myocardial stress (MS; 157.11 ± 5.8 dyn/sm^2), pseudonormal filling type (Peak E: 0.79 ± 0.01 m/s, Peak A: 0.41 ± 0.03 m/s) in all patients.

2. Concurrent COB developed mostly in fibrotic-cavitary form of PTB. Smoking was shown to be one of the risk factors for COB development. Also COB developed predominantly in patients aged more than 50 years. Alteration of lung tissue architecture following surgical interventions deteriorated development of COB.

S.T. Kokhan, E.V. Namokonov, V.A. Astafev

PATHOBIOCHEMICAL CRITERIA OF THE SUBSTANTIATION OF SELENIUM-CONTAINING MEANS APPLICATION IN THE COMPLEX TREATMENT OF COMMUNITY-ACQUIRED PNEUMONIA

Chita State University, Chita

Summary. Including of selenium-containing preparations into the complex treatment of patients with community-acquired pneumonia allows normalizing balance of system «lipid peroxidation – antioxidatic protection», promotes cupping of inflammatory process in a pulmonary tissue.

Keywords: neoselenium, Astragal, community-acquired pneumonia, lipid peroxidation.

Community-acquired pneumonia is among the most acute problems of domestic public health services [4,12]. Now doesn't cause doubts that a series of forms of pulmonary pathologies including a pneumonia, is bound to development of oxidizing stress which being accompanied by destructive influence free radical oxidations can become the reason of synchronization of pathological process in lungs. As it is known, a major factor of regulation of processes free radical oxidations is the condition of antioxidatic system of organs and tissues [2,5]. It defines, the pathological changes caused by activation of processes the lipid peroxidation will be how much expressed. n turn activity of an enzymatic link of antiradical protection depends on the maintenance in an organism of selenium, a component glutathione peroxidase. Deficiency of this trace substance in Transbaikalia [8,13], the proved ability of selenium to provide the adequate answer from an enzymatic antioxidatic link [6,11], absence of researches on series application selenium-containing agents («Neoselenium», «Astragal») at community-acquired pneumonia, do actual studying of possibility of use of the last in its treatment.

The work purpose was the pathogenetic substantiation of application selenium-containing preparations in complex therapy community-acquired pneumonia.

Materials and methods. In the conditions of a hospital complex clinico-laboratorial investigation of 76 patients community-acquired pneumonia from number which have been generated three groups is carried. In the first group traditional antibacterial therapy was spent. In the second group, except base therapy the solution of neutral «Neoselenium» (300 mkg, per os, after meal unitary a day) was applied 0,05 %. In the third group the preparation of «Astragal» on 2 dragees 3 times a day after meal (in 1 dragee of selenium of 50 mkg) was used. The estimation of parameters of system is spent to the first days of hospitalization and in 9 days after the beginning of a course of therapy at all surveyed «the lipid peroxidation – antioxidants» in blood components. Defined the maintenance diene conjugates, ketodienes and interfaced Tryenums in isopropane phase of a lipide extract [3], intermediate free-radical lipid peroxidation [1], rate catalase reactions [7], activity superoxide dismutase, glutathione peroxidase, glutathione reductase [9]. Biochemical indicators of a blood, at almost healthy 25 men of corresponding age (control group) were studied. Researches on sick and healthy people were carried out from their informed consent (Helsinki 2000). The obtained data is processed with use of the standard criteria of mathematical statistics.

Results and discussion. The analysis of the data presented to table 1 testifies that prior to the beginning of treatment at all patients with an community-acquired pneumonia the maintenance of all products lipid peroxidation was statistically significant above in comparison with persons of control group. Raised was not only the maintenance initial, but also intermediate products the lipid peroxidation. The data obtained by us will be compounded with literary [6,10,12] and once again confirms an important role of processes lipid peroxidation in a pathogenesis of an community-acquired pneumonia.

It is taped that after treatment, in the first group of patients (traditional therapy) parameters lipid peroxidation essentially haven't changed. Absolute value primary and by-products the lipid peroxidation remained high. So, for example the maintenance of the decay product of lipid peroxidation material has decreased only for 6,8 % and remains statistically significantly above, than in control.

