further help to characterize other potential therapeutic applications for $T\alpha_1$. Current studies demonstrate the potential for $T\alpha_1$ in modulating the effects of GC induced immunosuppression and suppression of thymic function. Results from this study and previous studies suggest that $T\alpha_1$ can potentially protect non-selected thymocytes from GC induced depletion within the thymus thus allowing for increased time for selection and production of new thymocytes.

Clinically, $T\alpha_1$, is now approved in 21 countries and has been utilized for the treatment of patients with cancer and immune deficiency disorders including AIDS, chronic hepatitis B (HepB), and hepatitis C (HepC) and as an adjuvant to enhance the efficacy of vaccines in the elderly and in immunocompromised patients. $T\alpha_1$ is active as a monotherapy for HepB and in combination with interferon, in HepC. It has a very good safety profile. $T\beta_4$ was first characterized by its ability to stimulate the expression of terminal deoxynucleotidyl transferase, a non-template directed DNA polymerase in bone marrow stem cells and to inhibit macrophage migration. Known, that it is the major actin sequestering peptide in normal mammalian cells and plays an important role in the remodeling and healing of tissues. $T\beta_4$ has been found to accelerate wound healing and angiogenesis in a variety of *in vitro* and *in vivo* models. $T\beta_4$ represents a new class of wound healing compound. It is not a growth factor or cytokine but rather exhibits a number of physiological properties which include its ability to sequester and regulate actin, its potent chemotactic properties (specifically for endothelial cells), and its capability to down regulate a number of inflammatory cytokines that are present in chronic wounds.

Over the past few years, remarkable progress has been made in the biochemical and clinical characterization of many of the major isoforms of $T\beta_4$ in both normal and abnormal cells. To date, about 20 isoforms of $T\beta_4$ have been identified. Using microarray analysis, it has now been established that a number of β thymosins are regulated in a variety of disease states including cancer. Studies are currently underway to determine whether characterization of specific β-thymosins including an isoform of $T\beta_4$ not found in normal tissue will be useful in helping to diagnose specific disease entities and to develop new therapeutics for treatment.

The work was submitted to international scientific conference «Basic and applied research in medicine» , Nov. 26 - Dec. 4, 2008 China (Beijing), came to the editorial office 08.08.2008.

THE NEUROIMMUNE BIOLOGY – CURRENT STATUS AND FUTURE POTENTIAL

Parakhonsky A.P.
Kuban medical university
Krasnodar, Russia

There is a strong popular belief in midbody interaction since prehistoric times. Pathologists noted first that the size of the thymus was profoundly influenced by emotional events and by neuroendocrine abnormalities. Hans Selye discovered (1936) that the hypothalamus-pituitary-adrenal axis was activated by diverse “nocuous” stimuli, which lead to a rapid involution of the thymus. He called the agents eliciting this phenomenon “stress”. Selye concluded that stress induced a “general adaptation syndrome”, which elevated the resistance of the animal to diverse insult. Hypothalamic lesions were shown to prevent anaphylactic death in guinea pigs in 1949 by Szentivanyi and colleagues. This demonstrated the dominant regulatory power of the nervous system over immune reactions. Korneva and Kai (1965) made similar observations were made in various animal species. Jancso and co-workers (1964) discovered the neural regulation of inflammation. These fundamental discoveries were not followed by intensive research activity. Progress has been slow because of the lack of basic knowledge and because of the immense technical difficulties encountered by investigators of this area.

In the seventies a handful of laboratories started to re-examine various aspects of neuroimmune-interaction. It was established that pituitary hormones have the capacity to stimulate, inhibit and modulate immune responses. Placental and pituitary hormones were also shown to be involved in immune system development and in the maintenance of immunocompetence (Berczi et al.). The innervation of lymphoid organs and cells was demonstrated. Neurotransmitters and neuropeptides were shown to be important immunomodulators. (Felten et al., Bienenstock et al.) Gradually immune derived cytokines were shown to deliver feedback signals towards the neuroendocrine system (Wenmacher, Besedovsky et al., Goldstein et al.). Compelling evidence was produced, indicating that immune reactions may be conditioned in the classical pavlovian sense and that emotions affect immune function (Ader et al., Bienenstock et al.). Evidence is increasing rapidly for the physiological role of cytokines and of immunocytes in the function of various organs and tissues, and in reproduction. It is also becoming obvious that Selye's general adaptation syndrome corresponds to the acute phase response. This is a multi-faceted and highly coordinated systemic defence reaction, which involves the conversion of the immune system from a specific, adaptive mode of reactivity to a rapidly amplifiable polyspecific reaction mediated by natural immune mechanisms. Immunological (poly)specificity is assured by profoundly

elevated levels of natural antibodies and liver-derived acute phase proteins.

