as prevents from activity of proapoptotic cell components (Bax, Bad, AIF, cytochrome C, caspase 9 et al). The ability of tumour cells for certain motogens perception (as a result of this, cells begin to migrate and therefore form metastases) is absolutely determined by expression of genes of specific cellular receptors. Obviously, cells endeavour to migrate towards motogen source, i.e. to the side of motogen concentration increase. It follows from this that if motogen is produced by microenvironment cells and diffuses into tumour through intercellular space, the tumour is disposed mainly to infiltrating growth, but not to metastatic dissemination, because the latter has no sense in this situation. But, if the motogen is released by distant cells and reaches tumour from blood, the tumour cells will penetrate firstly into vascular system and subsequently into tissue which is motogen source; in these conditions mainly metastases must arise. According to the genes cluster conception, proposed by us, each discrete stage of every direction of cell differentiation is executed by separate specific gene group - genes cluster; activity of individual genes, determining certain features of cell phenotype, must depend completely on their presence in genes cluster that is active in this cell. Thus, as malignancy (and its grade) or non-malignancy of a tumour is determined a priori by expression or non-expression of motogens genes (and which exactly) in tumour cells, tumour phenotype features must be dependent on direction of differentiation of transformed cells and on stage, at which their specialization was suspended because of lack of necessary GFs. In our opinion, if the direction and grade of tumour cells differentiation are ascertained precisely, their characteristics can be foreseen.

P34

Melatonin with fraxiparine and hydrocortison as a new combination in prevention of the vascularization and metastasis in mice with Lewis lung carcinoma

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The blocking of angiogenesis is the strategy of a new preventive therapy. The evidence of abnormally high blood levels of vascular endothelial growth factor (VEGF) has been proven associated with poor prognosis in cancer patients. Melatonin-induced control of the neoplastic growth is associated with a decline in VEGF secretion. The combination of fraxiparine and hydrocortison influenced on the development of a new tumor blood vessels. The aim of the study was to investigate effect of melatonin in combination with fraxiparine and hydrocortison on the levels of the VEGF and on metastatic injury in C57Bl/6 mice bearing Lewis lung carcinoma (LLC). LLC transplantation was performed by injection i.m. of 0.02 ml of the tumor cell suspension consisting 4x105 cells. The combination of drugs were introduced in 4 groups of animals on day 14th after LLC transplantation: 1) intact animals - control, 0,2 ml of physiologic solution, b.w., s.c., ev.d. throughout the experiment; 2) melatonin (M), (Sigma), 5 mg/kg b.w., s.c., 6 p.m., ev.d. throughout the experiment; 3) fraxiparine (Fr.)+hydrocortison (Hk.) (Fraxiparine 2850 UI AXa/0,3 ml, (Sanofi, France), 1UI b.w in 0,1ml of physiologic solution, 9 in., s.c., ev.d.; Hydrocortison (Richter), 50 mk/kg b.w. in 0,2 ml of physiologic solution, 9 in., i.m.); 4) combination of Fr.+Hk.+M in the same doses. For monitoring of the primary tumor, the levels of tumor dissemination, the tumor volumes (VT, mm3), the number and volumes of the lung metastasis (VLM, mm3), and VEGF levels in serum were estimated. On days 14th, 24th, 34th, and 42 after primary tumor transplantation the levels of metastasis injury were evaluated and venous blood samples were collected. Blood serum levels of VEGF (ng/ml) were measured by an enzyme immunoassay. The influence of drugs on intensity of vascularization of the lung metastasis were evaluated by the calculation of the VLM: metastases in diameter up to 0.5 mm were estimated as metastases in avascular phase and metastases with size more than 0.5 mm - as vascular phase. All combination of drugs in nontoxic doses decreased serum levels of VEGF and VLM, especially in the group of mice with Fr.+Hk.+M treatment. This data was revealed that Fr.+Hk. increased the ability of melatonin to suppress neovascularization of the Lewis lung metastasis. We suggest that combination of drugs Fr.+Hk+M and Fr.+Hk. may be perspective as a new innovative antiangiogenic agents in prevention of tumor growth and metastasis.

P35

Lung tuberculosis and cancer

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Aims: The purpose of our research was studying frequency of erroneous statement of the diagnosis of tuberculoma and fibrocavernous tuberculosis in patients with a cancer of lungs.

Materials and methods: There were made by us the analysis of 137 case reports of patients of surgical department of a regional tubercular clinic of Donetsk for 2000-2002,which had operated concerning tuberculoma and fibrocavernous tuberculosis of lungs. Among them men were 96(70%), women 41 (30%). The greatest number of operated patients was at young able-bodied age: from 18 to 30 years-72(52.6%),from 31 to 40-38(27.7%),from 41 to 50-27(19.7%). All patients repeatedly were treated in ambulatory clinic and permanently and have admitted in connection with deterioration of a condition. Tuberculomas of lungs were in 26(19%) patients, fibrocavernous tuberculosis-11(81%).

