

Instability of hematological parameters and the nature of adaptive reactions:  
indications for herbal medicine in oncology

Yu.I. Korshikova, M.P. Vavilov, E.B. Kudryavtseva, I. V. Golovenkina  
(Radiological clinic RMAPO, Moscow)

The instability of haematological parameters in adaptive reactions: indications for phytotherapy  
in oncology

Yu.I. Korshikova, MP Vavilov, EB Kudryavtseva, IV Golovenkina  
Radiological clinic, RMAPE (Moscow, Russia)

#### SUMMARY

The paper presents the results of clinical and hematological studies in patients with breast cancer, which have a certain prognostic value. Changes in the number and morphological structure of lymphocytes can serve as evidence of the advisability of using phytopharmaceuticals in oncological practice.

Key words: oncology herbal medicine, lymphocytes, adaptation.

#### RESUME

The paper presents the results of clinical and hematological studies with a prognostic value in patients with breast cancer. Changes in number and morphological patterns of lymphocytes can give an evidence for applicability of the phytopharmaceutical remedies in oncology practice.

Keywords: Oncology, phytotherapy, lymphocytes, adaptation.

#### Introduction

Oncological diseases are currently the third leading cause of mortality in the population. In contrast to cardiovascular diseases typical of old and old age, they often affect people of working age. This situation prompts to look for new ways to optimize care for cancer patients.

The main methods of treatment for malignant tumors are surgery, chemotherapy and radiation therapy. Pharmacy is engaged in the synthesis of new cytostatics and hormonal drugs aimed at destroying or suppressing the vital activity of tumor cells. The main target of cancer therapy is the tumor cell. At the same time, the state of the body, in which cancer forms and progresses, remains almost without attention. However, it is the state of the body, its internal resources and defenses that largely determine the fate of patients, since with standard therapy one patient recovers, while in another the tumor progresses or recurs even after a long period of time after treatment.

The expression "cancer flows according to its own laws" reflects the essence that the fate of the patient is determined by the body's ability to fight the disease. Who is capable and who is not? The problem of predicting the course of the disease in practice is difficult to solve. Sophisticated, expensive methods for determining the degree of malignancy of a tumor do not explain the genesis of a more aggressive or less aggressive tumor. Probably, the reasons for this phenomenon are also inherent in the characteristics of the patient's body reaction to the disease. Therefore, to assess the individual characteristics of a patient, it is necessary to study the macroorganism as a whole, its constitution, reaction to internal and external stimuli, conduct a thorough clinical and laboratory study using generally available methods and try to use them to determine the prognosis of the disease.

In this regard, it is of particular interest to compare the clinical and hematological parameters in cancer patients, since blood is a system that reflects the state of

immunity and adaptation systems, available for dynamic observation.

The objective of this study was to compare the clinical and laboratory parameters in the group of cancer patients with the progression and stabilization of cancer and to substantiate the expediency of using phytotherapeutic agents in the complex therapy of breast cancer.

#### Materials and methods

Patients with stage II-III and IV breast cancer who received complex treatment at the RMAPO clinic.

Clinical examination according to the standard variant and examination of peripheral blood smears.

Assessment of the nature of adaptive reactions by the method of L.Kh. Harkavi, E.B. Ukolova and M.A. Kvakina.

Study of follow-up and dynamics of hematological parameters based on case histories from the archive and in the course of treatment of patients with breast cancer.

#### Results and research

The study included 48 sick women aged 30–40 years - 5; 40–50 years old - 3, 50–60 years old - 29, 60–70 years old - 8, 70 and above - 10 people.

The main group consisted of women with stage II, III and IV breast cancer.

16 people had a progressive course of the disease. They were hospitalized several times for supportive care. Only one of them initially showed signs of a neglected disease. The rest underwent surgery without complications and radiation or chemotherapy. Despite this, in the period from six months to 8 years, tumor recurrence or metastases developed.

