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**Transfer Factor Classic Effectiveness in the Treatment of Patients with Ophthalmotoxoplasmosis.**

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We used a systemic approach to analyze the dynamics changes in patients treated for Ophthalmotoxoplasmosis. The 1<sup>st</sup> group patients after receiving the regular treatment medicine (rovamycin) did not manifest any significant changes in immune index correlations, except there was a significant increase in the neutrophilic immunity index that increased by 33.3%. Interrelations of immunity displayed a moderate degree of significance (28.6%,  $r \geq 0.5$ ). After receiving Transfer Factor Classic in combination with rovamycin, the number of statistically significant correlations of immune index increased by 57.1% and the number of statistically significant interrelations in neutrophil index increased to 47.6%. Correlations with only a moderate degree of significance ( $r \geq 0.5$ ) occurred in 48% of the total number of all interrelations in this group.

The 2<sup>nd</sup> group received Transfer Factor Classic in addition to rovamycin. This treatment regime proved especially beneficial to those with neurotoxoplasmosis and visual impairment, when compared to other existing methods of treatment, which are far less effective in these respects. The analysis performed after the combined treatment demonstrated a significant improvement in 87.5% of patients and moderate improvement in 12.5% of them. The combined treatment (rovamycin and Transfer Factor Classic) significantly increased the number of leukocytes by 21.5% with neutrophils up 31.1%; the number of T-lymphocytes increased by 46.1%; the content of “zero” lymphocytes decreased by 27.1% due mainly to the increase of T-helpers by 40.9%. The combined data for the group showed phagocytic activity of neutrophils increased by 52.3% and IgG level increased by 36.8%.

The inclusion of Transfer Factor Classic also contributed to positive dynamics of primary, secondary, intermediate, summary and end point peroxide lipid oxidation (PLO) products (excluding ketodiens) and in restoring patients' values to those of nominally healthy people. Thus, according to the dynamics of PLO-AOS (peroxide lipid oxidation - antioxidative system).

We concluded that this regiment of combined treatment, which includes Transfer Factor Classic, is the most effective method of ophthalmotoxoplasmosis treatment that we have experienced in our clinic.

## **The Use of Transfer Factor as Alimentary Support of Specific Chemotherapy in Primary Multiresistant Tuberculosis.**

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Transfer Factor, a versatile natural peptide immunocorrectors, at oral dosages of 1 capsule 3 times daily for one month and Transfer Factor Plus at 1 capsule 3 times daily for one month was used in the treatment of patients suffering from primary drug resistant pulmonary tuberculosis to such second line drugs as capreomycin, protionamid, ofloxacin, cecloserin. The patients demonstrated a significantly earlier disappearance of signs of toxification, cough, symptoms of respiratory failure and an acceleration of the process of temperature normalization. The cessation of bacterial release, return to normal ESR (erythrocyte sedimentation rate) and moderation of leukocytosis were all of shorter duration as well.

Frequency of the reparation process, development and resorption of pulmonary tissue infiltrates as well as shrinking and closure of decomposition cavities indicate the positive effect of this alimentary immunocorrector. With it we managed to eliminate the existing deleterious changes that had occurred in liver function and also to prevent the development of adverse reaction of intestinal microbiocenosis to these second line antituberculous drugs.

The use of Transfer Factor products contributed to the increase of what was an initially low numbers of CD3+ and CD4+ T cells, the number of T-regulatory and cytotoxic cells (CD8+) also changed significantly. The changes in the number of immunoregulatory T-cells resulted in significant increase in the initially low mean value of quantitative immunoregulatory index (CD4+/CD8+). In the test group the relative number of NK-cells (CD16+) reached those of the control group. In most cases there were no statistically significant changes in the number of B-lymphocytes, which values being slightly elevated. According to the data of the leukocytes migration inhibition reaction there was a distinct increase in delayed sensitivity to tuberculin, which was especially noticeable in the dynamics of the individual values. While evaluating humoral immunity we noted that the use of alimentary immunocorrectors contributed to the decrease of initially high levels of IgA, IgM and IgG, with the IgG numbers decreasing the most significantly. As to the phagocytic system the neutrophilic leukocytes (NST-test) demonstrated greater bactericidal reserve.

**The Role of the Biologically Active Supplement Transfer Factor  
in Increasing Preoperative Polychemotherapy Effectiveness  
in Breast Cancer and in Decreasing Side Effects.**

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We used Transfer Factor, a biologically active supplement produced by 4Life company, USA at dosages of 1 capsule 3 times daily for 1-3 courses of treatment in conjunction with aggressive polychemotherapy treatment of breast cancer patients. We used it to determine if it would decrease the major side effects (immuno-hematological effects in particular). A control group of matched subjects in age and clinical forms of the disease did not receive Transfer Factor.

