

## EDITOR-IN-CHIEF'S PREFACE TO ISSUE 5, 2025

**Sergey I. Kolesnikov**

**Member of the RAS**

From the articles published in this issue, I would single out the work of T.A. Belogorova and others (Irkutsk) under the guidance of corresponding member of the RAS L.V. Rychkova, which successfully tested a new medical simulator "Glove" for correcting hands spasticity in treatment of common spastic syndrome in children.

A number of studies continue to focus on **COVID-19 and post-COVID-19 syndrome**. N.A. Ishutina and I.A. Andrievskaya (Blagoveshchensk) found that COVID-19 in second trimester of pregnancy leads to changes in the content of phospholipids, arachidonic acid and oxylipins in the blood serum, which makes it necessary to optimize therapy. E.V. Zhdanova, E.V. Rubtsova (Tyumen, Kurgan) revealed an immunocomplex mechanism in the pathogenesis of arthralgia, arthritis, and the onset of osteoarthropathy in post-COVID syndrome with active participation of IgE. Attention should be paid to I.A. Cherevikova and co-authors (Irkutsk) study, which showed depressive symptoms, increased anxiety, and reduced activity in girls with post-COVID syndrome for 6–12 months after COVID-19. Elevated TSH and cortisol levels were noted.

The **topic of infections** has been developed in several clinical and experimental studies. The work of O.M. Gordeeva, A.M. Tikhonov and N.L. Karpina (Moscow) provides optimistic data on kidney transplantation and the appointment of immunosuppressive therapy **without reactivation of tuberculosis** within a year in 6 out of 7 patients with tuberculosis. N.A. Smetannikova et al. (Novosibirsk, Khabarovsk) based on the study of a fatal case, two hypotheses were put forward for the formation of a third urban focus of Orthohantavirus Seoul in Khabarovsk, and T.A. Bayanova (Irkutsk) conducted a retrospective analysis of the incidence of whooping cough, measles, chickenpox, and meningococcal infection in the Irkutsk region in 1955–2023.

The work of A.B. Pyatidesyatnikova et al. (Irkutsk) demonstrated the ability of a new selenium-containing drug to increase the immunogenicity of the vaccine strain *Y. pestis* EV regardless of the dose. In another experimental work by N.A. Lyapunova et al. (Irkutsk) about the culture of *M. sibiricus* kidney cells, where only background expression of *IFN-β* is observed, refuted the hypothesis about the constantly "switched on" activity of interferon pathway proteins in bats.

A series of works is devoted to practical **issues of ophthalmology**: pterygo-palatine blockade after donor corneal transplantation (I.G. Oleshchenko and T.N. Yuryeva, Irkutsk); improving the effectiveness of combined treatment of Coates retinitis with anti-VEGF drugs as neoadjuvant therapy (V.V. Bukina et al., Irkutsk); description of a clinical case of corneal ulcer as the first of HIV infection (T.Yu. Matnenko et al., Omsk); expansion of diagnostic capabilities using computer accommodation (R.N. Zelentsov et al., Arkhangelsk).

**Clinical and biochemical work.** I.E. Esimova and others (Tomsk), it was found that adolescents with grades 1–3 obesity have elevated levels of insulin and C-peptide in their blood, a decrease in the concentration of GLP-2 and a fatty acid imbalance (a decrease in the proportion of GLA, DGLA, DPA, DHA, AA and an increase in the content of ALA, OA, POA, BA, MA, PA, MAA), as well as low-intensity sub-optimal inflammatory response. I.A. Yatskov et al. (Crimea) demonstrated a significant effect of lipopolysaccharide-binding protein (LSD), bactericidal permeability – enhancing protein (BPI), and sCD14, as well as a marker of systemic inflammation (CRP) on the risk of macrovascular and microvascular complications in type 1 diabetes mellitus.

In the study of O.V. Smirnova and others (Krasnoyarsk) was found that different polymorphisms of the *PNPLA3*, *HFE*, and *UCP2* genes are associated with an imbalance in the LPO-AOD system, which can be caused by a violation of iron levels and a change in the antioxidant activity of the *UCP2* proteinUCP2.

**As a morphologist**, I was very interested in the article by the authors of both Italy and Russia O.K. Zenin, E.S. Kafarov, I Miltiadis (Penza, Grozny, Palermo-Italy) who, based on the results of morphometry of corrosion preparations of the coronary arteries of the human heart, established a discrepancy between their real data and the traditionally used equations proposed by Mette S. Olufsen and G. Finet, this calls into question the validity of their use of AI for numerical modeling of realistic riverbed geometry.

Two works are devoted **to psychology**. Yu.A Marakshina and others (Yekaterinburg), proved the validity of using the "Hospital Scale of Anxiety and Depression" (HADS) for screening emotional distress in Russian-speaking students. A.A. Martynova et al. (Apatite) assessing the life quality of pregnant women, it was shown that, first of all, the psychoemotional state of a pregnant woman is influenced by physical functioning, the relationship exist between psychoemotional state and family status, the number of children and average per capita income.

Another **experimental work** of V.Ya. Kolesnik, R.A. Pakhomova and A.A. Kolesnik (Moscow), showed that the solution with the membrane protector dimethyloxobutylphosphonyl dimethylate was the most effective for preserving adipose tissue graft.

Readers will undoubtedly be interested in several review articles, including those devoted to pregnancy: A.M. Ziganshin et al (Ufa, St. Petersburg) on the use of mass spectrometry to study the role of posttranslational protein modifications in miscarriage, which provides new opportunities for diagnosis and prognosis, and review by E.S. Taskina et al. (Chita) on blood-brain barrier dysfunction in preeclampsia.

A joint review by O.A. Makarova et al. (Irkutsk, St. Petersburg) reveals the potential for predicting a number of diseases based on blood group analysis, and a study by R.-L. Zarainina et al. (Moscow, Dolgoprudny) describes the characteristics of *Piper betle* of the peppercorn family *Piperaceae* as a promising object for further research in the field of phytopharmacology.

**For citation:** Kolesnikov S.I. Editor-in-Chief's preface to Issue 5, 2025. *Acta biomedica scientifica*. 2025; 10(5): 5-8. doi: 10.29413/ABS.2025-10.5.1