(region of interest) and the gain were constant during the entire exam. Other vascular parameters were assessed also: velocity (V), resistivity and pulsatility indexes (RI, PI) derived from flow velocity. The diagnosis of cancer was confirmed by pathological exam in all patients. We compared also the vascularity index with the tumoral stage.

Results: We found a significant correlation between the power Doppler vascularity index and the microvessel density. The resistivity index and pulsatility index were variable.

Conclusions: Vascularity index is an accurate parameter for assessment of tumoral vascularity. The vascularity index is correlated to the tumoral stage also. The results of our study are limited due to the small number of patients, extended studies being necessary in the future.

618   Poster
Investigation of the relationship between dna-dependent protein kinase and lymphatic metastasis in colorectal cancer

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Aim: To investigate DNA-dependent protein kinase (DNA-PK) expression, and its relationship with lymphatic metastasis in colorectal cancer.

Methods: Tumor tissues from 60 patients, divided into two groups according to lymphatic metastasis, were immunohistochemically stained to detect the DNA-PK expression including Ku70, Ku80 and PKcs proteins.

Results: Positivity of both Ku70 and Ku80 in colorectal cancer was negatively correlated with lymphatic metastasis with an r value of -0.57 and -0.38, respectively. Similar correlation was found between Ku expression, especially Ku70, and long-term survival. PKcs, however, displayed no significant correlation. Statistical analysis failed to detect any correlation between DNA-PK expression, and clinical characteristics, such as age, sex, tumor location, tumor thickness and distant metastasis (p>0.05).

Conclusions: DNA-PK expression, especially Ku70 expression, is negatively correlated with lymphatic metastasis, and the survival of patients with colorectal cancer. Ku70 expression may be a potential indicator for the preoperative evaluation, and prognosis in colorectal cancer.

619   Poster
Methodology matters - prognostic significance of HER2 protein expression versus HER2 gene amplification in metastatic breast cancer

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Background: After so many years of research, clinical value of HER2 (Human epidermal growth factor receptor 2) is unclear. Clinical use of HER2 status for prognosis of breast cancer patients remains controversial, mostly because of different testing methods used in different studies and consequently variability of results. There is a lack of studies regarding prognostic value of CISH especially in metastatic breast cancer (MBC) when risk evaluation is based on different parameters than for primary breast cancer. Aim of this study was to compare prognostic relevance of HER2 status in MBC tested by two different methods i.e. immuno-histochemistry (IHC) and chromogenic in situ hybridization (CISH).

Material and methods: In the same group of 107 MBC patients HER2 protein overexpression was determined by IHC and HER2 gene ampliication was determined by CISH in a primary tumor tissue.

Results: There was significant correlation (p<<0.001) between HER2 protein overexpression determined by IHC and HER2 gene amplification determined by CISH, beside the existence of discrepant results. However, there was a difference in prognostic value of compared methods during the course of metastatic disease. In a whole group of MBC patients there was no significant difference when patients are stratified by CISH or IHC results. There was significant difference in metastatic breast cancer survival between HER2 nonamplified and HER2 amplified cases in subgroups of patients determined by available clinicopathological parameters i.e. in a subgroup of patients older than 50 years, postmenopausal subgroup and node-positive subgroup. When patients are stratified by IHC results there was no significant difference in survival in these or any subgroups of patients.

Conclusion: These results indicate a discrepancy in the ability of two methods to predict patient's survival. CISH grading system in contrast to IHC grading, offers a real cut-off value for determination of different breast cancer prognostic subgroups. CISH seems to be more accurate and more informative than IHC in prediction of clinical outcome in metastatic breast cancer. Beside that, these results show that HER2, although as biomarker with limited significance in different subgroups of patients, has relevant

prognostic value in metastatic breast cancer. In that context, our results confirm that methodology matters and those gene-based testing methods should be really accepted as a gold standard for assessment of HER2 status.

