years it increased up to 86% children. Specific immunotherapy resulted in normalization of T-lymphocyte functional activity, IgA, IgG and slgA serum levels in nasal secret. Prolonged therapeutic effect was registered in all clinical immunological data after the specific immunotherapy course.

We studied the functional state of central nervous and immune systems in patients with BA and effect of acupuncture on it. Positive result of acupuncture was obtained in 88.6% patients.

Along with objective clinical effect, i. e. ceasing of asphyxia attacks, patients' quality of life became much better: they gained optimism, eagerness to work, decrease of irritation and tearfulness, improvement of appetite and sleep. Immunological parameters also improved. Our results demonstrate high clinical and immunologic effect of acupuncture in BA patients with initial changes in central nervous system.

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IMMUNOTHERAPY AND MAST CELL ACTIVATION

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In the early phase of allergic reaction mast cells are the main cellular effectors of acute inflammation releasing preformed and newformed mediators. The release of mediators is therefore a marker of mast cell activation and could be used to evaluate early allergic reaction. From the preformed mediators histamine and tryptase can be currently assayed in biological fluids. Histamine can be originated in mast cells, basophils and probably from a pool of other cells or extra cellular spaces in respiratory mucosa. Tryptase is only released by mast cells, has a good stability in fluids and reliable assays are nowadays available. Tryptase is spontaneously released from mast cells in respiratory mucosal after allergen inhalation and its concentration in fluids for instance during pollen season corresponds to the intensity of allergic disease. Nasal challenge with allergen tries to reproduce natural exposure conditions and allows to evaluate on controlled conditions the kinetics and evolution of nasal allergy.

The study of tryptase release after nasal challenge with allergens is therefore a good and reliable method to evaluate mast cell response to allergens. In the last few years we have first tried to standardize the method for tryptase assay in nasal lavage fluid after nasal challenge and in a second phase applied this method to the evaluation of mast cells reactivity to allergen before and after specific immunotherapy in pollinosis.

Nasal provocation tests have been done before pollen season with increasing dosages of 10, 100, 1000 PNU._Tryptase assays in nasal washing have been done at 10, 20 and 30 min after provocation by CAP or RIA methods. Tryptases assays have been done before starting immunotherapy and after 2 years of immunotherapy. Nasal fluid has been always collected in absence of therapy with anti-histamine drugs in the last week, inhaled or systemic steroids DGCS or topical anti-histamines in the last 3 days.

The data obtained suggest that tryptase assays in nasal washing could be a useful addition in diagnostics of pollen allergy. A clear cut increase on tryptase concentration in nasal lavage fluid has been observed after nasal provocation. The results obtained suggest that a higher concentration of pollen extract (1000 PNU) is more reliable for the evaluation and that the more significant results are observed 10 and min after nasal challenge specific immunotherapy clear cut blocks the tryptase release provoked by nasal challenge decreasing the amount of tryptase released by mast cell after each one of the different concentrations employed but also slowing the release process as shown by the latter peak (20 min) observed after immunotherapy. These data point to an effect of systemic specific immunotherapy on nasal mast cell reactivity probably due either to a decrease of fixed IgE through high affinity receptors or to a blockade on mast cell releasability as suggested by the late peak (20 min.) of tryptase release.

Tryptase assays in nasal washing after provocation tests are a reliable, safe and useful additional method in diagnostics of pollen allergy and furthermore in the control of efficacy of specific immunotherapy. Mast cell reactivity in rhinitis can be studied by the assay of tryptase in nasal fluid after nasal challenge. An increase in tryptase in nasal washing is a marker of allergy to the extract employed. Specific systemic immunotherapy significantly decreases mast cell reactivity after nasal challenge with the same allergen as show by the decrease in tryptase release.

