

is difficulty in predicting their biological behavior This study was designed to review the clinical characteristics of surgically treated gastrointestinal stromal tumors at our institution and evaluate their immuno histochemical and pathologic features and correlate finding with surgical management and prognosis.

**Patients and Methods :** Patients and disease characteristics were studied in a group of 11 cases (9 gastric, one jejunal and one ileal). In addition, the pathologic features, surgical management, and treatment outcome were evaluated.

**Results:** A preoperative diagnosis was suspected in eight using endoscopy and endo sonography while CT defined local extra gastric spread in one patient. The median diameter of the tumors was 6.6 cm and no liver metastases were detected in any case. Planned cold surgery was possible in 8 of the 11 cases and excision was successful in all. Three cases were operated upon emergency basis. Histological and immunohisto-pathological evaluation confirmed the preoperative diagnosis in all cases. In half of the c-kit positive tumors the lesions were high grade malignant

**Conclusion:** GISTs are underdiagnosed in Egypt due to their vague presentations, but should be incorporated in the list of causes of GI bleeding. Surgical removal is feasible in most cases and the prognosis is strictly related to tumor size and number of mitoses.

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Poster

# **Trefoil factor family 2 stimulates cell proliferation via epidermal growth factor receptor**

T. Limpaiaboon<sup>1</sup>, K. Muenphon<sup>1</sup>, A. Giraud<sup>2</sup>, P. Jearanaikoon<sup>1</sup>, B. Sripa<sup>3</sup>  
<sup>1</sup>Khon Kaen University, Faculty of Associated Medical Sciences and Centre for Research and Development of Medical Diagnostic Laboratories, Khonkaen, Thailand; <sup>2</sup> University of Melbourne at Western Hospital, Department of Medicine, Melbourne, Australia; <sup>3</sup> Khon Kaen University, Faculty of Medicine and Liver Fluke and Cholangiocarcinoma Research Center, Khonkaen, Thailand

Cholangiocarcinoma (CCA) is a malignancy of bile duct epithelium. The trefoil factor family (TFF), consisting of TFF1, TFF2 and TFF3, plays an important role in restitution and repair of the epithelium and is rapidly up-regulated in response to mucosal injury. However, TFF peptides are overexpressed in several human solid tumors. Our study in CCA patients demonstrated that TFF2 is rarely expressed in normal bile ducts and non-malignant stage but expressed highly in tumor stage and that TFF2 acts in concert with TFF3 for tumor progression. The present study aimed to investigate the effect of TFF2 peptide (rTFF2) on cell proliferation in human CCA cell line, KMBC, which shows no TFF2 expression and to explore the signaling pathway by which rTFF2 induced proliferation. Cell Proliferation in the presence of rTFF2 or epidermal growth factor (EGF) was performed by determining cell viability using Trypan blue reagent. EGFR tyrosine kinase inhibitor, PD130353 was used to abrogate EGF receptor. The result showed that rTFF2 increased the proliferation of KMBC starting at concentration of 5-500 µg/ml and EGF increased proliferation of KMBC by dose dependence. Both rTFF2 and EGF promoted cell proliferation and this effect was abrogated by EGFR tyrosine kinase inactivation. In conclusion, TFF2 stimulates cell proliferation via epidermal growth factor receptor signaling pathway.

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Poster

# **Dependence of some molecular-biological peculiarities of breast cancer cells on the blood plasma homocysteine level**

V.F. Chekhun<sup>1</sup>, D.O. Mykytenko<sup>1</sup>, T.V. Pryzmyrs'ka<sup>1</sup>, N. Lukianova<sup>1</sup>, S.I. Shpileva<sup>1</sup>, O.V. Yurchenko<sup>1</sup>, L.A. Naleskina<sup>1</sup>, G.I. Kulik<sup>1</sup>  
<sup>1</sup>R.E.Kavetsky IEPOR, Mechanisms of Anticancer Therapy, Kyiv, Ukraine

Background. It is known, that estimation of features of malignant process and choice of adaptive tactic of treatment of patients with breast cancer takes place on the basis of clinical and morphological characteristics (size of tumor, histological type, degree of malignant, presence of metastases, age of patient etc.). Besides this, possibilities of the use of different molecular-biological markers are widely studied for providing of authenticity of prognosis of features of flowline of malignant process. Now the mechanisms of malignant cell transformation are studied in detail. They attract attention of researchers on the physiological mechanisms of adjusting of altered pathways and metabolic processes in tumour cells. The amino acid Homocysteine is a one of such natural factors, influence of which on development of oncologic pathology is only studied.

Objectives: 1) to describe the molecular profile of malignant cells of patients with breast cancer; 2) to detect the methylation status promoters of genes, associated with drug resistance; 3) to define the level of homocysteine in plasma of blood; 4) to set the associative communications between clinical, laboratory and molecular-biological parameters.

Methods. Clinical investigations of 117 patients with breast cancer, immunohistological, methylation-specific PCR (MSP), statistical methods.

