

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.

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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), 1 UI

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.

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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,