Oral – [A-10-1168-1]
Novel germ line BRCA2 mutations in familial esophageal squamous cell carcinoma
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Introduction: Esophageal squamous cell carcinoma (ESCC) is the 6th most common fatal cancer in men and 9th in women in the world and the 5th leading cause of cancer in Iran. A high frequency of ESCC in northeastern Iran has been reported. BRCA2 may play an important role in ESCC carcinogenesis as indicated from various studies in Iran, India and China. Mutational analysis of BRCA2 in several familial ESCC pedigrees with affected ESCC individuals was performed.

Materials and methods: We screened patients for BRCA2 mutations in germ line DNA by whole gene sequencing. Some known BRCA2 mutations and a novel splice variant, c.426-2A>G were found. Novel mutation tracking ruled out SNP in 100 chromosomes of healthy individuals. The related family members, 60 sporadic and 12 familial ESCC were negative for this new mutation.

Results: The novel splice variant mutation was found in two affected ESCC sisters, 54 yr and 48 yr old, and their sons and daughters, two brothers and two nephews. Sequencing of BRCA2 cDNA, exons 4 to 7, revealed that c. 426-2A>G mutation lead to exon 5 skipping in splicing process.

Conclusion: We conclude that germ line mutation in BRCA2 in ESCC patients may play a role in genetic susceptibility to familial ESCC.

Keywords: Esophageal cancer, germ line mutation, BRCA2

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Poster – [A-10-1169-2]
Self-eating of T47D breast cancer cell line in the presence of sulfabenzamide
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Introduction: Previous studies showed that autophagy protects some cancerous cells against anticancerous effects of some drugs by blocking the apoptotic pathway. By contrast, other cancerous cells undergo autophagic cell death (programmed cell death type II) after cancer therapies. In parallel with world-wide investigations for finding some potent anti-tumor drugs against those breast cancer cells originated from epithelial tissues, we choose sulfabenzamide for assessing its anti-cancerous activity on T-47D cell line.

Methods: Our results obtained from flow cytometry, fluorescent microscopy and DNA laddering investigations, confirmed that the percentage of apoptosis, necrosis and cell cycle arrest could not explain the observed 50 percent reduction of the cell number when the cells treated with 10.8 mM sulfabenzamide (LC50). These findings motivated us to investigate expression level of some genes involved in autophagy pathway for example ATG5, DRAM, DAPK, mTOR, AKT and so on with real time RT-PCR.

Results: Sulfabenzamide induced overexpression of the autophagic regulator genes for example PTEN in parallel with decreasing of AKT1 transcripts showed that the possible repression of the cell surviving pathway (AKT pathway) has occurred. Interestingly, DAPK (positive regulator of autophagy) had been expressed in the treated cells while it has not had any expression in the untreated cells. Moreover, about 10 times increasing of DRAM transcripts in the treated cells showed that p53/DRAM pathway has been started causing autophagic death in this cell line.

Conclusion: This study is the first one explaining the anticancer effects of sulfabenzamide on the human breast cancer cells through autophagic cell death.

Keywords: Breast cancer, sulfonamide drugs, autophagy

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Poster – [A-10-1175-2]
The role of CA-19-9, CA 242 and CEA tumor markers in digestive tract cancer diagnostics
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Introduction: Tumors of digestive tract are in the third place between men and women and have the lowest life rate in all solid tumor cases. Every year tumors of digestive tract are revealed in about 61,000 persons who are convicted to death. The reason is that in most patients disease is revealed in old stages. Diagnostics is set on the basis of endoscopic ultrasound investigation, endoscopic retrograde cholangiopancreatoscopy and histological or cytological decision of punctional biopsy. The aim of the study is to make comparative analysis of CA 19-9, CA 242 and CEA tumor markers.

Methods: The objective of the study was to analyze the diagnostic value of CA 19-9, CA 242 and CEA tumor markers. The ELISA method was used to quantify the level of proteins of interest.

Results: CA 242 marker was the highest in stomach carcinoma samples (2 times higher than CA 19-9). The level of CA 19-9 glycoprotein was in average 18 and 7 times higher than CA 242 and CEA proteins in pancreas and bile duct carcinoma respectively. CEA was equally high in all groups but the highest level was detected in bile duct carcinoma and intestine carcinoma.

Conclusion: Although there is some level of specificity for each marker and corresponding cancer, anyway the simultaneous detection of all three markers together may increase its diagnostic value.

Keywords: Tumors of digestive tract, CA 19-9, CA 242 and CEA, Pancreas and bile duct carcinoma

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Poster – [A-10-1194-1]
Evaluation of Cu containing amine oxidase is sera of gastric cancer patients
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Introduction: Cupper containing amine oxidase (Cu-AO) catalyzes the deamination of primary amines to corresponding aldehydes in the presence of oxygen with the subsequent release of ammonia and hydrogen peroxide. Cu-AO also is known as soluble vascular adhesion molecule-1 (sVAP-1). It has been shown that the serum level of Cu-AO changes in various cancers. Literature review showed that there was no information on Cu-AO serum concentration among Iranians as well as in gastric cancer patients. The present study was conducted with two major aims 1) determination of Cu-AO concentration in healthy people; 2) to investigate the changes of the enzyme in gastric patients compared to control.

Material and method: This investigation as a case–control study included 200 healthy and GC patient volunteers referred to Aras Clinic in Imam Khomeini Hospital. Blood samples were collected and serum was separated and stored at −70 °C until ELISA examinations. Questionnaires were distributed and filled out by both patients and healthy people.