Most of the patients in the analyzed group had one or more concomitant diseases: chronic bronchitis - 5; hypertension - 17; Ischemic heart disease - 4; chronic gastritis - 15; dyskinesia of the gallbladder - 2; intestinal dysfunction against the background of chronic colitis at the time of the study - in 25; arthrosis - 23; obesity II-III degree - 13, diabetes mellitus in combination with obesity II-III degree - 6; goiter - 2; recurrent erysipelas after mastectomy - 1; adenomyosis - 1; uterine fibroids - 2; chronic inflammation of the uterine appendages - 1 case.

In 18 women, constitutional menorrhagia was observed in the history or at the time of the development of the disease.

More than 70% of patients often used antipyretic and analgesic drugs for colds or pain syndrome of another etiology, however, with rare exceptions, they did not notice a tendency to colds.

In the treatment of somatic diseases, the factor of concomitant oncological pathology was not taken into account by physicians - therapists.

During radiation therapy or chemotherapy, all patients had some degree of dyspeptic disorders and hair loss.

Assessment of the nature of adaptive reactions by the method of L.Kh. Harkavi, E.B. Ukolova and M.A. Kvakina, according to 70 case histories from the archive, the following results were obtained.

A decrease in the relative number of lymphocytes to 20 and below the next day after the operation was noted in the vast majority of patients. Only in one case history out of 70 there was no decrease in the relative number of lymphocytes after surgery.

When studying the blood picture in dynamics according to the case histories of this group of patients, the following facts were drawn attention.

With a favorable course of the disease, hematological parameters (hemoglobin, erythrocytes, platelets, leukocyte formula) were stable over a long period of observation of patients. With an unfavorable course of the disease

(relapses or metastasis of tumors) instability of hematological parameters was observed even for a short period of time (for example, within a week).

The most dynamic indicator was the content of lymphocytes. In the process of radiation and chemotherapy, the first thing is a change in the relative content of lymphocytes.

To assess the quantitative and qualitative state of lymphocytes, we examined 123 smears of the peripheral blood of cancer patients by the method of random sampling. Normal lymphocyte counts were observed in 33% of smears; lymphocytopenia - in 53% and lymphocytosis - in 14%. In single smears, pathological forms of lymphocytes were found: binucleated or fusiform. Attention was drawn to a significant number of lymphocytes with azurophilic granularity, which was found in 101 smears. There was no azurophilic granularity of lymphocytes in only 22 smears. Normally, the number of granular forms of lymphocytes should not exceed 5% of their total. In the examined smears, azurophilic granularity in an amount of less than 5% was detected only in 7% of smears. The number of granular forms is 5-10% - in 17% of preparations; 10-20 - 34%; 20-30 - 15%; 30-40 - at 15%; above 30 - in 12% of smears.

In the study of 41 smears of peripheral blood in the control group (employees of the radiological clinic), granularity of lymphocytes was found only in 2 smears of persons who did not suffer from oncological diseases, at least at the time of the study. The data of the study is clearly presented in table. one.

Subsequently, 31 case histories of patients from the radiological clinic were analyzed, in whom peripheral blood smears were examined. Data on the content of granular forms of lymphocytes, depending on the course of the disease are presented in table. 2.

15 patients (group 1) had no signs of tumor progression, and 16 (group 2) had signs of tumor metastasis. The granularity of lymphocytes in the 1st group was up to 20% in 9 patients, and in patients of the second group - in 8 people. Granularity of more than 30% was observed in 1 patient of the first group, and in patients of the second group - in 8 people. The absence of granularity of lymphocytes in patients of the first group was noted in 5 people, while in patients of the second group all lymphocytes had granularity.

