Mean patient age at biopsy was 48.2 years, while malignancy detected 57 patients' mean age was 51.5 years.
59 malign lesions were detected in 242susceptible lesions (malignity rate: 24.4%) and high risk lesion (LCIS, atypical ductal/lobular hyperplasia, lobular neoplasia) in 11 (4.5%). Of 59malignancy, 19 were in situ and 40 invasive (inv) tumors.
Of 233 patients, 138 were between 35 and 49 years old. In these 138 women, 145susceptible lesions were detected [27 malign (18.6%), 7 high risk (4.8%)]. In these age group, microcalcifications (M) were the most detected lesion via MMG (84.9%) and mass via USG (89.2%).
Via imaging malign lesions of these age group were detected the most as M (55.6%), in situ tumors as M (75%) also, but inv tumors as mass (60%). If imaging presentation was M, malignancy or high risk lesion detection rate was 45% and if it was mass, the rate was 15.4%.
Of the 27 malign lesions, 12 were in situ tumors (44.4%) while 10 others (37.0%) were early stage inv breast ca (stage1, 2a&2b) (early stage breast ca rate was 81.5%).
This study shows, even in 35−49 year old women, although their breast is denser than the older age group, in nonpalpable lesions the malignity rate was 18.6%, comparable to all ages' malignity rate, and also early stage breast ca diagnosed via IGWLBB was as high as 81.5%. Then, since when M were detected via imaging, rate of detection of malign or high risk lesion was almost half of all M (45%), and since in situ tumors were detected the most as M (75%) and M are found the most easily via MMG, it's shown even in 35−49 year old women how important the MMG is in diagnosing breast ca at an earlier stage.

5191 POSTER

Allele-specific aberrations and two dimensional disparity of copy number alterations in breast cancer

F. Kaveh[1], H.K. Solvang[2], A.L. Børresen-Dale[3], V.N. Kristensen[4]. *[1]Rikshospitalet/Radiumhospitalet-HF, Genetics, Oslo, Norway; [2]Rikshospitalet/Radiumhospitalet-HF- Institute of Basic Medical Science University of Oslo, Genetics – Biostatistics, Oslo, Norway; [3]Rikshospitalet/Radiumhospitalet-HF- University of Oslo, Genetics – Faculty of Medicine Oslo University, Oslo, Norway; [4]Rikshospitalet/Radiumhospitalet-HF- University of Oslo, Genetics – Faculty division Akerhus University Hospital Faculty of Medicine University of Oslo, Oslo, Norway*

Background: The localization and identification of disease susceptibility genes is an active field in the forefront of medical genetics. Copy number variations (CNVs) usually occur when there is a genomic rearrangement in a segment of DNA during the cell division. Every diploid has two copies of a locus but in a cancer cell this may vary and leads to occurrence of copy number alterations (CNAs). We focus on the disparity of CNAs in tumor samples compared to blood samples in two directions (horizontal and vertical).
Material and Methods: We applied a visualization method to Illumina 109K SNPs array data on 112 individuals. Two outputs of Illumina, B allele frequency and log R ratio were derived from the BeadStudio Genotyping Module. Following analyses were performed in MATLAB®.
We applied a filter to blood (reference) data not only to remove the contaminations (unclear genotypes) but also divide into three regions of AA, AB and BB (around 0, 0.5 and 1). In second step, same SNP numbers were retrieved from tumor data for which the analysis performed. The distance between blood heterozygote and tumor was measured. If it was greater than the mean + standard deviation value then those tumor samples were chosen as departed from heterozygote to homozygote regions. Subsequently, for every SNP the frequencies of disparity of individuals were calculated and visualized for each chromosome with the A allele above and B allele frequencies below the X axis. SNPs with equal propensity to lose both alleles resulted a symmetric plot, while SNPs where one of the allele was preferentially lost, resulted in an asymmetric plot. Based on an arbitrary threshold, only the asymmetric SNPs were highlighted. Finally, genes involved in the asymmetric region were obtained.

Chromosome	SNPs	Uncontaminated	Asymmetric	Chromosome	SNPs	Uncontaminated	Asymmetric
1	9819	7416	4256	13	3093	2415	1349
2	8702	6765	3969	14	3420	2586	1485
3	7207	5686	3203	15	3307	2549	1544
4	6000	4734	2684	16	3388	2522	1482
5	6329	4990	2814	17	4079	3148	1825
6	6579	5147	2952	18	2570	2006	1209
7	5581	4349	2446	19	3520	2774	1699
8	4891	3949	2280	20	3007	2277	1330
9	4480	3504	2053	21	1381	1104	626
10	5240	3999	2313	22	1886	1407	765
11	5928	4659	2681	X	3430	2220	1370
12	5465	4128	2316				

Results: Table shows SNP numbers, uncontaminated (after filtering) and asymmetric SNPs involved in horizontal disparity.
Conclusions: These findings provide evidence which genes involve in breast cancer and studying in two directions helps in finding a statistically reliable statement about the behaviour of these groups of genes.