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IMMUNOLOGICAL MONITORING OF PATIENTS WITH CHRONIC DISEASES IN THE COURSE OF IMMUNOREHABILITATION

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Comprehensive phenotypical characterists of immunocompetent peripheral blood cells (CD3, CD4, CD8, CD19, CD25, CD45RO, CD95 and HLA-DR) is presented. Proinflammatory cytokines (IL-lβ, IL-6 and

TNFα) and lymphokines of Thl-type (IFNγ and IL-2) were studied in serum of patients with chronic obstructive and nonobstructive bronchitis on the background of secondary immunodeficiency state (IDS), also patients with subacute and chronic rheumatoid arthritis (RA) in the course of immunorehabilitation (IR). Disorders in activation processes of immunocompetent cells in peripheral blood of patients with chronic bronchitis (CB) were revealed that manifested in a decreased quantity of activated T-lymphocytes expressing CD25 and CD45RO antigens, as well as significant increase in the number of CD95-cells. The levels of IFNγ and IL-2 were shown to decrease in blood serum of patients with CB, thus evidencing lower functional activity of Th1. Proinflammatory cytokines were demonstrated to prevail in blood of these patients. A step-by-step scheme for IR of CB patients with secondary IDS is suggested which can be also applied when treating patients with other immunopathological states. High efficiency of combined application of immunomodulators for system and local use in patients with CB of various severities was shown.

It was shown that RA patients are characterized by an elevated expression of activation markers on the surface of T-lymphocytes (CD25 and HLA-DR), significant increase in. the number of activated CD45RO-bearing T-memory cells and CD95-cells thus evidencing increased readiness to apoptosis. Direct correlation between the number of T-lymphocytes which express the marker of prolonged activation (HLA-DR) and duration of the disease in RA patients was established. It was shown that in serum of RA patients, proinflammatory cytokines prevail. Positive correlation between the levels of IL-lβ and IL-6 in serum and activity of the process was revealed.

Immunological monitoring at all IR stages of IDS patients was substantiated. The level of TNFα was shown to positively correlate with the number of CD95-cells in patients with chronic pathologic processes. Comprehensive clinical immunological analysis of a huge amount of clinical materials allowed elaborating technical approaches and tactics of IR of patients with disorders in immune system. It was shown that the choice of immunomodulators, scheme and methods of IR are determined by peculiarities of the clinical course of the disease, its severity, activity of inflammation process and immune state indices.

Results of ambulatory and sanatorium-resort IR programs were analyzed. They proved to be more efficient as compared to routine pharmaceutical and therapy measures. It was demonstrated that these complex IR programs should include adequate basic medicamentous therapy, set of immunomodulators of directed action, methods of nonmedicamentous treatment, as well as resort and preformed physical factors taking into account clinical immunological and pathogenic peculiarities of a person at every stage of IR. It was shown that step-by-step IR restores not only the number of regulatory immune cells, but also their functional activity and the level of proinflammatory cytokines which play an important role in the chronic inflammatory processes. It also provides stable clinical remission. It was demonstrated that prolonged, rational, complex, step-by-step IR allows to decrease the number of recurrences (by 95-98% in average), prolong remission by 4-to 5-fold, reduce drug uptake and improve ability for work and quality of life.

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IMMUNOLOGICAL ADAPTATION OF NEWBORN INFANTS WITH RESPIRATORY DISTRESS-SYNDROME OR PNEUMONIA

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The main peculiarities of neonatal immune system are:

1. The prevalence of immature CD5+ B-lymphocytes with high expression of sIgM and lack of sIgD which are able to produce polyreactive IgM, IgG1 and IgG_3; massive antigen binding with sIgM leads to immature B-cell apoptosis.

2. Low expression of CD40L on neonatal T-lymphocytes decreases their ability to differentiate to Th1 and to intensify macrophage reactions, to cooperate with B-cells and to be typically switch immunoglobulin classes synthesis.

3. Insufficiency of B7 expression on antigen-presenting cells (APC) which leads to non-professional antigen presentation to naive T-cells. Ratio of professional and non-professional APC has influence on priming or tolerance as a result of neonatal immune response. Small amounts of antigen can interact with a few mature B-cells and can be a base for specific humeral immunity development.

4. Heterogeneity of CD4+ lymphocyte subpopulation, the priority of CD45RA+ naive T-cells which act as suppression inductors and produce mainly interleukin-2.

The aim of our research work was to investigate dynamical changes of main immunological parameters (such as IL-I, TNF-α, IL-4, TGF-β serum concentrations (ELISA), lymphocyte phenotype (flow cytometry) and chemiluminescent response of peripheral blood phagocytes) during the early postnatal period in physiological conditions and in infants suffered from respiratory distress-syndrome (RDS) or pneumonia. We investigated 48 full-term newborn infants from moderate and high risk pregnancies during the first month of life.

It was found that serum levels of IL-lβ in cord blood of healthy neonates from moderate risk preg-