620   Poster
Utility of p53 gene expression for early diagnosis in oral leukoplakias

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Background: The last advances in cellular biology demonstrated the precise mechanisms regulating the cell cycle and show that abnormalities in cell proliferation are a very common manifestation in some cancers and precancerous lesions. Nevertheless tumor suppressor genes, like p53, and other proteins associated to the cell cycle also mediate in this sequence. Oral leukoplakia is a precancerous stage that constitutes a canzerisable lesion due to the genetic alterations that mediate in the evolution of lesion. Since p53 disturbs lead to a loss in cell cycle control, routine molecular study of p53 gene expression would contribute to an improved diagnosis and treatment of oral premalignant lesions. Objective: Study the utility of p53 gene expression as diagnosis factor in oral leukoplakias by means of Quantitative Real Time PCR (qPCR). Materials and Methods: Expression levels of p53 gene, in 24 unique freeze samples from 24 patients with leukoplakia, were measured. From each patient, 2 samples were obtained: opposed lateral oral mucosa and leukoplakia mucosa. As control, a pool of healthy human oral mucosa from healthy donors (n=4) was used. qPCR experiments were performed on a LightCycler 480 Instrument (Roche) using LightCycler 480 SYBR Green I Master (Roche). A constitutively expressed gene, HPRT, was used as internal control. Results: The expression levels of p53 were higher in opposed lateral oral mucosa and leukoplakia both from patient, with regard to the pool of healthy human oral mucosa from healthy donors. When comparing opposed lateral oral mucosa and leukoplakia from the same patient, 54.2% of samples showed higher p53 expression in opposed lateral oral mucosa than in leukoplakia. This could be explained by the "field cancerization" hypothesis in oral cavity, since when the field alteration occurs it is followed by progression of the lesions or the appearance of recurrences or second lesions. Conclusions: qPCR assays confirmed that p53 is up-regulated in premalignant oral epithelial lesions, indicating that p53 may contribute to carcinogenesis. On the other hand, although in other kind of tumors p53 over-expression is a late event, in oral cavity it can be observed in more initial phases of the precancerous lesion. Therefore p53 could represent an attractive diagnosis factor in oral leukoplakias. Support: S. Díaz Prado is beneficiary of an Isidro Parga Pondal contract from Xunta de Galicia (Spain).

621   Poster
Gene expression analysis in pheochromocytoma - searching for new pathways involved in the hereditary susceptibility and the malignant outcome

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Introduction: Phaeochromocytomas and paragangliomas are rare neuro-endocrine tumors that arise from adrenal and extra-adrenal chromaffin tissue respectively, usually causing secondary hypertension by oversecretion of catecholamines. Nowadays, it is widely accepted that 25-30% of patients carry a germline mutation in one of six susceptibility genes: SDHB, SDHC, SDHD, RET, VHL and NF1. Nevertheless, there are still some familial cases not associated with any predisposing gene. On the other hand, malignancy occurs in 15-40% of cases (depending on location and genetic alteration), and is defined as the presence of metastases, with no other clinical features useful for an early diagnosis.

Aim: On this basis, new strategies are needed in order to find new susceptibility genes responsible for the remaining familial cases. In addition, new molecular tools that help us to characterize those patients at risk of malignancy are needed in order to intensify the follow up.

Methods: We have collected 68 genetically characterized tumors: 5 SDHB, 1 SDHC, 4 SDHD, 10 RET, 12 VHL, 2 NF1, 3 familial cases without mutations and 31 sporadic tumors. The transcriptional profiles obtained using the ® Agilent gene expression microarrays platform (Whole Human Genome, 4x44k) were subsequently analyzed with the ©GEPAS bioinformatics package. Quantitative RT-PCR and immunohistochemical assays will be performed to validate the transcriptional profiling data on the same collection of tumours, as well as on an independent series of paraffin embedded tumours respectively.

Result and conclusion: Will be presented at the Meeting.

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POSTER SESSION
Survivorship research

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622   Poster
Survival rate of gastric and esophageal cancers in Ardabil Province, North-West of Iran

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Background: Upper gastrointestinal cancer is the most common cancer in Ardabil Province, North-West of Iran, accounting for more than 50% of all cancer deaths in this area. We conducted this study to determine the present survival rate of patients with esophageal and gastric cancers before launching interventional studies. Methods: A prospective follow-up study of 420 biopsy-proven patients (127 females, mean age: 64) with upper gastrointestinal cancer (141 esophageal and 279 stomach cancers) who were initially diagnosed in Aras Clinic, the main gastrointestinal referral center of Ardabil Province, from 2000 through 2004, was performed with collection of data on demographics, tumor characteristics, pathologic stage, treatment methods, complications, survival time, etc. Data were gathered through direct interview with patients or their families in 303 cases and evaluation of death certificates in 55 patients. Follow-up was from cancer diagnosis until death, or immigration. Survival according to stage of disease, Lauren tumor type, tumor location, surgery, and adjuvant chemotherapy was analyzed, and results were compared with those of western series. Results: Sixty-two cases were lost to follow-up. The one- and five-year survival rates in the patients with upper gastrointestinal cancer in Ardabil Province were 40.5%, and 0.8%, respectively. In the univariate analysis, men had a slightly lower survival rate than women (P = 0.21) and patients with esophageal cancer had a longer survival rate compared to stomach cancer patients (P = 0.15). Patients who had undergone surgery (P < 0.001) and/or chemotherapy (P < 0.001) survived longer than those without such treatments. Tumor morphology, age at diagnosis, radiotherapy, alcohol, and opium consumption did not show any significant effects on the survival rate of patients. In multivariate analysis, only smoking was remained as an independent factor for stomach cancer (P = 0.04) while in esophageal cancer, surgery and grade of differentiation were significant predictors of survival. Conclusion: Survival rate of stomach and esophagus cancer cases in Ardabil is relatively low. Intervention for early detection and therapy is necessary to increase survival.

