

## EDITOR-IN-CHIEF'S PREFACE TO ISSUE 3, 2025

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Dear colleagues!

Hot summer and vacation periods are not a reason to interrupt scientific research and coverage of the achieved results. As always, the editorial board of Acta Biomedica Scientifica is pleased to present the next issue to your attention. A wide range of topics adds diversity to the presented material and gives rise to further research ideas and analysis of already accumulated knowledge.

This issue of our journal, as always, contains articles in several sections that have both theoretical and purely practical significance for the diagnosis, prevention and treatment of currently important diseases and syndromes.

Research on **post-Covid syndrome** continues. E.A. Grigoricheva and co-authors from Chelyabinsk and Khanty-Mansiisk autonomous district–Yugra, using echocardiography in previously healthy people in the first month after COVID-19 revealed dilatation of the heart chambers, increased systolic pressure in the pulmonary artery and valvular regurgitation, impaired diastolic function of the left ventricle and the presence of fluid in the pericardial cavity with stabilization of indicators by the sixth month. P.E. Borodin (Blagoveshchensk) found a higher content of proinflammatory interleukins in patients after COVID-19, compared to those who did not have COVID-19. Both of these studies once again confirm the need for further research, both on the characteristics of the infection itself and its consequences.

Several works of the issue are devoted **to oncology**. Fundamental studies of drug resistance of tumor cells presented by E.Z. Lapkina et al. (Krasnoyarsk) showed that in B16 chemoresistant melanoma tumor cells alter the expression of genes that are components of signaling pathways associated with the inflammatory process. V.V. Kryukova et al. in patients with colorectal tumors revealed changes in cytotoxic T-lymphocyte subpopulations, an increase in the expression of co-inhibitory molecules CTLA-4, PD-1, and TIM-3 on them, as well as a decrease in the proportion of naive cells and an increase in effector memory cells in regional lymph nodes. A.V. Belonogov and co-authors (Irkutsk) proved that in basal cell skin cancer, ultrasound examination helps to achieve radical removal of the tumor and minimizes excessive indentation from the tumor.

Two papers are devoted to the current **problem of diabetes mellitus**. I.A. Yatskov et al. (Republic of Crimea) revealed an imbalance of endotoxin-binding systems in patients with type 1 diabetes mellitus – an increase in lipopolysaccharide-binding protein (LBP), as well as a systemic inflammation marker – CRP, while the level of bactericidal protein that increases permeability decreased, which indicates low-intensity inflammation. In the review by L.A. Kuznetsova et al. was concluded that glucokinase and functionally related proteins are promising targets in the development of approaches to normalize the sensitivity of pancreatic beta-cells to glucose, restore insulin secretion and glucose homeostasis in type II diabetes mellitus and other metabolic disorders.

Another relevant pathology – **bronchial asthma (BA)** was studied in the review by O.Y. Kytikova et al. (Vladivostok), which summarized the role in the development of bronchial asthma polymorphic variants of the *FADS*, *ELOVL* and other genes associated with polyunsaturated fatty acids metabolism and lipid metabolism disorders. In the work of E.V. Kondratieva et al. (Vladivostok–Irkutsk) revealed differences in cell signaling, increased expression of IL-4R, TLR4 in patients with uncontrolled BA. An intensification of receptor expression is observed with an increase in the severity of the disease, deterioration of control, and exposure

to suspended solids. This suggests that activation of the CD8<sup>+</sup> cell signaling system may become an important criterion for assessing the condition of asthma patients and a biomarker of environmental-dependent disorders in urbanized areas.

Socially significant nosology – tuberculosis is the focus of investigations in S.I. Kayukova et al (Moscow) review, which concludes that the composition of the respiratory tract microbiota in patients with respiratory tuberculosis is insufficiently studied, which requires representative studies on this topic. In the experimental work of A.M. Sinyavskaya et al. (Novosibirsk) a multi-year cycle of work was continued and the positive effect of isoniazid-dextran compositions on the course of BCG-granulomatosis in mouse liver was shown.

Recently, much attention has been paid to **bacterial biofilms**, which seriously hinder therapy and are one of the reasons for the development of drug resistance. In the work of V.I. Dubrovina et al. (Irkutsk) an increase in the expression of TLRs genes in the blood and spleen cells of white mice infected with *F. tularensis* biofilm cultures compared with agar cultures was shown.

In the last few issues, we have published a number of interesting studies on **psychology and psychiatry**. This number is also no exception. Now we would like to introduce to readers two relevant studies by L.A. Ivanova et al. and S.E. Bolshakova et al. They conduct their researches in large scientific and medical institutions in Irkutsk. The first team presented a study of risk factors for socially dangerous actions (SDA) in patients with paranoid schizophrenia. Taking into account clinical and psychopathological, socio-demographic, personal and comorbid risk factors for the formation of SDA associated with the use of psychoactive substances contributes to the prevention of socially dangerous behavior in patients with schizophrenia. The second group found that adolescent girls with irregular menstrual cycles and sleep disorders also have psychoemotional disorders and require close attention of specialists to correct deviations.

In this issue you will also **find interesting articles** about the unique operation of replacing finger phalanx with an all-ceramic implant (G.P. Kotelnikov et al., Samara), the rehabilitation of patients with ischemic stroke (V.T. Dolgikh and K.P. Ivanov, Moscow), and an overview of the development of neurological disorders in premature infants (A.M. Ziganshin et al, Ufa), also a review by L.V. Rychkova and V.A. Shalamov (Irkutsk) on a book of the history of higher medical education in Irkutsk, materials on ophthalmology, gynecology and other branches of medicine.

There was also a place in the journal for congratulations on anniversaries!

We hope that this issue of the journal will become for you not only a source of new knowledge but also a good companion in the moments of summer vacation!

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