Table 1

The content of granular lymphocytes as a percentage of the total number lymphocytes in the group of cancer patients and the control group

Percentage of granular lymphocytes to the total number of lymphocytes in 100 cells white blood elements	Blood smear count sick with oncological diseases (123)	Blood smear count employees clinics (41)
up to 5%	7	2
5-10%	17	0
10-20%	34	0
20-30%	15	0
30-40%	15	0
More than 40%	thirteen	0
Lack of grainy forms	22	39

table 2

The percentage of granular lymphocytes in patients with progressive and favorable course of breast cancer

Percentage of granular lymphocytes to the total number of lymphocytes in 100 cells white blood elements	15 patients without progression diseases (first group)	16 patients with signs progression cancer (second group)
up to 20%	9	eight
Over 30 %	one	eight
0	5	

#### The discussion of the results

In the presented work, the simplest methods of clinical and laboratory research were deliberately used. If their prognostic significance is proved, the doctor of any most distant medical institution of oncological profile will be able to use them in his work without additional costly expenses for instrumental and complex laboratory tests (for example, determining the genotype of a malignant cell).

When analyzing the results of a clinical trial, the following facts are drawn.

The age of patients is predominantly elderly: the bulk of patients are persons over 50 years old. This illustrates or reinforces the opinion of those scientists who view cancer as a disease of aging.

The majority of patients had numerous somatic diseases: hypertension, ischemic heart disease; diseases of the female genital organs: uterine fibroids, endometriosis; diseases of the gastrointestinal tract: chronic gastritis, colitis, cholecystitis. A common pathological condition was obesity, mainly of the first and second degrees. In a number of patients in whom health complaints could not be included in the framework of any somatic pathology, metabolic disorders of the type of mineral deficiency were noted, which was mainly due to constitutional menorrhagias, impaired absorption of minerals and vitamins due to dysbiosis accompanying any colitis, irrational nutrition for obesity. It can be assumed that disorders of mineral metabolism are a predisposing factor for bone metastasis, since bone tissue with a deficiency of minerals is defective. In this regard, the case history of one of the patients in the radiological clinic is of interest, in which no somatic pathology was diagnosed before the operation. Operation of radical mastectomy was successful, no metastases in the lymph nodes were found, but the wound healed by secondary intention. From the anamnesis it became clear that the patient from a young age suffers from caries and periodontal disease. Periodontal disease, a decrease in the regenerative capacity of tissues are signs of disorders of mineral metabolism. After 6 months, this patient was found to have metastases in the bones. Clinically, mineral deficiency is manifested by a tendency to caries, early graying, brittle nails and hair loss. These people have reduced nonspecific resistance of the organism. Probably, patients with a deficiency of minerals especially need correction of mineral metabolism, maintenance of the stress resistance phase according to Selye, and restoration of the energy status using medicinal plants.

It seems to us that a complex of somatic disorders determines the state of intoxication syndrome, which is one of the factors of malignant cell anaplasia.

Despite the fact that several diseases occur in one organism, medical specialists often work without taking into account the concomitant pathology. Each has its own task. The local therapist hardly thinks about what effect sedatives, non-steroidal anti-inflammatory drugs, all kinds of inhibitors, blockers, antipyretics can have on cancer. It cannot be ruled out that

drugs used in the treatment of many somatic and neurological diseases with a huge list of side reactions and possible complications can aggravate intoxication syndrome and reduce the body's defenses. This issue has not been studied in science at all. The presence of many concomitant cancer degenerative diseases requires a significant revision of treatment tactics by both therapists and oncologists.