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623   Poster
Cognitive performance (cp), informed consent (ic), and age among advanced cancer patients (acp)

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Introduction: Cognitive impairment (CI) among cancer patients has been well described and is believed to be due to various factors, e.g. age and chemotherapy. Prior research indicates that acp participating in phase I clinical trials inadequately understand many elements of IC, but the prevalence of CI has not been well described in this population.

Methods: Acp CP was evaluated using a neuropsychological battery designed to assess domains of decisional capacity: Memory (Hopkins Verbal Learning HVLT and Mini-Cognitive Assessment); Executive Functioning (Verbal Fluency and Trail-making A/B); Language (Boston Naming-short); Attention (Digit Span); Comprehension (Auditory Comprehension & WAIS comprehension). Semi-structured interviews also

evaluated IC, and included the Hospital Anxiety and Depression Scale (HADS), BDI-II, and the FACT-COG.

Results: To date, a total of 180 acp enrolling in Phase I trials have been studied: median age: 58y (range: 23-83y); 69% male; 86% Caucasian; 73% > HS education. Only 25% of responding acp correctly identified the purpose of Phase I trials. Older acp (>age 55y) were less likely to correctly describe the research purpose of the trial (30% v. 71% p=0.02). Older acp had measurable deficits in CP: Boston (13 ± 1 v.14 ± 0.8, p<0.0); HVLT Total Recall (16 ± 6 v. 24 ± 5, p<0.00) and Discrimination Index (8.3 ± 3 v.11 ± 2, p<0.00); Digit Span (15 ± 5 v. 19 ± 2, p<0.00); Trail-making A (61 ± 28 v. 41 ± 22, p<0.00) & B (178 ± 90 v.109 ± 56, p<0.00). ACP who correctly identified the purpose of a Phase I had greater CP as assessed by memory tasks (38.1 ± 7.9 v. 33 ± 2.6, p=0.04) and greater attentional abilities (21.1 ± 4.3 v. 18.6 ± 2.3, p=0.06). ACP who recalled that palliative care/hospice was presented as an option experienced greater deficits in processing speed & mental flexibility (282± 104 v. 214 ± 97, p=0.04). Older acp tended to report more depressive symptoms (14 ± 11 v. 6 ± 5, p<0.00). Also, older acp had FACT-COG scores well below reported means for impact on quality of life (24 ± 7 v. 27 ± 10, p=0.03). Conclusions: Our data strongly indicate that there are clear associations between several measurable domains of CP and understanding of the elements of IC for early phase clinical trials especially among the elderly.

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624   Poster
The effect of cabbage juices on the activity and expression of GST isozymes in HepG2 cells

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There is a very convincing epidemiological evidence that a diet high in cruciferous vegetables protects against tumorigenesis in many tissues, including the colon. A substantial part of this protective effect has been ascribed to the induction of detoxifying enzymes especially glutathione S-transferase (GST). GSTs are superfamily of enzymes which catalyze the conjugation of some electrophilic compounds with glutathione. Based on the structural, physicochemical, enzymatic and immunological properties the cytosolic GSTs are divided into four classes: alpha, mu, pi and theta. The induction of GST was closely correlated to reduction in the number of chemically induced tumours in humans or human cells. The human hepatoma cell line HepG2 retains many of the xenobiotic metabolizing enzymes found in normal hepatocytes, including an inducible GST. The predominant isoform of GST that is induced by xenobiotics in this cell line is GST alpha.

Our previous in vivo studies demonstrated the modulation of GST isozymes expression by cabbage and sauerkraut juice in rat liver and kidney. To get a more complete view about the mechanism of anticarcinogenic properties of cabbage, in this study the total activity of GST and expression of GSTs alpha, mu, pi and theta by Western blot in hepatoma cell line HepG2 were analyzed. HepG2 cells were incubated with cabbage juices obtained from vegetables cultivated in industrial and ecological farms for 3, 6 and 24 hours.

Administration of the all cabbage juices for 3, 6 and 24 hours significantly enhanced activity of GST in HepG2 cells. Changes in the expression of GST isozymes in HepG2 cells were dependent on time of treatment. In HepG2 the constitutive expression of the all tested GST isozymes was detected. However, the expression of GST in HepG2 was lower than in rat liver. Western blot analysis showed that the all cabbage juices increased the expression of GST class alpha (by 30%) and to lesser extent the GST class mu at all time points of exposure, but did not affect the GST theta and pi.

The results of this study indicate that cabbage juices are effective inducers of human GST in agreement with previous studies on GST in animals. Modulation of the total activity and expression of GST isozymes may be responsible for their biological activity and chemoprotective properties of cabbage.

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625   Poster
A psychoeducation group for patients at the end of primary treatment for cancer - preliminary results

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Background: End of treatment has been shown to be a very difficult time for patients, as they often feel vulnerable with less frequent contact with the health service, anxious about disease recurrence and under stress