Results. It is shown, that methylation status of mdrl gene promotor correlates with expression of P-glycoprotein ( $r=-0.69$ ,  $P=0.01$ ), GSTp – with expression of glutation-S-transferase ( $r=-0.76$ ,  $P=0.001$ ), tp53 – with p53 expression ( $r=-0.57$ ,  $P=0.05$ ), CDH1 – with E-cadherin expression ( $r=-0.63$ ,  $P=0.02$ ). Methylation status of bcl-2 gene promotor doesn't correlate with bcl-2 expression. The main level of homocysteine in blood plasma was  $9.75\pm3.67$  (SD). Homocysteine level correlates with the age of patients ( $r=0.31$ ,  $P=0.009$ ), expression of metallothioneins ( $r=0.26$ ,  $P=0.03$ ), E-cadherin ( $r=0.27$ ,  $P=0.03$ ) and methylation status of promotor of CDH1 gene ( $r=-0.69$ ,  $P=0.002$ ).

Conclusions. Summarizing everything mentioned above, let's emphasized on the following: 1) expression of P-glycoprotein, glutation-S-transferase, p53 and E-cadherin depends on methylation status of promoters of encodings genes; 2) increased homocysteine level stipulated the expression of metallothioneins and E-cadherin, which have independent prognostic value and characterize sensitivity to some antineoplastic drugs and tumor invasive and metastatical potential.

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Poster

# **Thermal injury associated with the genesis of esophageal epidermal carcinoma**

D. Rapozo<sup>1</sup>, T. Blanco<sup>1</sup>, I. Gonzaga<sup>1</sup>, C. Benjamin<sup>2</sup>, C. Canetti<sup>3</sup>, T.C. Barja-Fidalgo<sup>4</sup>, L.F. Ribeiro Pinto<sup>5</sup>  
<sup>1</sup>Universidade do Estado do Rio de Janeiro / Instituto de Biologia, Bioquímica, Rio de Janeiro, Brazil; <sup>2</sup> Universidade Federal do Rio de Janeiro / ICB, Farmacologia Clínica e Experimental, Rio de Janeiro, Brazil; <sup>3</sup> Universidade Federal do Rio de Janeiro / IBCCF, Biofísica, Rio de Janeiro, Brazil; <sup>4</sup> Universidade do Estado do Rio de Janeiro / Instituto de Biologia, Farmacologia, Rio de Janeiro, Brazil; <sup>5</sup> Instituto Nacional do Câncer, Coordenação de Pesquisa, Rio de Janeiro, Brazil

Background: Esophageal squamous cell carcinoma is one of the most common and lethal cancers. Some areas from South America present a high incidence of this kind of cancer. Many etiological factors are associated with this disease in these areas such as alcohol, tobacco and hot maté consumption, causing a thermal injury in the esophagus. However, there is no study on the effect of hot maté on experimental carcinogenesis.

Materials and Methods: The effect of thermal injury caused by hot water administration at 70°C by gavage three times/week either with or without N-nitrosodiethylamine (NDEA) at 1 or 10 ppm in the drinking water of female Balb/C mice (8 weeks-old) was analysed during nine months. The control group received cold water at room temperature. Each group was composed by 5 animals. The evaluation was done histologically with hematoxylin-eosin and molecular analysis was done using gene array.

Results: The animals that received cold water or only NDEA did not present tissue alterations. The group that received only water at 70°C presented an initial epithelial necrosis that caused an acute inflammation that became almost undetected after 8 weeks. However, with the animals that were treated with water at 70°C and NDEA, the initial inflammatory process became chronic and resulted in a hiperplasia-displasia-carcinoma sequence. Gene array expression analysis revealed that NDEA, even at 1 ppm, altered the profile of cytokines induced or repressed by the thermal injury.

Conclusion: Our results suggest that the concomitant ingestion of low doses of NDEA and water at 70°C leads to a chronic inflammation from the thermal injury caused by hot beverage administration, and this resulted in esophageal tumors.

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# **Study of kinetic hepatic regeneration after partial hepatectomy by radioisotopic method**

J. Tralhao<sup>1</sup>, A.M. Abrantes<sup>2</sup>, B. Oliveiros<sup>2</sup>, D. Cardoso<sup>3</sup>, M. Laranjo<sup>2</sup>, E. Ponciano<sup>2</sup>, M.F. Botelho<sup>2</sup>, F. Castro-Sousa<sup>1</sup>  
<sup>1</sup>Hospitais da Universidade de Coimbra, Departamento Cirurgia & CIMAGO, Coimbra, Portugal; <sup>2</sup> Instituto Biofísica/Biomatemática, IBILI-CIMAGO-Faculdade Medicina, Coimbra, Portugal; <sup>3</sup> Hospitais da Universidade de Coimbra, Serviço Medicina Nuclear & CIMAGO, Coimbra, Portugal

Background: Liver regeneration (LR) after partial hepatectomy (PH) is now defined as an orchestrated response induced by specific external stimuli and involving sequential changes in gene expression, growth factors production, and morphologic structure. Much of the research on mechanisms and kinetic of hepatic growth has been done only in partially hepatectomized animals and in hepatocytes primary cultures. The study of the hepatic extraction fraction (HEF) by radioisotopic methods gives