In the second group where patients in addition received «Neoselenium» more essential depression of products the lipid peroxidation was observed. At patients of the given group primary the relative maintenance has decreased for 16,0 % ($p < 0.001$) and secondary on 16,5 % ($p < 0.001$) products free radical oxidations of lipids in comparison with initial level. Concentration of intermediate products the lipid peroxidation has decreased on 17,6 % ($p < 0.001$). It is necessary to notice that the comparative analysis of results of patients of group № 2 with those at patients of the first group, has taped statistically significant differences almost for

all indicators the lipid peroxidation, towards their depression. So in the third group quantity ketodienes and interfaced tryenums was not only less on 15,5 % ($p < 0.001$), than before treatment, but also on 14,3 % ($p=0.006$) more low than in the second group. Factors E232/220 and E278/220 have decreased on 27,2 % ($p < 0.001$) and 29,6 % ($p < 0.001$) in comparison with the initial data; have made 78,4 % ($p < 0.001$), 75,0 % ($p < 0.001$) from value of the first group both 86,7 % ($p=0.006$) and 84,4 % ($p=0.002$) – from value of the second group accordingly. Level of the decay product of lipid peroxidation products was statistically significantly more low, than in the first and second groups of observation.

Changes from factors of antiradical protection looked as follows. Prior to the beginning of treatment at the surveyed the neutralizations lowered rate superoxide an anion-radical on 33,7 % ($p < 0.001$) and catalase activity on 24,3 % ($p < 0.001$) in erythrocytes in comparison with norm (tab. 1 see) were registered. Below control there was an activity of other pair enzymes: glutathione peroxidase – on 64,8 % ($p < 0.001$), and glutathione reductase – on 50,5 % ($p < 0.001$). It is possible to consider the received results quite natural as the raised background of free radicals and high intensity of processes lipid peroxidation leads to attrition of antioxidatic resources of an organism. However the fact of essential depression of neutralization of organic hydroperoxides with participation glutathione peroxidase is the extremely adverse as these unstable molecules, including hydroperoxides of polynonsaturated fat acids, serve as precursors of free radicals and other cytotoxic bonds which generation else in a greater degree leads to an intensification the lipid peroxidation.

Results of the inspection spent in 9 days after an initiation of treatment have shown that in the first group of patients antiradical security remained low. Activity of all enzymes was statistically significantly less control and didn't differ from initial level.

In the second group where the patient had been prescribed «Neoselenium» from the antioxidatic status there were favorable changes. Were enlarged rate of neutralization superoxide an anion-radical and a hydrogen peroxide with catalase participation by 18,3 % ($p=0.008$) and 8,5 % ($p < 0.001$) accordingly. Activity glutathione peroxidase has increased on 43,1 % ($p < 0.001$), and glutathione peroxidase - on 44,8 % ($p < 0.001$) in comparison with results before treatment. Value of two last enzymes statistically significantly were above those patients of the first group. Thus, use of a preparation «Neoselenium» along with basic therapy has led to the mediated activation of enzymes of antioxidatic action, and first of all glutathione peroxidase, the structure of the active center apoenzyme and includes selenium. Thus at patients reduction of products lipid peroxidation in a blood was observed.

In group of the patients receiving against traditional therapy a preparation of «Astragal», also a containing trace substance selenium, positive changes looked more essential. Rate superoxide dismutase reactions has made 130,9 % ($p < 0.001$) from reference values, rate catalase reactions – 116,8 % ($p < 0.001$). Enzymatic activity glutathione peroxidase and glutathione reductase have made 173,7 ($p < 0.001$) and 153,9 ($p < 0.001$) accordingly from the digits received before treatment. The comparative analysis of results between groups has shown that activity of all enzymes at patients of the third group was authentically above, than at patients of the first group. Besides, activity of a catalase and glutathione peroxidase in the third group were above, than in the second on 8,1 % ($p < 0.001$) and 21,9 % ($p < 0.001$) accordingly.