In favor of a careful attitude to drug therapy in cancer patients, I testify to the allergy factor. From literary sources it is known that among cancer patients, many have a tendency to allergic reactions (Vavilov M.P. et al.). In the book of the German naturopath Kohnlechner, there is information about the oncogenic effect of psychotropic drugs, antipyretics and foods containing preservatives. Like any chronic disease, oncological pathology requires constant treatment. For this purpose, for many reasons, phytotherapy is suitable, since agents of natural origin allow treatment for a long time without the risk of developing life-threatening complications and mutagenic effects. However, phytotherapy is not yet included in the standards of cancer treatment and is rarely used in their complex treatment. In this regard, the work of oncologists S.V. Korepanov, S.D. Yugov deserves attention. and Alefirova A.N. They consider rational treatment of concomitant somatic pathology with the use of herbal remedies as a prerequisite for the treatment of oncological diseases. The use of herbal remedies for primary cancer (SD Yugov, 2001) showed that the treatment of concomitant diseases with herbal medicine even in stage IV cancer leads to an improvement in the quality of life of these patients, lengthening the life span and reducing the use of narcotic drugs. They consider rational treatment of concomitant somatic pathology with the use of herbal remedies as a prerequisite for the treatment of oncological diseases. The use of herbal remedies for primary cancer (SD Yugov, 2001) showed that the treatment of concomitant diseases with herbal medicine even in stage IV cancer leads to an improvement in the quality of life of these patients, lengthening the life span and reducing the use of narcotic drugs. They consider rational treatment of concomitant somatic pathology with the use of herbal remedies as a prerequisite for the treatment of oncological diseases. The use of herbal remedies for primary cancer (SD Yugov, 2001) showed that the treatment of concomitant diseases with herbal medicine even in stage IV cancer leads to an improvement in the quality of life of these patients, lengthening the life span and reducing the use of narcotic drugs.

More than 70% of the interviewed patients often used antipyretic and pain relievers for colds or pain syndrome of other etiology. These facts cannot be ignored. The success of tumor therapy using the method of artificial hyperthermia may indicate a protective role of local or general hyperthermia. Work experience Treskunov K.A., Korepanova S., K.V. Yaremenko, V.G.Bespalova, A.N. Alefirov prove that the use of natural products is justified. The use of phytotherapeutic agents significantly increases the effectiveness of treatment from 10 to 50 percent or more. The results of the work of Ph.D. Treskunova K.A., who has been using medicinal plants in the complex therapy of cancer patients for more than 30 years. The percentage of recovery of patients with early prescription of phytotherapeutic agents (before surgery, in combination with chemotherapy and radiation therapy, and thereafter constantly) with breast cancer reaches 65%. All the authors mentioned above consider herbal medicine not as an alternative to modern methods of treating malignant tumors, but as an additional method that increases the effectiveness of the use of classical schemes.

The analysis of laboratory parameters deserves great attention. Sharp fluctuations in indicators, which are usually perceived as a laboratory error, turned out to be characteristic of patients with a severe course of the disease. This fact certainly deserves further study, since it could be used as a prognostic indicator. The instability of hematological parameters revealed by us can be regarded as a violation of adaptation at the level of hematopoiesis. This fact should alert the attending physicians and be a signal for the use of funds aimed at maintaining homeostasis. In the overwhelming majority of patients in the postoperative period there was a decrease in the relative number of lymphocytes below 20. Garkavi L.Kh., Ukolova Ye.B. and Kvakina M.A. consider this fact as an indicator of severe stress. Despite, that within a short time (2-3 days) the relative number of lymphocytes increased, an objective indicator of severe stress is very important. The blood changes that we were

recorded during the analysis of the case histories of patients in the radiological clinic, they also indicate signs of severe stress developing in patients during treatment. Granularity of lymphocytes can be considered a fairly common phenomenon of the peripheral blood of cancer patients. However, it is impossible to draw a definite conclusion about the prognostic value of granularity of lymphocytes on the basis of a single blood test. The significance of this phenomenon can only be drawn from a careful study of blood in cancer patients over a long period of time and at different stages of the disease and treatment. Unfortunately, it was not possible to do this for technical reasons. In addition, there was often an increase in the number of monocytes and promonocytes, macrocytosis of erythrocytes, signs of megaloblastic hematopoiesis,

In this regard, the professor of the St. Petersburg Institute of Oncology named after V.I. Petrova prof. Sin I.F. "Peripheral blood, not being morphologically united into a single organ, is an integral system, a kind of organ with a strictly defined morphological composition, constancy of function, precise mechanisms of reaction and coordination of the renewal of cellular elements, which occurs not in itself, but in the hematopoietic organs, which are an integral part of the blood." Blood reactions are a reflection of the deep processes taking place in the body. Prof. Sin I.F. draws attention to changes in the system of mononuclear cells: lymphocytes and monocytes, the appearance of pathological and young forms of these blood elements, which is associated with a change in the body's immune responses.

