

## References:

1. Ceylan B., Ozerdoğan N. Menopausal symptoms and quality of life in Turkish women in the climacteric period. *Climacteric*. 2014 Jun 2: 1–18.
2. Vasconcelos-Raposo J., Coelho E., Fernandes H. M., Rodrigues C., Moreira H., Teixeira C. Factor structure and normative data of the Greene Climacteric Scale among postmenopausal Portuguese women. *Maturitas*. 2012 Jul; 72 (3): 256–262.
3. Asikainen T. M., Kukkonen-Harjula K., Miilunpalo S. Exercise for health for early postmenopausal women: a systematic review of randomised controlled trials. *Sports Med*. 2004;34 (11): 753–778.
4. Al-Mallah M., Alqaisi F., Arafeh A., Lakhdar R., Al-Tamsheh R., Ananthasubramaniam K. Long term favorable prognostic value of negative treadmill echocardiogram in the setting of abnormal treadmill electrocardiogram: a 95 month median duration follow-up study. *J Am Soc Echocardiogr*. 2008 Sep;21 (9): 1018–1022.
5. Bourque J. M., Holland B. H., Watson D. D., Beller G. A. Achieving an exercise workload of 0 or 10 metabolic equivalents predicts a very low risk of inducible ischemia: does myocardial perfusion imaging have a role? *J Am Coll Cardiol*. 2009;54: 538 –545.
6. Mora S., Redberg R. F., Cui Y., Whiteman M. K., Flaws J. A., Sharrett A. R., Blumenthal R. S. Ability of exercise testing to predict cardiovascular and all-cause death in asymptomatic women: a 20-year follow-up of the Lipid Research Clinics Prevalence Study. *JAMA*. 2003;290: 1600 –1607.
7. Roger V. L., Jacobsen S. J., Pellikka P. A., Miller T. D., Bailey K. R., Gersh B. J. Prognostic value of treadmill exercise testing: a population-based study in Olmsted county, Minnesota. *Circulation*. 1998;98: 2836 –2841.
8. Gulati M., Pandey D. K., Arnsdorf M. F., Lauderdale D. S., Thisted R. A., Wicklund R. H., Al-Hani A. J., Dfck H. R. Exercise capacity and the risk of death in women; the St James Women Take Heart Prpject. *Circulation*. 2003; 108: 1554–1559
9. Mieczkowska J., Mosiewicz J., Rutkowska E., Jedrych M., Prystupa A., Lachowska-Kotowska P. Selected problems of medical qualification for physical fitness in postmenopausal women. *J Sports Med Phys Fitness*. 2013 Jun;53 (3): 295–303.
10. Redberg R. F., Nishino M., McElhinney D. B., Dae M. W., Botvinick E. H. Long-term estrogen replacement therapy is associated with improved exercise capacity in postmenopausal women without known coronary artery disease. *Am Heart J*. 2000 Apr;139 (4): 739–744.
11. Snabes M. C., Herd J. A., Schuyler N., Dunn K., Spence D. W., Young R. L. In normal postmenopausal women physiologic estrogen replacement therapy fails to improve exercise tolerance: a randomized, double-blind, placebo-controlled, crossover trial. *Am J Obstet Gynecol*. 1996 Jul;175 (1): 110–114.
12. Aldrighi J. M., Calvoso-Júnior R., Alecrin I. N., Trombetta I. C., Negrão C. E. Estrogen replacement and exercise capacity in postmenopausal women: a randomized placebo-controlled study. *Gynecol Endocrinol*. 2005 Dec;21 (6): 324–329.
13. Iellamo F., Volterrani M., Caminiti G., Karam R., Massaro R., Fini M., Collins P., Rosano G. M. Testosterone therapy in women with chronic heart failure: a pilot double-blind, randomized, placebo-controlled study. *J Am Coll Cardiol*. 2010 Oct 12;56 (16): 1310–1316.