5192 POSTER

Early diagnosis and screening for breast cancer: a population-based study

K. Hayran[1], H. Abali[2], S. Kilickap[3], H. Aksoy[4], A. Kemik[4], H. Gokce[4], H. Gokdemir[4], S. Toplar[4], D. Kaya[4], G.G. Isbir[4]. *[1]Hacettepe Universitesi Onkoloji Enstitüsü, Prevantif Onkoloji, Ankara, Turkey; [2]Adana Baskent Universitesi Tip Fakültesi, Medikal Onkoloji, Adana, Turkey; [3]Hacettepe Universitesi Onkoloji Enstitüsü, Medikal Onkoloji, Ankara, Turkey; [4]Mersin Il Saglik Müdürlügü, Pratisyen Hekim, Mersin, Turkey*

Background: The aim of this cross-sectional, population-based study is to inform the healthy women about breast cancer and to screen them as well as to present the relationship between the demographic and the clinical findings.
Methods: The present study was carried out between 1 January 2006 and 30 June 2008 in 111 health care centers located in Mersin, Turkey. 35 health teams were generated prior to the study. The teams were primarily trained for breast examinations and for screening methods to detect breast cancer. The study population was planned to include all of the female subjects who applied to the health care centers for any reason. Each subject was offered a detailed breast examination and a general examination as a screening method by the authorized health personnel.
Results: A total of 77,934 subjects were evaluated. General health examinations were performed in 66% (n = 51,706) of the participants. A suspected mass was detected in 6% of the examined participants. This constituted 3.6% of all subjects. The mean age, education and income levels of the subjects in the examined group were similar to those in the group refusing examination. The percentage of the subjects who declined an examination was 2-folds higher in the $\geqslant$60 year age group compared to <60 years (14.8 vs. 6.6%). The rate of those willing to be examined was lower among the subjects who were living outside the city center than of those living in the center (33% vs. 18%).
A breast mass was detected in 2838 subjects who had undergone a breast examination. The mean age of the subjects in whom a mass had been detected was 39.1 years, whereas it was 36.6 years for those with a normal breast examination ($p < 0.001$). While 15.1% of the subjects with suspicious examination findings were either high school or university graduates, this rate was higher in subjects with normal examination findings (23.7%; $p < 0.001$). Among the subjects in whom a mass had been detected, the rate of the subjects followed-up at the city center was 65%, whereas it was 35% for those in the other group.
Conclusion: For screening breast cancer, participation of elderly subjects, subjects living in rural areas and subjects with low educational as well as lower socio-economic levels should receive special attention.

5193 POSTER

Can adjuvant homeopathy improve the control of post-chemotherapy emesis in breast cancer patients? Results of a randomized placebo-controlled trial

I. Ray-Coquard[1], J. Provençal[2], A.C. Hardy-Bessard[3], T. Bachelot[1], D. Coeffic[4], J.P. Jacquin[5], J.P. Guastalla[1], C. Agostini[6], A. Bajard[7], D. Pérol[7]. *[1]Centre Régional Léon Bérard, Médecine, Lyon, France; [2]Centre Hospitalier d'Annecy, Hématologie Clinique, Annecy, France; [3]Clinique Armoricaine de Radiologie, Médecine, Saint-Brieuc, France; [4]Institut Daniel Hollard, Médecine, Grenoble, France; [5]Institut de Cancérologie de la Loire, Médecine, Saint-Etienne, France; [6]Centre Hospitalier Général, Medecine, Chambéry, France; [7]Centre Régional Léon Bérard, Unité de Biostatistique, Lyon, France*

Background: Homeopathy used as an adjunct in the treatment of chemotherapy (CT)-induced emesis has rarely been evaluated.
Material and Methods: Patients with non-metastatic breast cancer treated with 6 courses of FAC 50, FEC 100 or TAC chemotherapy were randomized to Cocculine (C) or Placebo (P) in a multicentric comparative double-blind phase III study. Anti-emetic treatment was standardized (corticoids + ondansetron). Patients were evaluated after each course. The primary endpoint was nausea measured after the 1st CT course using the FLIE (Functional Living Index for Emesis) with 5-day recall. The planned sample size was 396 evaluable patients based on a minimum expected difference in mean of 0.5 ± 1.6 on a scale from 1 (a lot) to 7 (not at all) with 5% two-sided α error and 85% power. An intent-to-treat analysis was planned. Secondary evaluation criteria were: vomiting measured by the FLIE score, patient

