ciprofloxacin (32,4%), carbapenems (45,7%), rifampicin (44,8%), fusidic acid (32,4%), gentamicin (22,9%). From the cephalosporin group S. aureus was sensible to ceftriaxone in 28,6% of cases and to cefazolin in 24,8% of cases, and to the representatives of the third generation – to cefoperazone (9,2%) and ceftazidine (10,5%). Antipseudomonal activity was manifested in carbapenems (53,8%) and monofluorchinolones (ofloxacin - 43,6% and ciprofloxacin - 41,0%). From the aminoglycoside group the activator was more sensible to amikacin (20,5%), than to gentamicin (15,4%). Only ceftazidim from the cephalosporin series was active in regard to Ps.aeruginosa in 25,6% of cases. The bacteriostatic effect to S. aureus and Ps.aeruginosa occurred on the part of semisynthetic tetracyclines in doxycycline (13,3% and 25,6% accordingly). The increase of enterobacteria was suppressed in the majority of cases by: ceftriaxone (41%), ceftazidime (35,9%), imipenem (46,2%), gentamicin (43,6%), ciprofloxacim (41,0%), piperacillin (28,2%), chloramphenicol (20,5 %).

Conclusion: Antibacterial therapy of burn disease infectious complications is determined by the spectrum of probable activators. Monofluorchinolones and carbapenems turned out to be the most effective antimicrobial agents as the result of the research.

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THE CYTOKINE PROFILE IN THE ACUTE CRYOTRAUMA

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Nowadays cold trauma is considered to be one of the most important causes resulting in high rate of disability or death among patients. The most frequent manifestation of cold trauma is frostbite occurring both in high and low latitudes. One may sustain cryotrauma even at warm weather.

The main aims this study are to estimate the adaptive mechanisms of the organism in developing cold trauma and investigate interleukin1 β (IL-1 β) and the factor of tumour necrosis α (TNF α) under the influence of potent irritant.

Materials and methods: the experiments were carried out on the male mature Vistar rats with the body weight 200-240gr. The models of frostbite induced by chlorethyl were employed within one week after damage. The withdrawal of rats was implicated by means of decapitation under etheric anesthesia in an hour, 24 hours, on fifth and seventh days. The approval of Ethics Board of the Northern state medical university was obtained. «The Regulations of the work with experimental animals » were observed according to the Enactment of Ministry of Health of the USSR №755 issued 12.08.1977.

The contents of the anti-inflammatory cytokine IL-1 β and TNF α was determined in blood serum with the help of immunofermental method using reagents manufactured by "RD Systems", USA. Experimental group was affected by cold. Control group consisted of intact animals. Statistical analysis was done on the basis of Statagraphcs plus 5.1 for Windows.

Results: the study demonstrated that the production of cytokine was dramatically decreased in the early reactive period (in one hour and 24 hours after damage) and sharply increased at the beginning of the late reactive period (at $p \leq 0,001$). The imbalance of anti-inflammatory cytokine was observed at all experimental stages the secretion of TNF α prevailed. We suggested that in intact animals revealed cytokine performed a certain "sentry" function since it was this cytokine that was the mediator of « the first wave » responsible for triggering defensive immune mechanisms.

Conclusions: the secretion of cytokine IL-1 β and TNF α in a healthy organism reflects the current condition of immune system. Imbalance of cytokine at frostbite specifies indicates their role in pathogenesis of acute cryotrauma and may be of a certain value in diagnostics of the severity of injury in the monitoring cryotrauma and in developing new methods of treatment, which may prove to be more effective, than traditional ones.

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INVESTIGATION OF MEDICINAL TEAS APPLIED IN HYPOFERRIC ANEMIA PHYTOTHERAPY

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Drug therapy of hypoferris anemia is based on the introduction of iron from iron containing medicinal agents into the body. The substitution therapy of iron deficiency by means of its salt preparations is effective enough, however, a serious adverse events development risk, even while using modern synthetic medicinal agents, remains rather high. At the same time, phytotherapy as one of the treatment modes is deprived of disadvantages natural for drug treatment with using xenobiotic medications of synthetic origin. Phytotherapy is recommended as a means of complementary therapy and especially effective for iron deficiency prevention at hidden iron deficiency.

