

## *Experimental data on Galavit use in treating malignancies*

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Transformation of a normal cell into a malignant one demonstrates the process initiated by different factors (both of endogenous and exogenic origin) on a molecular level successive performance of several groups of genes being involved into it.

Along with this it is noteworthy that oncogenes launching these processes play a key role. It is known that transformed (malignant) cells regularly appear in the body. It does not necessarily lead to the development of a tumor. Several levels of carcinogenesis prevent the body from forming malignancies.

On the first level the system of genetic control is active. One of its mechanisms is controlled by P53 protein found in the cell. When the division of cells is excessive, P53 impedes DNA and RNA synthesis delaying by this the dangerous process. If reasons exist that prevent the process from being realized, the protein switches on the program of a cell death (apoptosis), and the cell dies.

If genetic control fails to prevent the ascending division of a cell, the second level of protection, anti-malignant immunity, starts its work. Immune competent cells (monocytes/macrophages, T-lymphocytes, natural killers, etc.) cooperating with each other identify and eliminate malignant cells.

Anti-malignant immune mechanisms are rather diversified. These are direct lysis of malignant cells by immunocytes, their discharge of biologically active substances. The latter (for instance, tumor necrotic factor, interleukin-1) are capable of evoking terminal differentiation of cancer cells, or open in them apoptosis mechanisms. Besides, cytokin may induce hemorrhage necrosis of a malignant nodule when they affect endothelium of a fast growth of vessels in a tumor.

If mechanisms of anti-malignant immunity fail accomplish their protective mission, cancer process develops beyond the control borderline, and the results are well-known to everyone. This confirms the fact of how important it is to preserve intracellular relations of immune protection.

It has been proved that tumor risk and metastasis risks are much higher in persons with decreased functional activity of main anti-malignant immune chains. The process of neoplasia, thus, often develops on the background of immune deficit. Besides, the developing tumor, alone, is capable of oppressing the function of immune competent cells. It senses "soluble" suppressive factors and induces definite cell populations (T-suppressors, macrophages-suppressors) that suppress the immune body response against a certain tumor.

All these factors testify to the necessity of immune correction and re-activation of oppressed chains in the anti-malignant protection systems of patients with cancers. Of great importance are the advances of immune therapy and immune prevention against the struggle with malignant tumors which has already been proved by present-day research and practice in medicine.

Unique diagnoses test-system of early cancer identification is coming to an end by the staff of "Medicor" Centre of Modern Medicine. It is based on the ability of Galavit to activate macrophages in the body of subjects with malignancies which leads to increased level of Tumor Necrotic Factor and some other monokines that can be registered and identified. It can be inferred that using this technique it is possible to control cancer development, for instance, of a prostate adenoma. Tumor is treacherous because in a great number of cases it is latent for long and does not disclose itself.

Tumor markers are not often effective and specific. Early identification of tumors at a stage when the process may be controlled is important as having restored the injured immune system, one may prevent the development of a malignant process.

Operational treatment, radiotherapy, chemotherapy are combined with immune treatment everywhere in the world. When a tumor is removed by surgery, it is not always possible to clear the body of all the transformed cells. Part of them during the operation may disseminate with blood and lymph to other organs and tissues. Also it is not possible sometimes to cut out a tumor in a radical way because it may affect the organs of vital importance. Very often malignant cells, ready for uncontrolled division, remain in the body after the operation. Through the activation of anti-malignant immunity, the risk of postoperational cancer and metastasis is being reduced.

Stimulation of macrophages in the body of cancer patients composes the basis of treatment methods and preventive strategies against neoplastic pathologies. Macrophages stimulated by Galavit show direct cytotoxic effect against transformed cells and produce some biologically active substances (tumor necrotic factor, interleukin-1, etc.) that start a cascade of biological reactions aimed at destroy of a tumor. The greatest effect could be reached when this technique is combined with classic routine treatment schemes.

Immune therapy also increases anti-inflammatory effect of radiotherapy and chemotherapy and contributes to the restoration of hemogenetic and immune systems that suffer from these treatment methods.