self-evaluation (EVA) and investigator recording (NCI-CTC) of nausea and vomiting intensities, and compliance.
Results: From September 05 to January 08, 431 patients were randomized (217 to P and 214 to C). Patient characteristics were well balanced between groups. Median age was 53 years, 35% of the patients experienced nausea or vomiting. In total, 403 patients (93.5%) were assessable for the primary endpoint, with few nausea episodes (FLIE nausea scores after the 1st CT course were 6.02 and 6.07 for P and C, respectively) and very good compliance (81% patients complied with the protocol). Adverse events related to nausea occurred in 51% vs. 47% of the patients treated with P and C, respectively ($p = 0.48$). FLIE and NCI-CTC vomiting scores were similar between the 2 arms (6.91 vs. 6.88, $p = 0.47$, and 20% vs. 21%, $p = 0.73$, for P and C, respectively). Grade II-III nausea occurred in 17.6% and 15.7% of patients receiving P and C ($p = 0.62$).
Conclusions: No benefit of homeopathy over standard treatment was noted in this study. But surprisingly we observed lower rates of nausea and vomiting measured by patients and by investigators, than in other studies using identical chemotherapy regimens. The observation and management of emesis could modify the perception and rate of such adverse events.

5194 POSTER

UK national survey on the use of Adjuvantonline as a decision-making tool in early breast cancer (www.adjuvantonline.com)

V. Agarwal[1], P. O'Neill[1]. [1]*Castle Hill Hospital, Department of Medical Oncology, Cottingham East Riding of Yorkshire, United Kingdom*

Background: Adjuvantonline is a web-based tool, which enables us to predict 10-year relapse and mortality outcomes in patients with or without adjuvant systemic chemotherapy and/or endocrine treatment. This enables us to make informed and transparent decision regarding adjuvant treatment in early breast cancer. Recent NICE guidance has advocated the routine use of Adjuvantonline in early breast cancer.
Methods: We contacted all cancer networks in England by email for a survey on the use of Adjuvantonline. Twenty-five replies were received from 13 oncology centers.
Results: Of the 25 responders, 24 (96%) oncologists said they use Adjuvantonline in clinical practice and 1 (4%) oncologist said no, but answered subsequent questions on its use. When asked the frequency of use, 10 (40%) oncologists said they always (75–100%); 10 (40%) said frequently (50−75%) and 5 (20%) said sometimes (25−50%) use Adjuvantonline. When asked if they discussed the percentage of benefit with patients, 7 (28%) said always; 9 (36%) said frequently; 7 (28%) said sometimes; 1 (4%) said rarely (0−25%) and 1 (4%) did not answer. Majority 12 (48%) of the responders rarely, and none of them always, gave copies of the results to their patients with 5 (20%) saying frequently and 8 (32%) saying sometimes. All (100%) the oncologists calculated outcome for mortality and 9 (36%) calculated for both mortality and relapse. When asked as to at what percentage of mortality benefit they would discuss and recommend chemotherapy, the answer varied from 0 to 10%, but majority (60%) said they would discuss chemotherapy at 2−3% and recommend chemotherapy at 4−5%. When asked as to at what percentage of relapse benefit they would discuss and recommend chemotherapy, the answer varied from 0 to 20%, but majority (66.6%) said they would recommend chemotherapy at 10−20%.
Conclusions: There is great variability in the use of Adjuvantonline. Currently, there is no consensus on its use as a decision-making tool for adjuvant treatment in early breast cancer. Our survey showed that most of the Oncologists would calculate the outcomes for mortality benefit and would discuss chemotherapy with their patients for 2−3% benefit and recommend chemotherapy for 4−5% benefit. As this tool is designed to be used in conjunction with patients and to improve patient communication and transparency, it was surprising to see that majority rarely (48%) or only sometimes (32%) gave copies of the results to their patients.

5195 POSTER

HMPS (2-hydroxy-4-methoxyphenylstilbene), a stilbene derivative of rhapontigenin, induces cell death by mitochondrial apoptotic pathway in breast cancer cells

J.H. Jung[1], J.Y. Kim[1], H.Y. Park[1], Y.S. Chae[2], H.J. Jung[3], S.E. Aiyar[4], R.J. Santen[4], S.H. Kim[5]. [1]*Kyungpook National University Hospital, Surgery, Daegu, Korea;* [2]*Kyungpook National University Hospital, Oncology/Hematology, Daegu, Korea;* [3]*Kyungpook National University, Cell and Matrix Research Institute, Daegu, Korea;* [4]*University of Virginia, Endocrinology and Metabolism, Charlottesville, USA;* [5]*Seoul National University, College of Pharmacy, Seoul, Korea*