Almost 75% of cancer patients, regardless of localization, have relative and absolute lymphocytopenia, which is detected before the onset of metastasis. The progression of lymphocytopenia indicates a decrease in the nonspecific resistance of the organism. This can be observed without a noticeable change in the granulocyte count. The number of wide-protoplasmic lymphocytes, the content of which changes synchronously with the number of monocytes and especially of young forms, makes it possible to deepen the understanding of the reactive potential of the organism. Generalization of the tumor process is often accompanied by an increase in the content of eosinophils in the peripheral blood.

Our studies confirm the observations of Professor I.F. Sin, made back in 1967, as well as other researchers.

I.G. Abasov. He observed in many cases lymphocytopenia, and sometimes leukocytosis.

G.S. Milenkova et al. consider lymphocytopenia as a poor prognostic sign.

G.B. writes about the decrease in the number of lymphocytes in cancer patients. Balashvili.

Changes in lymphocyte count during treatment (surgery, radiation and chemotherapy) are signs of severe stress.

As you know, in the body of an adult, 25-40% of all leukocytes are lymphocytes. They are represented by two main classes: B-lymphocytes (10-15%) and T-lymphocytes (70-80%). In addition, a population of normal killer cells is isolated. These are large granular lymphocytes. Large granular lymphocytes with normal killer cell activity perform cytotoxic functions. They destroy cells infected with the virus, as well as cells in which any abnormalities have occurred. Some authors believe that they kill tumor cells. Normal killer cells (NK cells) make up approximately 5% of all lymphocytes. Normally, the number of granular forms of lymphocytes should not exceed 5% of their total. In our studies, in most cases, the number of granular lymphocytes exceeded the norm. This fact requires further in-depth study.

Thus, the changes in the blood revealed in the study of blood smears and case histories of cancer patients indicate severe stress and profound disturbances.

the immune system, which requires the use of drugs that help the body cope with the effects of stress and normalize the immune system.

An orientation toward a malignant cell prompts, so to speak, to seek only means of destroying it. However, drugs aimed at destroying tumor cells cannot be taken indefinitely, since they are toxic in themselves. Consequently, the problem of searching for stimulation of the defense mechanisms of the patient's body and the need to influence his internal environment with non-toxic and non-life-threatening drugs again arises. Numerous signs of severe stress at different stages of patients' life suggest that the use of plants that increase the body's nonspecific resistance is vital.

Stress is a disease in itself. Modern treatments for malignant tumors are also stressors. Hair loss, dyspeptic disorders caused by dysbiosis, asthenic-depressive syndrome, lymphocytopenia are all manifestations of severe stress, which may be one of the reasons for the progression of the disease, growth and spread of metastases (Lazarev N.V., 1967). In those cases when the body copes with these heavy loads, the disease recedes at least for a while. If the system of nonspecific resistance, the defense system does not work, the disease progresses.

From the 70s to the 80s of the 20th century, Russian scientists I.I. Brechman and others have studied the properties of *Eleutherococcus* root, which has ginseng-like properties to help the body in critical situations. N.V. Lazarev called the group of these plants adaptogens. The school of N.V. Lazarev, the ability of drugs from these plants to increase the nonspecific resistance of the organism, stimulate the activity of all organs and systems that support homeostasis, and contribute to the maintenance of life. At the end of the 20th century, the group of plants with adaptogenic properties was significantly expanded by prof. Barnaulov O.D. In particular, in oncological practice, preparations from plantain, dandelion root and other plants are highly appreciated.

