

understood and our interest was to compare the gene expression pattern of mammary osteosarcomas to that of osteosarcomas on the head and the extremities. We have previously reported that genes related to the embryonic development of the head are overrepresented in canine mammary sarcomas compared to mammary carcinomas [1].

Material and Methods: The study investigates gene expression profile in canine mammary osteosarcomas as compared to normal mammary tissues – based upon the earlier Affymetrix-assay [1] –, with that of head osteosarcomas and extremity osteosarcomas.

Analysis of the gene expression data was carried out in the statistical computing language R (<http://www.r-project.org>) using packages available from the Bioconductor project (www.bioconductor.org). The raw data were normalized using the (RMA) method [2]. In order to search for the differentially expressed genes, an empirical Bayes moderated t-test was applied [3]. To address the problem with multiple testing, the *p*-values were adjusted according to Benjamini and Hochberg [4]. The hierarchical clusterings were performed in the program Genesis, version 1.7.1 [5].

Results: Preliminary results of the Affymetrix data with adjusted *p* value <0.05 gave about 2500 differentially expressed genes (DEG) in mammary osteosarcomas compared to the control of normal mammary tissue. About half of these genes were similarly expressed in the osteosarcomas of the head and the trunk (1140 and 1211 respectively), whereas 970 genes did overlap. Genes of interest will be further studied, described and be concluded.

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POSTER

Status of Granulocyte Colony-Stimulating Factor Receptor in Tumour Tissue of Patients With Breast Cancer

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Objectives: Granulocyte colony-stimulating factor receptor has been observed on the surface of not only hematopoietic cells but also several cancer cells, including bladder cancer, epithelial skin tumours, primary ovarian carcinomas, ewing sarcom and head and neck squamous cell carcinomas. There was no study to show the expression of GCSF-R in breast cancer. The aim of this study was to investigate the expression of granulocyte colony-stimulating factor receptor in tumour tissue of patient with breast cancer, and also to evaluate the relationship between GCSF-R with prognostic factors and prognosis of patients.

Patients and Method: 57 patients, were diagnosed with breast cancer at Ankara University Faculty of Medicine in 2004–2005 and taken monitoring after treatment, were studied. Tumour tissues were received from paraffin-embedded blocks of patient. GCSF-R detected by immunohistochemical staining method. Results were compared with prognostic factors and prognosis of patients.

Results: Fifty five cases of the 57 breast cancers showed positive stainings of GCSF-R (61.4%), and twenty two cases showed negative (38.6%). There was no relationship between GCSF-R staining and prognostic factors. The prognosis of 49 patients was known. We found 7 relapsing cases (12.2%). 5 cases was in negative group and 2 cases was in positive group. Relaps (*p*=0.041) and disease-free survival (*p*=0.036) were more in negative group. There was no relation between overall survival and GCSF-R.

Conclusion: There was no study that showing the relationship between breast cancer and GCSF-R. Our study is the first about this. In this study, we showed that there is GCSF-R expression in tumour tissues of patients with breast cancer. There was no association between prognostic factors and GCSF-R staining. Overall survival was similar. But there was significant association between GCSF-R staining and patient prognosis. GCSF-R negative group relapsed more than positive. This was very different from the results of studies in other cancers.

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POSTER

Vitamin D Analogs Enhance the Anastrozole Activity in Human Breast Cancer Models

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Background: Breast cancer is the most common malignant cancer among women in Poland. The growth and invasion of breast cancers are mostly estrogen dependent and estrogens play a key role in cancer progression. Calcitriol is known to evaluate a therapeutic effect against breast cancer, mainly by lowering the expression of estrogen receptors and aromatase activity. Low-calcemic vitamin D₃ analogs; PRI-2191 and PRI-2205 were previously tested for their antiproliferative activity against different cancer cell lines. In our latest studies, the influence of calcitriol analogs on the activity of anastrozole against breast cancer has been evaluated (*in vitro* and *in vivo*).

Materials and Methods: *In vitro:* Cells (MCF-7, T47D, and SKBR-3) were placed in 96-well or 24-well flat-bottom plates at a density of 5x10³ or 1x10⁵ cells per well 24 hours before addition of the tested compounds. Cancer cells were exposed for 120 hours to calcitriol or its analogs and anastrozole. The cytostatic effect was measured by the SRB assay. The cell cycle changes were evaluated by flow cytometry.

In vivo: The antitumour effect of combined treatment was evaluated as tumour growth inhibition (TGI), tumour volume and body weight changes were monitored.

Results: *In vitro:* PRI-2191 and PRI-2205 showed synergy or an additive effect in proliferation inhibition when combined with anastrozole on T47D, MCF-7 and SKBR-3 cancer cells. The cell cycle observations showed an increase in the percentage of cells in G2/M stage or an induction of apoptosis after calcitriol analogs and anastrozole treatment.

In vivo: Both analogs showed synergy or an additive effect in inhibiting MCF-7 tumour growth. PRI-2191 was found to be more active in inhibiting tumour growth than anastrozole alone.

Conclusion: It is supposed that the calcitriol analogs may be of potential use in anti-cancer therapy when combined with anastrozole.

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POSTER

Assessing the Cognitive Function Among the Breast Cancer Patient After Chemotherapy Treatment

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Introduction: The previous research has shown the growing evidence of cognitive impairment among the breast cancer patients after receiving adjuvant or local chemotherapy. However the measuring of cognitive function requires additional time and application of complex battery. Therefore, clinical researchers focus their interest on particular aspects of cognitive function. In our research, we have decided to measure the executive function in breast cancer patients after receiving chemotherapy. Executive functions are very important for patients' daily life, but they are also most vulnerable. For this purpose, we used the Trial Making Test, part A (TMT-A) and part B (TMT-B), since they both can be applied easy and in short period of time.

Methods: After they have received chemotherapy treatment, 42 female patients, non-homogeny by age, with breast cancer were examined. We have used TMT-A to measure attention and TMT-B to measure executive function. Their results were compared with results of referent subgroups in general population. The highest subgroup was between 40–49 years old, the before-menopause group.

Results: The results from the TMT-A which measure attention was in average level according to normal population or less than average. Results from the TMT-B which measure executive function were on high level according to normal population 7 (16.7%) patients demonstrated high level results compared to normal population.

Conclusion: The largest subgroup showed the best results as expected. Low score on TMT-A could be explained in view of setting. Patients have completed the tests while they have been waiting for ambulatory examination, so they were excited to hear the state of their health condition.