Purpose: Breast cancer with resistance to clinical therapy is a significant threat to live of recurrent breast cancer patients, and chemo-resistant breast cancer is increasing rapidly. During last several decades, natural stilbenoids have been studied on anticancer effects in vitro and in vivo, and resveratrol is the most famous stilbene as a leading compound in the studies of anticancer compounds derived from plants. HMPS (2-hydroxy-4-methoxyphenylstilbene) is an analogue derived from rhapontigenin (3,5,3'-trihydroxy-4'-methoxy-*trans*-stilbene), which is a stilbene of herbal plant *Rheum undulatum*. TMS (2,3',4,5'-tetramethoxystilbene), an another stilbene analogue from rhapontigenin, was reported potent anticancer effect on tamoxifen-resistant MCF-7 cells. In the previous study on several stilbene analogues, HMPS also exhibited potent inhibitory effect on growth of breast cancer cells. In this study we investigated inhibitory effect of HMPS on proliferation of breast cancer and a potential for a new therapeutic candidate.
Methods: We examined cell viability of MCF-7 and MDA-MB-231 by MTT assay after exposure to various concentrations of HMPS. Apoptotic cell death induced by HMPS was investigated by florescence microscopy, cell cycle analysis and western blotting.
Results: Cell viability of breast cancer cells after 24 h exposure to HMPS decreased significantly, and both ER-positive and ER-negative breast cancer cells responded to HMPS. HMPS induced nucleus fragmentation and G2/M arrest followed by sub-G1 accumulation of apoptotic cells in time- and dose-dependent manner. During the process of cell death induced by HMPS, mitochondrial membrane potential was disturbed and caspase-3 and PARP cleavage were observed. Moreover, HMPS decreased cell number of LTED MCF-7 cells (Long term estradiol deprived cell) effectively.
Conclusion: Our results demonstrates that proliferation inhibitory effect of HMPS is about 50-fold more potent than those of rhapontigenin and furthermore HMPS also inhibits cell growth of LTED cells which are difficult to treat therapeutic agents. Therefore, HMPS may be a potential therapeutic candidate to treat the recurrent breast cancer by alone or combination with other conventional anticancer agents.

5196 POSTER

Factors associated with delayed presentation in the cohort ELIPPSE40 of young breast cancer women

D. Rey[1], M.K. Bendiane[1], P. Viens[2], A.D. Bouhnik[3], V. Buc[1], Y. Obadia[1], P. Peretti-Watel[3]. [1]*Ors Paca – Inserm Umr912, Cancer Unit, Marseille, France;* [2]*Institut Paoli Calmettes, Cancer Unit, Marseille, France;* [3]*Inserm Umr912, Cancer Unit, Marseille, France*

Background: early diagnosis and treatment can reduce the specific mortality in breast cancer women. Young women rarely undergo mammography before diagnosis and usually present with breast symptoms. We attempted to identify factors associated with delay in presentation in a cohort of young women recently diagnosed with breast cancer.
Material and Methods: SinceJuly 2005, all consecutive women included in the Long Duration Disease File of the French National Health Insurance Fund for a diagnosis of primary non-metastatic breast cancer, aged 18−40 years and living in South Eastern France are asked to participate in a 5 years follow-up. Women who agree to participate answer a mailed self-questionnaire at enrolment (in the month after diagnosis) and then telephone interviews every year. Medical record is yearly collected from physicians. Between January 2005 and March 2009, 291 women have been included (response rate: 70%). Patient delay was defined as time elapsing between symptom discovery and first presentation to a medical provider. This was studied in relation to socio-demographic factors, clinical variables, and subsequent diagnosis using logistic models.
Results: 222 women (76%) reported breast symptoms, discovered by themselves or their partner. Twenty-two percent of the symptomatic women delayed presentation 4 weeks or more. In multivariate analysis, women who delayed were more likely to live in rural areas (OR = 7.9, 95%CI [2.1−29.6]), to have a higher level of education (2.7, [1.1−6.5]), to have a body mass index $\leqslant$25 (5.0, [1.2−10.0], to have a better prognosis (low grade tumours) (4.6, [2.0−10.9], and not to have a family history of breast or ovarian cancer (2.6, [1.1−6.3]. Age, maternal language, marital status, children, type of symptom and tumour size were unrelated to patient delay.
Conclusion: Our results suggest that woman's physical and socio-demographic characteristics and living area have an influence on delay to presentation. Health education messages are needed to convince symptomatic women to present quickly to a physician even if they do not have known risk factors and if they live in rural areas with few medical services available.