Results and conclusion: Present investigation showed that there is no significant change in serum level of Cu-AO in regard to sex, age, smoking and BMI. The serum level of Cu-AO in healthy subjects was higher than values reported in other countries. Whether these finding would open new sights into etiology of high incidence of GC in Ardabil province needs further investigations. Cu-AO levels in serum show a significant decrease in GC patients in relative to controls, this decline in Cu-AO might have been used as a biomarker for gastric cancer diagnosis.

Keywords: SSAO, sVAP, biomarker, gastric cancer

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Poster—[A-10-1199-1]
The evaluation of FOXP3 and GITR gene expression in ATL patients before and after treatment with triple arsenic regimen using real time PCR TaqMan method

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Introduction: HTLV-1 was recognized as the etiologic agent of the syndrome of adult Tcell leukemia (ATL) which may infect T regulatory cell. FOXp3 and GITR are the main markers for T regulatory cell. Therefore, in the present study FOXp3 and GITR genes expression were measured in ATL patients before and after treatment.

Materials and method: 12 (43%) and 16 (57%) of the ATL patients were female and male, respectively. Twenty eight ATL patients, 10 HTLV-1 healthy carriers and 10 healthy controls were included in this study. All ATL patients had serologic evidence of HTLV-I infection by enzyme-linked immunosorbent assay (ELISA) that were confirmed polymerase chain reaction (PCR). Peripheral mononuclear blood cells (PBMCs) were obtained from ATL patients at the onset of their disease before and after 30 days of treatment with Zidovidune (300–900 mg/day), Interferon alpha (INF-α, 3–5 million IU/day and subcutaneously) Arsenic trioxide: 1 cycle = 10 mg, 5 days per week. After one month of treatment a second blood sample was taken and FOXP3 and GITR genes expression were evaluated in both samples using a TaqMan Real time RT-PCR which designed in our lab.

Results: The levels of FOXP3 and GITR mRNA levels in ATL patients after one month treatment were significantly decreased ($p<0.001$). Therefore, this kind of treatment may reduce the number and the function of Treg result in potentiating of immune response to malignant cells.

Conclusion: In conclusion, treatment of chronic ATL with arsenic, interferon-alpha and zidovudine is feasible and exhibits an impressive response with moderate toxicity.

Keywords: ATL, FOXP3, GITR

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Poster– [A-10-1323-2]
New molecular aspect of breast carcinoma: Its diagnosis, treatment and prognosis

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Introduction: Human breast is composed of two components: Specialized epithelium and Stroma. Epithelium consists of two cell types. One is low, flattened myoepithelial layer, also called basal cells. Second layer is of epithelial cells which line the lumen of ducts and lobules, also called luminal cells. Stroma composed of fibrous and adipose tissue. The structure and function of normal breast require complex interactions between luminal cells, myoepithelial cells and stromal cells. The normal process of new duct lobule formation via increased proliferation, escape from growth inhibition, angiogenesis and during carcinogenesis stromal invasion can be opted by abnormal epithelial and stromal cells. Loss of normal function of cells can occur with:-Age, mutations or genetic changes in DNA (Hereditary cancer), Hormonal stimulation and proliferation (Sporadic cancer). Circulating tumor cells are cells that have detached from primary tumor and entered the peripheral circulation. Diagnostic Modalities. Early detection of breast cancer is vital to reducing the morbidity and mortality associated with this disease and triple test was used for the accuracy of its diagnosis like mammography, self assessment, FNAC and Biopsy Recent advances in diagnostic modalities. Molecular techniques have also been used to refine the classification of special type cancers. For example, using the combination of immunohistochemistry to assess protein expression and gene expression profiling of breast carcinom.Immunohistochemistry using six common antibodies (ER, PR, HER2, CK5/6, EGFR, and Ki67) (7-9) can be used as a surrogate for gene expression profiling to classify tumors as luminal A, luminal B, HER2 and basal-like types. Luminal A cancers are ER+ and/or PR+, HER2- and have a Ki67 labeling index <14%. Luminal B tumors are either ER+ and/or PR+and HER2+ (the luminal-HER2 subtype) or ER+ and/or PR+ with a Ki67 labeling index >14%. HER2 tumors are ER-, PR- and HER2+. The basal-like cancers are most commonly ER-, PR-, HER2- and show expression of CK5/6 and/or EGFR. Recent studies using Gene expression profile shows a considerable heterogeneity in both above mentioned groups. High throughput technologies such as expression profiling has recently introduced new taxonomy of IBC Treatment of the breast cancer in the light of new diagnostic modalities: The paradigms of clinical research in breast cancer are changing. Breast cancer is now recognized as a collection of quite different malignancies, with very different behaviors, genetic profiles and responses to therapy. The overarching mission of the Consortium is to lessen the burden of breast cancer by using a collaborative and multidisciplinary approach to improve the understanding of breast cancer biology and test new therapeutic strategies in Pakistan. On the basis of new concept the three main treatment groups are emerged, ER/PR positive and HER 2 negative (on usual Hormonal therapy), ER/PR negative but HER2 (Herceptin) and Triple negative to test a new way of chemotherapy that are not amenable to therapy with drugs that target the estrogen receptor or the HER2 receptor.We will categories the patients in three groups. ER/PR positive (on usual therapy), ER/PR negative but HER2