Much has been learned about the regulation of cell activation, growth and function from immunological studies. Burnet's clonal selectional theory designates antigen as the sole immune activator. Bretcher and Cohn recognized first that at least 2 signals are required. This was followed by numerous studies on cell-to-cell interaction within the immune system and led to our current understanding of the importance of cell adhesion molecules and cytokines in cell activation and proliferation. This, coupled with the available information about the mechanisms of action of hormones and neurotransmitters, and of signal transduction and nuclear regulatory pathways paves the way to understanding how higher organisms function in their entire complexity. It is now apparent that the Nervous- Endocrine- and Immune-systems form a systemic regulatory network, which is capable of regulating all aspects of bodily functions in health and disease. This provides new foundations for Biology.

The work was submitted to international scientific conference «Basic and applied research in medicine», Nov. 26 - Dec. 4, 2008 China (Beijing), came to the editorial office 08.08.2008.

OCCUPATIONAL DISEASES OF THE SKIN IN CLINIC DERMATOVENEROLOGY

Parfyonova M.A., Babkina V.I., Silina L.V., Shehovtsova N.A.
Kursk state medical university
Kursk, Russia

The purpose of research was definition of prevalence of various forms of skin diseases, revealing of their communication with a trade, studying of structure professional dermatosis in Kursk and Kursk area.

Medical cards of 2108 patients who are taking place on the account in Kursk a regional clinical dermatovenereologic clinic and Kursk the center of professional pathologies during the period with 2003 on 2006 years are analysed. From the general number of patients the diagnosis eczema is put 462 surveyed (22 %), including 3 patients with the diagnosis professional eczema according to the Kursk center of professional pathologies. During research two groups have been generated: working - 201 patient (44 %) and not working (children, students, pensioners) - 261 person (56 %). Among working men have made 82 % (165 patients), women - 18 % (36 person). Desease eczema is marked in the most able-bodied socially active age - from 25 till 50 years. On nosological the group working with the diagnosis eczema is submitted to the form widespread - 92 patients (45,7 %), microbic - 72 (35,8 %), paratraumatic - 22 (10,9 %) and fungoid eczema - 15 person (7,6%). From 92 patients with the diagnosis widespread eczema among working, professional eczema makes 3,26% - 3 patients with trades: the senior leaser of spinning shop, the mason, the mechanic. Surveyed during the labour activity contacted to synthetic fibres for which processing used 30 % an acetic acid, spirit; for washing - antistatic; the laying of a brick, unloading of building materials was carried out; contact to a dust of the mixed structure (cement, quartz, chrome, wood); restoration of details pitches under 3 category of harmful works and on sharpening welding seams by abrasive circle by dry way. The experience of work of patients in adverse working conditions is more than 17 years.

Conclusions: high prevalence eczema - 22 % (462 patients) from all skin diseases is established; among the working population eczema 44 % (201) suffer; professional eczema has made 3,26 % from 92 patients with the diagnosis widespread eczema; desease is marked at able-bodied socially active age of 25-50 years; the experience of work in adverse working conditions is more than 17 years; low detectability is connected to absence in inspection of the sick analysis of labour activity and factors of manufacture.

The work is submitted to the Scientific International Conference “Scientific Research of Higher School on Priority Orientations of Science and Technology”, June, 22-29, 2008, Kiel-Bergen-Geiranger-Kiel, came to the editorial office on 19.05.2008.

PHENIBUT AND ITS DERIVATES INFLUENCE TO THE CELL SECTION OF THE IMMUNE RESPONSE IN THE IMMUNE DEFICIT

Samotrueva M.A., Ovcharova A.N., Tyurenkov I.N.
Astrakhan State Medical Academy, Astrakhan, Russia
Volgograd State Medical University, Volgograd, Russia
Astrakhan Base Medical College, Astrakhan, Russia

There is a great number of the facts, indicating at the close integration of the central nervous system, its coordination infringement is playing the important role in the development as the neuromental, as the immune disorganize. The great importance is been attaching to the reseaches, touching on the influence of the psychopharmacological medicine at the immune status parameter. In this research we have made the studying of the phenibut and its derivates influence laboratory code RGPU−149, RGPU−150 and RGPU−151 at the organizing of the reaction hypersensitivity of the delayed-model (RHDT) with the experimental immune deficit.

The research has been made with 60 mice of the line CBA mass 18 − 20 g. The animals were distributed on the groups (n = 10); control № 1 – the immunizing animals, receiving phys. solution; control № 2 – immunizing animals with the immunedeficit model (cyclophosphamid (CPh) in the doze 100 mg/kg); experienced groups – the immunizing animals with the immune depression, receiving phenibut inside – intraperitoneal in the therapeutic doze 25 mg/kg and