For more than 40 years, numerous experimental studies have been carried out on the effect of adaptogens on the grafting, growth and metastasis of tumors. The positive protective properties of the preparations from these plants have been unconditionally proven. None of their experimenters observed the growth and progression of tumors under the influence of these drugs. On the contrary, in the experiment it was convincingly proven inhibition of growth and metastasis when using adaptogens. In addition, the potentiated therapeutic effect of adaptogens was demonstrated when using chemotherapeutic agents, in particular, cyclophosphamide (Udintsov V.V., Yaremenko K.V., 1971). At the end of the 20th century, clinical studies were also carried out. So, in the dissertation of N.I. Syutkin.

Own long-term experience of using adaptogens for various severe somatic diseases, including the fourth stage of cancer ("ALFIT immunomodulating"), developed by Ph.D. doctor-oncologist S.V. Korepanov, also proves the expediency of using preparations from plants with adaptogenic properties. A small experience in helping cancer patients admitted to the military rehabilitation hospital No. 6 of the Ministry of Defense after radiation and chemotherapy also convinces us of the advisability of using herbal medicine. Under the influence of vitamin teas in combination with hepatoprotectors, calendula, licorice root, the patients' condition improved rapidly. With the appointment of uroantiseptics from plants, the phenomena of radiation cystitis were stopped. With radiation stomatitis, a good result was obtained when prescribing phytopreparations, for example,

These plant preparations are official. You can list them

to significantly expand and include in the complex treatment of cancer patients in order to increase the effectiveness of treatment and improve long-term results. Of course, the nutritional factor of patients also plays an important role. David Servan Schreiber wrote about the role of changing the lifestyle and nutrition of cancer patients in his book "Anti-cancer", who created this wonderful work, after conducting a huge analysis of the literature on oncology. The role of nutrition and recommendations for rational nutrition of cancer patients are given in the book by V.G. Bespalov "Nutrition and Cancer".

#### conclusions

1. Qualitative and quantitative changes in lymphocytes identified in the group of patients breast cancer, indicate disorders of the adaptation system and immunity.
2. Instability of hematological parameters is characteristic of patients with the progressive course of the oncological process.
3. In the correction of disorders caused directly by oncological disease and complications of radiation and chemotherapy, phytotherapy should be recommended that have a multifaceted healing effect and safety with prolonged use.
4. The question should be raised about the effect of drugs used to treat somatic diseases, oncological pathology.
5. Treatment of the somatic pathology associated with cancer requires special attention in avoidance of toxic and possibly mutagenic effects of certain chemical synthesis drugs.

#### Literature

1. Alefirov A.N. Antigonadotropic plants in the treatment of cancer patients Proceedings of the 1st Russian Phytotherapeutic Congress, Moscow, 2008. - pp. 330–337.
2. Amosova E.N., Zueva E.P., Bogdishin I.V., Yaremenko K.V. Improving functional activity of natural killer cells with drugs of natural origin // Immunodeficiency and allergy. - M., 1986. -- S. 115.
3. Balitsky K.T., Shmalko S.P. Stress and metastasis of malignant tumors. - Kiev, 1987. -- 325 p.
4. Bespalov V.G. Nutrition and cancer. - M., 2008.
5. MP Vavilov et al. Pathogenic effect of drugs: angioedema. Russian Medical Bulletin 2007; 1 T.X11. - p. 56-60.
6. M.P. Vavilov. Allergic history in patients with breast cancer // Collection Moscow 2006. "Herzen MNIION". - P.7-9.
7. Brekhman I.I., Dardymov I.V. To the mechanism of increasing the body's resistance under the influence of preparations of ginseng and eleutherococcus / Protein synthesis and cell resistance. - L., 1971. - P.82-88.
8. Garkavi L.Kh., Kvakina E.B., Ukolova M.A. Activation therapy. - Saratov, 1991.
9. Glebov V.I., Goroshetchenko A.V., Treskunov K.A., Tuvalbaev B.G. Some results and prospects for the use of herbal medicine as an accompanying technology for the treatment of cancer patients. Materials of the 11th Congress of Phytotherapists, Moscow, 2011. - pp. 15-19.
10. Sin I.V. On the importance of some studies of hematopoiesis in patients malignant tumors // Materials of the symposium "Methods for assessing pathological changes in hematopoiesis in malignant tumors, some ways of their prevention and treatment. - Leningrad, 1967.
11. Grechko V.V., Korepanov S.V. Experience of using phytotherapy for dairy cancer as the glands only method of treatment // Proceedings 1 of the Russian phytotherapeutic congress, Moscow, 2008. - pp. 340–342.
12. Zaryadyeva E.V. The use of adaptogen preparations for the correction of the immune status