With that, it is necessary to note that monotherapeutic approach based on using only one from almost 200 plants used in folk medicine doesn't allow combining etiotropic and nosotropic disease therapy. An optimal phytocomposition for anemia therapy should contain trace substances of blood-forming complex in addition to the complex of organic nature bioactive compounds (Fe, Mn, Cu, Co). To create a phytomixture of a necessary composition is possible only using several medicinal plants in the form of tea. Medicinal plant tea allows providing the required polyvalency of the pharmacological action phytopreparation.

In connection with the above mentioned to investigate the elementary composition of total abstractions from the teas most often recommended in science and folk medicine for phytotherapy appears to be of current interest. As the subjects for inquiry (table 1) the most often used in folk medicine medicinal plant teas and also the tea with a well-antianemic activity (№3) were used.

The collected medicinal plant raw material (MPR) was brought into the air-dry condition. Special medical plants were granulated as large as 1,0 mm particles. The teas were made by mixing the granulated MPR in the required for every tea proportion up to homogeneous condition. For obtaining the total abstraction an accurate batch weight of the raw material (a separate plant or their mixture as the tea ingredients) was put into a bulb. Then the raw material was poured with an extraction agent in the ratio 1:50. Distilled water was used as the extraction agent. The extraction was carried out for 2 hours on boiling water bath in a bulb with an under reflux. In the closing stage the abstraction percolation was performed and the aliquot for the micro-elementary analysis was taken away from the infiltration.

The trace element content of the blood-forming complex (being an essential component of blood-forming) - Fe, Mn, Cu and Co was defined by the method of mass-spectroscopy with inductively coupled plasma. The reproductibility of measurements was 3,0; 3,0; 10,0 and 4,0% at Mn, Fe, Co, and Cu concentration determining accordingly.

Table 1. Trace element content in total abstractions from MPR (mg/l).

№ and ingredients of the tea	Fe	Mn	Cu	Co
1. *Betula pendula, Mentha piperita,Juglans regia*- folia; *Hipericum perforatum, Onopordum acanthium, Cichorium intybus, Lamium alba* – herba; *Juniperus communis* - fructus	0,199	2,230	0,054	0,001
2. *Hipericum perforatum. , Lamium alba, Achillea millifolium*– herba; *Fragaria vesca*- folia; *Avena sativa, Vaccinium myrtillus* – cormi; *Glycyrrhiza glabra* - rizomata -	0,141	1,600	0,077	0,0004
3. *Bidens tripartita, Fragaria vesca, Urtica dioica* – folia; *Rosa majalis* - fructus	0,449	0,460	0,072	0,002
4. *Betula pendula, Fragaria vesca, Urtica dioica,Ribea nigrum* – folia; *Rosa majalis* - fructus	0,263	2,700	0,054	0,005
5. *Betula pendula, Fragaria vesca, Urtica dioica,Ribea nigrum, Rubus caesius*– folia; *Pulmonaria obscura, Agropyron repens* – herba; *Avena sativa* – cormi;	0,196	1,420	0,049	0,002

The micro-elementary composition of the total abstractions (table 1) testifies that for the abstractions from the tea №3 the iron and manganese contents are equal and it is this very tea that proves the antianemic activity on nosotropic mechanism of action (iron rebalancing in the body). In this connection it is necessary to note that the quotient of the standard oxidation potentials Fe^{3+}/Fe^{2+} and Mn^{3+}/Mn^{2+} guarantees "in vivo" unprompted reaction of oxidation Fe^{2+} into Fe^{3+}, in which the pair Mn^{3+}/Mn^{2+} will play the role of an oxidant. The ferric iron is deprived of the side effects natural for Fe^{2+} (citotoxicity). At the same time, finding ions Fe^{3+} in chelate polysaccharide complexes can prevent the carry-down of slightly soluble salts of Fe^{3+}. The required content of the polysaccharides in the phytocomposition provides the tickseed herb (*B.tripartita*). In its turn, the entry of such a polysaccharide complex of Fe^{3+} into the body most probably will lead to activation of triad ions carrier proteins – mobilferrin and b3-integrin, that activates the iron utilization from the coming food and by this will guarantee the iron rebalancing in the body.

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