*Maslyakov Vladimir Vladimirovich*

*Non-state educational institution of the highest professional education*

*«Saratov medical institute «REAVIZ»*

*E-mail: maslyakov@inbox.ru*

## **Changes of indicators of viscosity of the blood in the remote postoperative period after operations on the damaged lien**

**Abstract:** Studying of changes of rheologic properties of a blood is spent at 85 patients operated on the injured lien, in time not less than one year after operation. From them to 35 patients the splenectomy, 20 — organ saving operations has been executed, 30 patients have transferred autolientransplantation. Terms after carrying out of op-

erative treatment have made from one year till fifteen years. It is established that at — organ saving operations and autolientransplantation do not lead to changes in indicators viscosity of a blood. At the same time after a splenectomy the expressed changes of viscosity of a blood are taped.

**Key words:** a lien, viscosity of a blood.

**Introduction.** Lien damages at a trauma occupy one of leading places in abdominal surgery. Ruptures of this organ meet at 20–25% of victims a trauma of a stomach [5]. Till now the most widespread operation which is carried out at traumatic damages of a lien, there is a splenectomy. It is possible to explain appeal of this operation by technical simplicity, reliability of the reached hemostasis. At the same time the lien possesses series of the major functions, one of which participation in a hemopoiesis [1,2,3]. It is known that excision of this organ leads to development of the various complications shown both an embolism of a pulmonary artery, and a bleeding [4,6]. For the purpose of preventive maintenance of some complications various ways of conservation of a lien are offered, and at impossibility of performance of such operations — transplantation of fragments of a lien (autolientransplantation). However on studying of influence of the chosen operation on changes a hemorheology depending on a kind of the chosen operation at traumatic damages of a lien to the accessible literature we did not meet researches.

Research objective: to study influence of the chosen operation at a lien trauma on changes of rheologic properties of a blood in the remote postoperative period.

**Materials and research methods.** Studying of indicators of a hemorheology spent at 85 patients operated on the injured lien, in time not less than one year after operation. From them to 35 patients the splenectomy, 20 — organ saving operations has been executed, 30 patients have transferred autolientransplantation. Comparison group have made 30 concerning healthy volunteers of the same age. Terms after carrying out of operative treatment have made from one year till fifteen years.

Changes of rheologic properties of a blood were carried out by means of research of viscosity of a blood, indexes of deformation and aggregation of erythrocytes. The blood sampling was made for this purpose in out-patient conditions from a vein with addition of 3,8% of a solution of Sodium citratum in the ratio 9:1. Studying of viscosity of a blood was spent by means of the apparatus at rates of shift: 200; 150; 50 and 20  $c^{-1}$ . On the basis of the received data made definition of indexes of deformation and aggregation of erythrocytes.

The data obtained in researches was exposed to statistical processing with use of a package of applied

programs «Statistica 6.0.473.0». The importance of differences of two sets estimated with use of criteria of Stjudenta-Fishera,  $\chi^2$ , the God-send-uitni. Differences were considered significant at  $p < 0,05$ .

**Results of researches.** At studying of viscosity of a blood, aggregation of erythrocytes and their deformability it is revealed that at patients with traumatic damages of a lien in 1 year after organ saving operations indicators of viscosity of a blood, aggregation of erythrocytes and ability of erythrocytes to deformation statistically authentically do not differ from the data received in group of comparison ( $p > 0,05$ ). Rising of these indicators, in comparison with comparison group, is taped only at 3 (15%) the surveyed. By comparison of the received datas of laboratory to results of clinical research by us it is established that in this group the least quantity of complications which are noted at 6,6% surveyed becomes perceptible. These complications are bound to disturbances of microcirculation and shown by headaches, rising of arterial pressure.

At patients, before transferred autolientransplantation after a splenectomy, statistically doubtful tendency to augmentation of viscosity of a blood, ascending of aggregation of erythrocytes and ability of erythrocytes to deformation ( $p > 0,05$ ) is noted. Such changes are taped at 45% of the surveyed patients of the given group, at the same time at the others of 55% surveyed studied indicators did not differ from the data received in group of comparison. Changes of investigated indicators have naturally led to rising of the complications bound to disturbances of microcirculation in group of patients after autolientransplantation: giddiness, rising of arterial pressure are taped in 28% of observations.