The use of the transfer factor immunocorrector markedly contributed to the decrease in the frequency and the severity of common polychemotherapy complications such as toxification, nausea, vomiting, anorexia, taste change and intestinal function disturbances. The dynamics, as indicated by total blood count, showed a distinct protective effect of the Transfer Factor on red blood (erythrocytes number, hemoglobin, serum iron and ESR levels) and white blood (leuko- and lymphopenia) cells. As compared to the control group the test group patients also demonstrated less frequent and less pronounced polychemotherapy complications in terms of liver function (ALT, AST, GGT and gamma-glutamyltransferase), kidney function (total urinalysis, creatinine and urea levels), and chronic pyelonephritis aggravation and other functions and in blood serum total albumen and its fractions.

According to immunological monitoring assays the test group experienced a smaller decrease of relative and absolute number of total T-lymphocytes (CD3+) circulating in peripheral blood along with their helper-inductor subpopulation (CD4+) and cells expressing receptors to IL-2 (CD25+). The increases in T-lymphocytes of suppressors and killers phenotype (CD8+) in the test group are attributable to protective effect of Transfer Factor. The ratio CD4+/CD8+ (conventional quantitative immunoregulatory index) of the test group decreased less than for the control group during the course of polychemotherapy. Also, the decrease of natural killer cells (CD16+) in peripheral blood resulting from chemotherapy was less pronounced in the patients receiving the immunoregulating transfer factor peptides. A protective effect by transfer factor on T-helpers' cell non-specific functional activity was also demonstrated in the results from the inhibition reaction of leukocytes' migration by PHA-R (phytohemagglutinin).

In the test group the levels of the main classes of immunoglobulins experienced less hypoglobulinemia, another indicator of the immunoprotective effect of Transfer Factors.

**Clinical and Immunological Effectiveness of Transfer Factor  
in the Treatment of Gestation Pyelonephritis.  
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The study group consisted of fifteen (15) pregnant women (gestation period 28 weeks) with gestational pyelonephritis (acute, aggravated chronic) that were treated in the pregnancy pathology department of the 1<sup>st</sup> City hospital.

The immunomodulator Transfer Factor™, a biologically active supplement (BAS) produced by a USA company 4Life, was used in the study. The regiment included 1 capsule of Transfer Factor™ 3 times daily for 10 days in the treatment complex. The clinical and immunological effectiveness of Transfer Factor was confirmed in both clinical laboratory analyses and specific immunological investigations. There was statistically significant increase of absolute number of total lymphocytes ( $p < 0.001$ ) (and their immunomodulatory subpopulations in peripheral blood), wherein CD4+ content markedly increased ( $p < 0.01$ ) while that of CD8+ decreased ( $p < 0.05$ ). Initial high numbers of B-lymphocytes (CD20+) were also significantly decreased ( $p < 0.01$ ). With respect to circulating immunoglobulins there was a statistically significant increase in IgG antibodies ( $p < 0.05$ ). Phagocytic activity of circulating neutrophilic granulocytes was markedly increased ( $p < 0.05, 0.01$ ).

There were no side effects associated with the use of Transfer Factor™ in this study.

**Transfer Factor is a Modifier of Biological Age**  
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There is a close link between the decrease of functional activity of the immune system and aging. Thus, we decided to study immunomodulators to determine to what extent they may affect biological age indices. A new immune theory of aging (V.I.Dontsov, V.N. Krut'ko, 2002) points to the role of specific T-lymphocytes subpopulations in sustaining a certain level of normal cellular growth in the body and dwells on the importance of their functional decrease having a strong impact on aging. Stimulation of the function of these cells by Transfer Factor (TF), an immunomodulator produced by 4Life, USA, seemed a plausible method of "treating aging". The evaluation of the role TF in the process of aging is at the basis of this study.

Twelve (12) men aged 55-73 were included in the study. A dose of 300 mg. of the TF product was given daily with meals 5 times a week for 6 weeks. Biological age was determined using the "APK" method ("Diagnostics of aging: biological age" (National gerontology center, Moscow)). The following biomarkers were used for making the determinations: AP (arterial pressure), pulse wave velocity, VC (vital pulmonary capacity), static balance, Shtange's test, adaptation testing, body mass, left hand strength, Shulte's test, Veksler's test, neuromuscular test, hearing frequency threshold and the SAN's questionnaire. The functional activities of body systems were evaluated by means of Nakatani's electropuncture diagnostics. Chronological age of the group was  $63.5 \pm 0.7$ . Before the use of TF the biological age of the group differed from chronological by  $-4.2 \pm 0.6$  years. The majority of men demonstrated a decrease in the functional activity of endocrine and of immune systems' as well as hyperfunction of the liver and of urinary bladder and hypofunction pancreatic.

Results: The study showed that initially disturbed body system functions were significantly normalized. After the course of TF treatment the difference between biological and chronological age was  $(-8.2) \pm 0.5$  years ( $p < 0.05$ ), which is a rejuvenation effect of 4 years.