8% and invasive lobular carcinoma only in 2.0%. A man's prognosis like a woman is influenced by the stage of the disease at the time of diagnosis. In our study 39.3% of patients was in stage II and 46.6% stage III. By tumors, larger than 3 cm axillary lymphnodes were involved in 41.9%. For assessment of survival rate evaluated the 1993–1997 year cases.

	Males	Females
Average annual number of breast cancer registered	6.4	1051.6
Average of annual breast cancer deaths	3.4	551.8
Average breast cancer death in first year after diagnosis	1.2	194.6
Relative survival rates (age standardized rates %)		
1 year	77	81
2 year	59	74
5 year	53.9	61.1

Till now little is known about psychosocial problems that men face in adjusting to breast cancer. Having a disease that is predominantly female and one that involve hormone imbalances, might be seen as a threat to the patients masculinity. And such condition could leave him feeling particularly alone and helpless. The male population of our society needs information about existing of this disease and that, like others cancers, it can be cured or controlled if is diagnosed and treated in time.

454 POSTER

Population screening for cancer family syndromes in West-Pomeranian Region of Poland with 1.7 mln inhabitants

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The largest worldwide population screening for cancer family syndromes has been initiated in January 2001 in West-Pomeranian region of Poland with 1.7 mln of inhabitants. Program is supported by EU project (QLRI-CT-1999–00063) and by Regional Health-Care Insurance Company with 1.5 mln of members. In the period of Jan–Dec 2001 family doctors and nurses collected questionnaires asking about cancer family history among I and II degree relatives ~ 1 mln of individuals. Specialists – genetics/oncologists – selected about 2% of screened in individuals – 1–2 representative persons per family – for detailed examination and DNA/RNA analyses the following syndromes were established definitively or with high probability: hereditary breast/ovarian cancer – 1634 families including 291 with BRCA1 mutation, hereditary colorectal cancer – Lynch syndrome – 341 families, hereditary stomach cancer – 592 families. Other type of syndromes (strong aggregation of malignancies) were diagnosed in 2456 families. Appropriate management has been introduced in all identified families with high predisposition to malignancies.

455 POSTER

Problems of breast cancer diagnosis during pregnancy and lactation

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The most common neoplasm in pregnant and postpartum women is breast cancer. There is increasing firmness, edema and hypertrophy during pregnancy, which may hide the presence of the breast tumor.

101 women with pregnancy-associated breast cancer were studied between 1974 and 1995. All patient had some difficulties with diagnosis and term of its determination.

In 80 cases patients found their tumors by self-examination, in 17 – during routine prenatal examination by doctors and in 3 patients – during routine breast ultrasound.

The most common symptoms were – palpable lymph nodes, unilateral increase of mammary gland sizes, unusual liquid from nipple, areola edema.

Only half of all patients applied for medical help after finding tumor masses. 77 patients had an average interval of 6 months from symptoms to diagnosis.

25 patients had tumors about 10 cm. 20 patients tumor size was more than 10 cm. (up to 27 cm in one case). Only 10 patients had tumors less than 2 cm.

456 POSTER

Increased age adjusted incidence rates in younger-aged groups at presentation. In Lebanon and Arab countries. Implications for screening and for Europeans, Australians and Americans of Arabic origins

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Background: Breast Cancer is the most common malignancy in women. International variations in etiologic factors, ages distributions and stages of disease vary greatly. In the United States and Western Europe, approximately 50% of all women with newly diagnosed breast cancer are older than 65 years, while in Lebanon and other developing countries, a trend of younger women at presentation is noted. In the Western hemisphere, there is a higher number of very early stages and in-situ cases at presentation, while in most developing countries there is a higher percentage of locally advanced and metastatic disease at presentation, and more radical surgeries and less breast-conserving surgeries are still being done for operable breast cancer.

Materials and Methods: Cancer registry at the American University of Beirut, and data from other hospitals in Lebanon are presented. American University Hospital sees one third of cancer patients in Lebanon. Patients name, sex, address, age at presentation, histological type of cancer and International Classification of Diseases ICD-O codes were entered and analyzed. Results were calculated as number and proportion of cases, 10-year age-specific incidence rates, crude rates and age standardized rates (ASR) per 100,000 population. The ASR per 100,000 population was estimated by the direct method with the use of the World Standard Population.

Results: Breast cancer is the most common cancer in Lebanese women. Lebanon has a total population of about 3.5 to 4.0 millions with an estimated total number of 3500 new cancer cases annually. Between 1983 and 2000, we saw 16,421 cancers of which 8007 were in women. Breast cancer constituted 33% of all female cancers. There were 2673 female breast cancers, averaging 148 cases per year (Range: 94–202). 49.1% were in women below the age of fifty. Mean age was 49.8 years ±13.9. 49% of cases. Age Standardized Incidence Rates (ASR) were calculated using the world standard population was 30.6, for a crude rate of 27.7. Peak