Results: In the preoperative period in anybody from them cancer of lungs were not diagnosed, precise nodes it is not revealed and at macroscopic research. Only at histological research in 34(4.8%) patients it is found out squamous cancer, and in 11 (32.3) from them-high –differentiated, in 23 (67.7%)-low-differentiated. To look after any law of distribution of parts of malignancy in tissues of lungs at histological research it was not possible. Cancer of lungs among men was observed in 2 times more often 23 (16.8%),in women 11 (8%),and the majority of them 25 (73.5%) suffered fibrocavernous tuberculosis - 19 (55.9%) and 6 (17.6%) women, only in 9 (26.5%) were observed tuberculomas of lungs. The age of patients, basically, was till 30 years-29 (85.3%) and only 6 (14.7%) patients were more advanced age. All men and 8 women were chain smokers,

19 (55.9%) operated abused alcohol, 13 patients (38.1%) did not work.

Conclusions: It is possible to believe, that development of lung cancer in 24.8% patients promoted chronic tubercular process, which in 18 (52.9%) from among revealed was from children's age. Smoking, alcohol, irregular treatment, ecological factors, a bad feed have served as a background for development of cancer process.

P36

Age and oncological burdening families of breast cancer in Ukraine

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Breast cancer (BC) is the leader in Ukraine since 1977 and morbidity increases every year. Part of hereditary factor of BC puts together 55.68±2.44% and environmental factors - 44.32±3.89%. The aim is to define age peculiarities in women BC with different burdening degree on oncopathology.

Methods: The epidemiological, medico-geographic diffusion analysis of BC in Ukraine, clinico-genealogical and cytospectrophotometrical methods were used in this investigation.

Results: In 2002 morbidity by BC put together 56.2 on 100 thousand population in Ukraine. Medico-geographic analysis showed a tie of harmful environmental factors in making BC, most morbidity chronicled in inductrial regions, Odessa regions, Crimea and Kiev. A seen out age comparison on fifth anniversaries in women with burdening on oncopathology (174 women - I group) and without burdening (73 women - II group) exposed more young age in group with two lances in premenopausal and postmenopausal periods. Correlation between these groups put together 43.9 and 17.4% in groups with burdening and without burdening on oncopathology. Cytospectrophotometrical research of DNA content of healthy women with benign proliferative processes and BC exposed the meaningful distinctions in these groups. Like so BC arose attached to accumulation neoplasms in families early more in life that related to typical gormonal changes. The patients without accumulation neoplasms in families were in more elder age. Cytospectrophotometrical analysis of DNA content in buccal epithelium exposed considerable augmentation of this index attached to BC on comparison with healthy women and women with benign proliferations. Maintenance of DNA content can be a marker of malignancy in organism. So far as maintenance DNA content was above in patients, included in I group, this test jointly with clinico-genealosical families research can be used for apportionment of patogenetical type of BC with hereditary predisposion.

P37

Positive effect of pretreatment by β-1,3-glucans in murine tumors: Cystatin C and stefin A as tumor markers

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Cystatins - cystatin C (CC), stefin A (SA) are natural tight-binding, reversible inhibitors of cysteine proteases, having immunomodulatory activities (Vray et al., 2002). CC and SA were used as possible tumor markers in several human tumors (Kos and Lah, 2001). The aim: to compare the role of inhibitors of cysteine proteases as possible tumor markers in murine models of tumors and in human oncohematological diseases.

Methods: CBA (lymphosarcoma LS), CBA/C57Bl6 (Lewis lung adenocarcinoma) and A/Sn (HA-1 hepatoma) mice were used; treatment included cyclophospamide, CPA, in doses of 50-150 mg/kg, and b-1,3-glucan (produced by Chemical Institute SAS, Bratislava, Slovakia), 25 mg/kg, one day before or simultaneously with CPA. CC and SA concentrations were measured by ELISA kits (KRKA, Slovenia).

Results: Comparatively to healthy controls in humans with haemoblastosis (46 patients with Hodgkin's and Non-Hodgkin's lymphomas) serum CC concentration increased and had a tendency to normalization after effective antitumor treatment. Preliminary administration of b-1,3-glucan prolonged the life-span of mice with lymphoma LS and Lewis lung adenocarcinoma. Murine tumor development was followed by decreased serum level of extracellular inhibitor CC (Lewis lung adenocarcinoma, lymphosarcoma LS, HA-1 hepatoma) and increased serum concentration of intracellular inhibitor SA (HA-1 hepatoma, Lewis lung adenocarcinoma). In general, changes of CC and SA concentrations in serum of tumor bearing mice were opposite. In tumor tissue of the same groups of mice very low CC concentration was noted, increased after effective antitumor treatment by CPA; SA concentration also increased (treatment by CPA of lymphosarcoma LS and by carboxymethlated b-1,3-glucan of HA-1 hepatoma). Serum inhibitor of serine protease - a1-protease inhibitor (a1-PI) activity also decreased in all murine tumors studied (HA-1 hepatoma-up to 70% from the control), lymphosarcoma LS - 2-times, Lewis lung adenocarcinoma -2-times. There was no restoration of serum a1-PI activity after effective antitumor treatment.

Conclusion: One can conclude that in models of murine tumors CC concentration in tumor tissue and also in serum can be used as a marker of tumor development and efficacy of therapy, CC changes in tumor bearing mice are contrary to data in human haemoblastosis studied; changes of SA in murine tumors were less informative as compare to CC. Supported by INTAS grant 02-0592 (TAK, UTA)