Hence, use autolientransplantation after a splenectomy at a lien trauma prevents development of disturbances of viscosity of a blood in 45% of observations and the given method can serve as alternative organo-сохраняющих operations that is confirmed by absence of statistically authentic changes of viscosity of a blood, indexes of aggregation and deformation of membranes of erythrocytes.

Attract attention indicators of viscosity of a blood at patients after a splenectomy. At these patients substantial increase of viscosity of a blood is registered at all rates of shift in comparison with comparison group,

and rising of indicators of viscosity of a blood is noted at 28 (80%) the surveyed. At the same time at 7 persons (20%) results of researches corresponded to the indicators received at persons in group of the control. Besides, after a splenectomy observed augmentation of an index of aggregation of erythrocytes and an index of deformation of erythrocytes ( $p < 0,05$ ). Undoubtedly, change of these indicators has led to development of disturbances of microcirculation which were clinically shown by development of vegeto-vascular disturbances (a headache, giddiness, rising of arterial pressure, a pain in the field of heart). Such complications are taped at 18 (31,5%) surveyed in the remote postoperative period.

Thus, the research carried out by us has shown that

at the patients who have transferred organ saving operations on a lien, it does not become perceptible disturbances of rheologic properties of a blood. While after a splenectomy added autolientransplantation, in the remote period some changes in these indicators are noted. At patients after a splenectomy of change of indicators of viscosity of a blood are most expressed.

**Conclusion.** Changes of rheologic properties of a blood in the remote postoperative period, shown by rising of viscosity of a blood at all rates of shift, are noted in 80% of cases after a splenectomy, in 45% — after autolientransplantation and in 0,8% — after organ saving operations.

#### References:

1. Babich I.I. Chepurna G. and, Stepanov V.S. Treatment of the closed injuries of a spleen at children a splenektomiya in combination with geterotopichesky autolientransplantatsiy selezenochny fabric//Messenger of surgery of name I.I. Grekova, 1989. – № 2. – P. 93–96.
2. Gafarov O., Leontyev A. F. Senyakevich V.M. The immune status of children with extra hepatic portal hypertension after a splenektomiya//Surgery, 1992. – № 11–12. – P. 68–72.
3. Kopystyansky N.R. O influence of a spleen on properties and function of platelets//Theses of reports of conference on fibrillation problems. – To tank, 1966. – P. 142–145.
4. Kurtov I. V. Otsenka of efficiency of methods of treatment idiopathic trombotsitopenichesky purples/Avftoreferat of the thesis ... candidate of medical sciences. – Ufa, 2000.
5. Savelyev V.S., Stupin I. V. Volkoyedov V.S. Perspektiva of use of a plasma scalpel in surgical practice//Surgery, 1986 – № 10 – P. 153–156.
6. Uraski U. Splenektomia w swiete wspoecznych pogladow//Polski tygodnik lekarski, 1982. – Vol. 37. – P. 1109–1112.

*Pasechnik Oksana Alexandrovna*  
*Omsk State Medical Academy of the Ministry of Healthcare*  
*of the Russian Federation*  
*assistant professor of the epidemiological department*  
*E-mail: opasechnik@mail.ru*

*Pitsenko Natalia Dmitrievna*  
*Omsk State Medical Academy of the Ministry of Healthcare*  
*of the Russian Federation*  
*assistant professor of the epidemiological department*  
*E-mail: nata\_pitsenko@mail.ru*

## The prevalence of secondary diseases of the HIV patients in the Omsk region: cross — sectional study

**Abstract:** The prevalence of secondary diseases of the HIV — infected patients who were under observation in medical organizations of Omsk region in 2013 has been studied. 16, 8% of HIV-infected patients had a wide spectrum of secondary diseases, mainly infectious etiology. In the structure of secondary infections the leading position was occupied by tuberculosis (32, 3%), candidiasis (24,4%), bacterial diseases (23,7%). The average risk of tuberculosis diseases is 24 cases for 1000 HIV-infected patients.