НАЦІОНАЛЬНА АКАДЕМІЯ НАУК УКРАЇНИ

ІНСТИТУТ ЕКСПЕРИМЕНТАЛЬНОЇ ПАТОЛОГІЇ, ОНКОЛОГІЇ
І РАДІОБІОЛОГІЇ ім. Р.Є. КАВЕЦЬКОГО

НАУКОВО-ПРАКТИЧНА КОНФЕРЕНЦІЯ МОЛОДИХ ВЧЕНИХ «ФУНДАМЕНТАЛЬНА МЕДИЦИНА: ІНТЕГРАЛЬНІ ПІДХОДИ ДО ТЕРАПІЇ ХВОРИХ З ОНКОПАТОЛОГІЄЮ»

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relation analysis demonstrated the presence of negative correlation between stage and *AURKB* expression (rs = –0.344, $p < 0.05$). In the same time, expression of *AURKB* correlated with expression of *AURKA* gene (rs = 0.365, $p < 0.05$). Expression of *AURKC*, however, correlated with stage positively (rs = 0.372, $p < 0.05$).

Conclusion. We demonstrated that *AURKA* and *AURKC* are differentially expressed in PCa, compared with normal tissue or adenoma, especially at advance stages of the disease. As cell cycle kinases their role in development of malignant cell phenotype can be crucial, especially for *AURKC*, which RE positively correlates with tumor stage. For explanation of these results further research is needed.

THE ROLE OF HIPEC IN THE COMPLEX TREATMENT OF PATIENTS WITH PERITONEALY-DISIMINATED CANCER OF THE STOMACH

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The combination of gastrectomy (GE), peritoneoectomy (PE) and hyperthermic chemoperfusion (HIPEC) with gastric cancer (GC) is part of a specific medical ideology that has been implemented by a group of enthusiasts united under PSOGI (Peritoneal Surface Oncology Group International — the global medical community for the study of peritoneal carcinomatosis).

The aim. Considering the controversialities of world experience in the use of HIPEC (the results vary from extremely positive to rather negative), it was necessary to study the survival of patients with carcinomatosis using standard chemotherapy and HIPEC.

Materials and methods. The study included 47 patients who were operated at the Clinic of Reconstructive and Plastic Medicine of the Odessa National Medical University in the period 2015–2017. Only radical or conventionally radically operated patients were included in the study (14 men and 33 women, average age — 54.9 years). In order to compare the survival of patients after PE/HIPEC, a retrospective comparison group was selected, which included 22 patients with abdominal cancers, for whom only intravenous systemic chemotherapy (SCh) was used.

Results. Own observation based on the analysis of case histories of 47 patients who underwent HIPEC in stomach cancer, ovarian cancer, colorectal cancer, and some other types of malignant abdominal pathology. The survival rate of patients after HIPEC and patients with carcinomatosis of the abdominal cavity, who received only SCh, was compared. Survival after HIPEC was slightly worse than after SCh. The possibility of individualization of the scheme of the HIPEC in terms of the appointment of a certain chemotherapeutic drug represents the interest. Before the procedure, a laparoscopy is carried out with a sufficient amount of material taken from the tumor tissue, followed by its immunohistochemical study on the main marker of sensitivity: TOP2A, ERCC1, TS.

Conclusion. It was concluded that more careful patient selection is needed based on the value of the peritoneal carcinomatosis index and the level of planned cytoreduction.

RETENTION OF STAT5 PROTEIN IN CYTOPLASM IN B-CELLS OF PATIENTS WITH CHRONIC LYMPHOCYTIC LEUKEMIA

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We have shown previously that the IL-2-STAT5 (JAK-STAT5) cellular signaling pathway is inhibited in B-cells of patients with chronic lymphocytic leukemia (CLL).

The aim: to find out the cause of inhibition of the IL2-STAT5 signaling pathway in B-CLL cells.

Materials and methods. CLL cells were isolated from peripheral blood, using gradient centrifugation on a ficoll-verografin mixture. Expression of *STAT1–6* genes at the mRNA level was analyzed using the Oncomine database. Expression, phosphorylation status and cellular localization of the STAT5 protein were studied by fluorescence microscopy using specific antibodies.

Results. Unlike B-cells of healthy donors, expression of the STAT5A protein was low in patient CLL cells. As we have previously shown, the IL-2-STAT5 (JAK-STAT5) signaling pathway is inhibited in CLL cells. Now we demonstrated a low level of phosphorylation of the STAT5 protein, or a complete lack of phosphorylation in CLL cells. The STAT5A protein shows cytoplasmic localization, indicating the absence of complexes in the nucleus that activate/repress transcription of the STAT5-dependent genes.

Conclusion. Inhibition of the IL-2-STAT5 pathway in CLL cells is due to lack of STAT5 proteins phosphorylation and/or absence of the active STAT5A transcription complexes in the nucleus of CLL cells.

USE OF TRANSECTED CELLS IN CLINICAL PRACTICE? UNEXPECTED RESULTS AND POSSIBLE CONSEQUENCES

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Stem cells tracking in tumors can provide useful information for solid tumor diagnostics and for choice of therapeutic approaches. It can also help understanding tumor etiology, physiology and pathology, as well as role of mesenchymal stem cells (MSC) in tumor development.

The aim: we performed study with the purpose to obtain MSC expressing the extracellular target receptor that can be used for non-invasive magnetic resonance imaging of MSC incorporation to the functional tumor neovasculature.

Materials and methods. We utilized engineered MSC (bone marrow derived murine MSC line C57Bl6) that expressed a unique cell surface CD4-receptor (truncated human CD4) with a specific vascular contrast agent targeted to this receptor. We have constructed a recombinant plasmid, containing GFP and CD4 fragments, and determined its expression in transfected recipient MSC. Transfected cells were labeled with superparamagnetic MACS CD4-MicroBeads and isolated on MACSelect magnetic column.

Results. Plasmid transfection resulted in stable and efficient GFP fluorescence; however, expression levels of CD4 were neither efficient nor stable. Most importantly, transfected MSC in long-term culture spontaneously formed foci of transformation (comprised of cells that lost contact