Conclusions. Thus, the received results once again confirm an important pathogenetic role of disbalance in system «the lipid peroxidation - antioxidants» at a pneumonia. Use in therapy of the preparations containing selenium, leads to mobilization of antioxidatic resources of an organism, a consequence of that is normalization of sizes of lipid peroxidation products. The greatest efficiency medicinal preparations on the basis of the plants, containing natural bonds of selenium possess, their chemical nature is close to a human body, they easily join in biochemical processes of the patient, render multilateral, soft, regulating and safe action at long use.

Literature

1. Andreeva L.I., Kozhemjakin L.A., Kishkun A.A. Updating of a method of definition of peroxides of lipids in the test with thiobarbituric acid//the Lab. Business. - 1988. - №. 11. - P. 41-43.
2. Influence alimentary micronutrientosis on activity of a glutation-peroxidase and superoxide dismutase / A.V.Vasilev [etc.]//Biomedical chemistry. – 2008. – Vol. 54. – Release 2. – P. 236-243.
3. Volchegorskij I.A., Nalimov A.G., Jarovinsky B. Г, Lifshits R. I. Comparison of various approaches to definition of products lipid peroxidation geptan-izopropanolnyh blood extracts//Vopr. Medical chemistry. – 1989. – №. 1. – P. 127 – 131.
4. An community-acquired pneumonia at adults: practical references on diagnostics, treatment and preventive maintenance / A.G.Chuchalin [etc.]. – M: M-messages, 2006. – 76 p.
5. Zenkov N.K., Lankin V. Z, Menshchikova E.B.oxidizing stress. - M, 2001. - 343 p.
6. Correction of insufficiency of selenium at sick of a pneumonia / I.G.Bakulin [etc.]//food Questions. – 2004. – № 3. – P. 12-14.
7. Koroljuk M. A, Ivanova L.I., Majorova I.G.method of definition of a catalase//the Lab. Business. - 1988. - № 1. - P. 16-19.

8. Kokhan, S.T. Selenassociated changes of system «the lipid peroxidation - antioxidant defense» at recruits of Transbaikalian edge and possibility of its pathogenetic correction. – Military-medical magazine. – 2009. - Vol. 330, № 11. – P. 52-53.
9. Medical laboratory technologies. A directory. / Pod red. A.I. Karpishenko. – SPb.: Intermedica, 2002. – 600 p.
10. Oberliz D., Harland B., Rocky And. A biological role macro- and trace substances at the person and animals. – SPb.: a science, 2008. – 544 p.
11. Application experience selenium-containing biologically active additive at children with a pneumonia in resuscitation unit / A.K.Uglitsky [etc.]//Anesthesiology and resuscitation. – 2006. – № 1. – P. 45-48.
12. Chuchalin A.G., Sinopalnikov A.I., Strachunsky h.p. the Pneumonia. – M: MIA, 2006. – 461 p.
13. Kokhan, S.T., Serdtsev M.I. Some variauts of selenium ecopatology in eastern Zabaykalye // FAMILY HEALTH IN THE XXI CENYURY: Materials of XII International Scientific Conference. - Part 1. - Elat, 2008. – P. 380-381.

Table 1

Indicators lipid perooxidations and antloxidant protection of blood at patients with an community-acquired pneumonia (M±SD)

