

Results: Endometrial samples analyzed showed the following descriptions: PE (2.28 ± 0.299 UI, 88.9% positive), SE (0.475 ± 0.220 , 33.3% positive), EP (1.852 ± 0.297 , 78.6% positive), EH (1.247 ± 0.263 , 68.8% positive) and A (1.379 ± 0.292 , 92.3% positive). Comparisons among the different groups were performed. Values of telomerase in PE was statistically significant respect to SE ($p = 0.000$) and A ($p = 0.043$). ES showed significant difference with EP, ($p = 0.002$), EH ($p = 0.010$) and A ($p = 0.005$). Crosstabs data revealed statistical significance ($p = 0.011$) with a higher rate of positive samples in A and PE.

Conclusions: These data suggest that the telomerase activity is significantly increased in proliferative and endometrial adenocarcinoma with a higher rate of positive samples in both histological status revealing a greater common proliferation activity of these two situations.

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POSTER

MUC1 mucin for the detection of epithelial-derived ovarian cancer cells in peripheral blood

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Purpose: Recent studies suggest the presence of epithelial derived tumor cells in the peripheral blood and in the bone marrow of patients with solid malignant tumors. However, no study evaluated the significance of disseminated tumor cells in the peripheral blood in patients with epithelial ovarian cancer.

Methods: We evaluated the expression of epithelial cell markers MUC1 (CA 15-3, EMA), CA 125, Ber-EP4 and cytokeratins (Ck7, Ck8, Ck7/8, Ck8/18/19) in seven human ovarian cancer cell lines and analyzed the cells by immunofluorescence to determine the surface as well as cytoplasmic expression of the epithelial cell markers. Furthermore, we evaluated the mRNA expression of MUC1, Ck18 and Ck19 by reverse transcriptase chain reaction (RT-PCR).

Results: All cell lines were strongly positive for MUC1 by means of RT-PCR analyses and by flow cytometry whereas all other markers were expressed inconsistently. Using immunomagnetic enrichment followed by flow cytometry, one seeded carcinoma cell per 10^5 leukocytes could be detected. A minimum number of 50 tumor cells per 20 ml blood sample had to be added to clearly distinguish real positive tumor cells from false positive signals. After RT-PCR we found faint expression of MUC1 in normal full blood samples.

Conclusion: Sensitivity and specificity decreased with the decreasing number of added tumor cells. A minimum of 50 tumor cells per 20 ml blood sample resulted in reproducible results. MUC1 gave the best results because it was expressed in every cell line tested.

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POSTER

Matrix metalloproteinase expression in normal, inflamed and malignant mesothelial tissues

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Purpose: Matrix Metalloproteinases (MMPs) have been implicated in invasion and angiogenesis in solid tumours. This study evaluated the expression of MMPs 2 and 9 in malignant mesothelioma (MM)

Methods: MMP expression was assessed in snap frozen, surgically resected, MM tumour specimens (5 cases), empyema specimens (EP)(3) and normal, uninfamed pleura (NP)(4). Homogenised sample supernatants, standardised for protein content, were run for 3 hours on a 10% SDS polyacrylamide gel impregnated with 1 mg/ml of denatured collagen. Gels were stained and semi-quantitative computer assisted image analysis was used to assess MMP expression.

Results: No difference in either the intensity or pattern of MMP expression was detected in MM vs EP. As compared to NP, all MMPs were elevated in MM. Despite the small numbers studied, pro-MMP-2 levels were significantly elevated in MM vs NP ($p = 0.016$; Mann-Whitney).

Conclusions: MMP-2 and MMP-9 expression is upregulated in MM and EP compared to NP. The prognostic significance and relationship of MMP expression to angiogenesis requires further evaluation.

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POSTER

Vascular endothelial growth factor (VEGF) in sera of patients with cervical cancer and the impact of platelets

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Purpose: VEGF is a protein with high biological activity in angiogenesis. The expression of VEGF was analyzed in the sera of 42 patients with unresectable cervical cancer, who underwent definitive radiotherapy.

Methods: 42 patient with locally advanced cervical cancer (FIGO II-IV) were analyzed. All had squamous cell cancer. VEGF concentrations were measured with a quantitative immunoassay (Quantikine, R&D Europe).

Results: The VEGF concentration did not correlated with tumor stage.

The VEGF-levels were compared with the clinical outcome 6 months after the end of therapy. Patients with complete tumor response (CR; $n = 29$) showed a significantly lower VEGF-level ($304 \text{ pg/ml} \pm 188$) than patients with tumor symptoms (PD; $n = 13$; VEGF $892 \text{ pg/ml} \pm 756$; $p < 0.005$). In the cases with tumor response the platelet counts were also lower ($233 \pm 64 \text{ Gpt/l}$) than in the cases with poor outcome (445 ± 344 ; $p < 0.0005$).

The evidence for VEGF-transport by platelets and the releasing by platelets during serum preparation was demonstrated by a correlation between serum-VEGF and the platelet counts ($r = 0.518$; $p < 0.01$).

Conclusions: A high pretreatment serum-VEGF is associated with poor response to radiotherapy in locally advanced cervical cancer. However, the serum-VEGF-concentration also correlates with the platelet count. The association between VEGF, thrombocytosis and prognosis should be further investigated

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POSTER

Creation of a stage by stage diagnostics system of malignant tumors

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Morphological diagnostics of a significant part of malignant tumors and their metastasis requires expensive additional methods application (IHC, EM, PCR in situ et al.). Due to economic and financial crisis going on at present in Russia these methods can be used only in the biggest oncological hospitals.

Aim: The purpose of our work was creation of the system of advisory help (IDO, Immunohistochemical Diagnosis in Oncology) for pathologists-oncologists of a large region of Russia, occupying several hundreds of kms and with the population of 10 million people.

Results: For this purpose in Kazan in a 1996 a well-equipped laboratory performing diverse diagnostics of the most difficult cases was created. The following factors gained had crucial significance for the successful activities: a) maintenance of strict sequence in diagnostics and usage of rational schemes; b) strict organization of work; c) existence of skilled personal, comprising a coordinated team; d) existence of efficient system of tumor samples delivery. Within this period of time diagnostics of more than 2 thousands of the most complicated tumors of various localization and histogenesis was done. We managed to accurately diagnose 96 percent of the cases. Having gained a certain experience we in a 1998 have issued the first in Russia manual on immunohistochemical diagnostics of human tumors. In a 1998 the 1st All-Russia workshop on immunohistochemistry in diagnostics of tumors was held in Kazan.

Conclusion: Thanks to the proper organization of work it becomes possible to gain good results in verification of malignant tumors.

[1] Immunohistochemical diagnosis of tumors in man (guidebook for pathologists, oncologists), Eds.: by S.V. Petrov and A.P. Khasanov, Book house Press, Kazan, 1998.

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POSTER

Genistein inhibits initial dynamic adhesion of HT-29 cells to extracellular matrix under flow conditions

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Problem: Cell adhesion receptors on tumor cells generate cellular regulatory signals that allow them to control cell migration and invasion into host organs. Integrin-mediated signal transduction is required for adhesion to extracellular matrix (ECM) components. Shear forces under flow conditions can modify various cellular functions, including phosphorylation events and