ovarian cancer patients. Abstract of dissertation by Ph.D. Moscow 1993. RAMS Cancer Research Center.

13. Combined and complex treatment of cancer of the lung, breast, esophagus and rectum under conditions of the use of plant adaptogens and laser blood irradiation. Methodical recommendations 96/85. - St. Petersburg, 1996.

14. Korepanov S.V. Plants in the prevention and treatment of cancer. - Barnaul: OOO Print-Info ", 2009. - 160 p.

15. Korshikova Yu.I. Experience in the use of adaptogens and biostimulants in complex therapy of severe purulent-inflammatory lung diseases // Materials of the First Russian Congress on Complementary Medicine May 31-June 01. - M., 2013. - pp. 93-95.

16. Lazarev N.V. Metastasis of malignant tumors. - L., 1971. - P.5.

17. Gava'a Luvsan. Traditional and modern aspects of oriental reflexology. - Moscow: Nauka, 1990. - pp. 237-238.

18. Mitskonas A, Mitskonas E. Some aspects of antiestrogenic herbal medicine for cancer mammary gland. Proceedings of the 1st phytotherapeutic congress, Moscow, March 14-16, 2008. - p. 350.

19. Pekhterev A.K. Phytotherapy of oncological incurable patients Collection of works 1 phytotherapeutic congress, Moscow, March 14-16, 2008. - pp. 360-363.

20. Syutkina N.I. The use of adaptogens in the treatment of breast cancer. Abstract dis. candidate of medical sciences. Cancer Research Center of the Russian Academy of Medical Sciences. Moscow 1992.

21. Whitehouse M., Slevin M. Cancer, facts / Per. from English - M.: Medicine, 1999.

22. Udintsov S.N., Yaremenko K.V. Using the properties of *Rhodiola rosea* extract stimulate regeneration processes to increase the selective antitumor effect of cyclophosphamide / New drugs from plants of Siberia and the Far East. - Tomsk, 1985. - pp. 151-152.

23. Yugov S.D. The possibilities of herbal medicine in palliative care for oncological sick. Dissertation for the degree of candidate of medical sciences, Chelyabinsk, 2001.

24. Ukolova M.A. The role of neuroendocrine disorders in the pathogenesis of ovarian tumors. - M.: Medicine, 1972. -- 248 p.

25. Yaremenko K.V. Stress and tumor metastasis. Metastasis malignant tumors. - L., 1971. - P.269-278.

26. Yaremenko K.V. Basic principles of rehabilitation of cancer patients. -SPb. - 363 s.

27. Yaremenko K.V. Natural remedies for cancer. - SPb., 2007. -- 111 p.

#### Author's address

Korshikova Yu.I., Associate Professor, Department of Geriatrics and Medical and Social Expertise, Russian Medical Academy of Postgraduate Education  
kjui39@mail.ru

---

Instability of hematological parameters and the nature of adaptive reactions: indications for herbal medicine in oncology / Yu.I. Korshikova, M.P. Vavilov, E.B. Kudryavtseva, I. V. Golovenkina // Traditional Medicine. - 2015. - No. 1 (40). - S.52-58.

[To favorites](#)