Indicator	Control (n=25)	Before treatment (n=76)	Group 1 Base therapy (n=26)	Group 2 The base Therapy + «Neoselenium» (n=25)	Group 2 The base Therapy + «Astragal» (n=25)
Diene conjugates (ΔE_{232}/mg of lipids)	0,50±0,12	0,77±0,23 p<0,001	0,75±0,19 p<0,001	0,70±0,17 p<0,001	0,67±0,20 p<0,001 p_1=0,048
Ketodienes and interfaced Tryenums (ΔE_{278}/mg of lipids)	0,44±0,07	0,71±0,13 p<0,001	0,70±0,10 p<0,001	0,64±0,19 p<0,001 p_1=0,030	0,60±0,14 p<0,001 p_1<0,001 p_2=0,006
E_{232}/E_{220}	1,13±0,26	1,25±0,23 P=0,024	1,16±0,21	1,05±0,20 p_1<0,001	0,91±0,14 p<0,001; p_1<0,001 p_2<0,001; p_3=0,006
E_{278}/E_{220}	0,99±0,22	1,15±0,29 P=0,011	1,08±0,23	0,96±0,18 p_1=0,002 p_2=0,045	0,81±0,15 p=0,001; p_1<0,001 p_2<0,001; p_3=0,002
Decay product of lipid peroxidation material of serum, Mkmol/mg of lipids	1,32±0,18	2,22±0,21 p<0,001	2,07±0,11 p<0,001 p_1<0,001	1,83±0,15 p<0,001; p_1<0,001 p_2<0,001	1,71±0,17 p<0,001; p_1<0,001 p_2<0,001; p_3=0,011
Activity superoxide dismutase erythrocytes, activity %	47,9±7,6	31,79±9,47 p<0,001	32,60±10,66 p<0,001	37,60±10,96 p<0,001 p_1=0,008	40,60±9,52 p=0,004 p_1<0,001 p_2=0,007
Activity of a catalase of erythrocytes, nmol/s*mg the squirrel	14,7±0,3	11,14±0,50 p<0,001	11,06±0,41 p<0,001	12,09±0,39 p<0,001 p_1<0,001 p_2<0,001	13,08±0,35 p<0,001; p_1<0,001 p_2<0,001; p_3<0,001
Activity glutathione peroxidase erythrocytes, mkmol/s*mg the squirrel	183,8±24,5	64,70±19,57 p<0,001	72,56±10,60 p<0,001	92,16±11,65 p<0,001 p_1<0,001 p_2<0,001	112,36±14,30 p<0,001; p_1<0,001 p_2<0,001 p_3<0,001
Activity	78,7±16,7	38,98±11,72	39,45±10,95	55,65±9,57	61,28±11,25

glutathione reductase erythrocytes, mkmol/s*mg the squirrel		p<0,001	p<0,001	p<0,001 p_1<0,001 p_2<0,001	p<0,001 p_1<0,001 p_2<0,001

The note: n - number surveyed; p - a significance value of authentic distinctions in comparison with control; p1 - a significance value of authentic distinctions in comparison with indicators before treatment; p2 - a significance value of authentic distinctions in comparison with indicators of group 1; p3 - a significance value of authentic distinctions between indicators of groups 2 and 3.

Data on the author responsible for contacts to edition.
Kokhan Sergey Tihonovich – manager chair of bases of medicine of Managing chair of bases of medicine of Chita State University, Candidate of Medical Science, assistant professor, Honoured Doctor of the Russian Federation.
The address: 672039, Chita, street Babushkin, 34, sq. 32.
Phone: the house: 35-07-72, the office number: 355875, mobile phone: 8-914-456-24-54.
e-mail: SKokhan@yandex.ru

UDC 616.24-002.592(1-17)

Main principles of appointment to surgical treatment for patients with pulmonary tuberculomas in an Extreme-North region.

I.I. Vinokurov, State Institution "Research-Practice Center 'Phthisiatry' ", Ministry of Health, Sakha Republic (Yakutia)

Based on analysis of features seen in development variants of different types of tuberculomas in 302 patients living in the Extreme North, differential approach to surgical treatment has been formulated. Using clinically and morphologically grounded treatment approach, which allows for development variants in different clinical anatomical types of tuberculomas, not only helps to conduct an adequate chemotherapy regime, but also enables to perform surgical interventions at early stages during clinical follow-up. Implemented to medical practice, this differential approach to chemotherapy and surgical treatment of patients with pulmonary tuberculomas based on main features in development variants and clinical course of tuberculomas remarkably decreases the probability of tuberculosis relapse.

Keywords: morphogenesis, surgery, pulmonary tuberculoma, Extreme North.