Program XIII International symposium «Controversies in glaucoma: 3P-medicine concept in treatment and monitoring»

November 15, 2024

12.00 - 12.05 **Welcoming speech and introductions (Greeting: akad. V.A.Chereshnev, professor B. E. Malyugin, professor V.N. Trubilin)..**

12.05 - 12.20 **3-PM innovations: what are the perspectives?.** *Golubnitschaja O., Germany*. Prof. Dr. Olga Golubnitschaja, as President of the European Association for Predictive, Preventive and Personalised Medicine (EPMA), will discuss innovations and perspectives in 3P medicine in her lecture. Over the past 15 years, EPMA has implemented advanced population screening programmes, personalised medical services such as individualised prediction and prognosis, cost-effective prevention, personalised treatments tailored to the person.

12.20 - 12.40 **Multi-dimensional imaging model for screening of primary open angle glaucoma.** *G. Wang, China*. Geng Wang et al. have developed a multi-dimensional imaging model specifically designed to detect primary open-angle glaucoma (POAG) using a convolutional neural network algorithm. The report will present the results from testing the model and explore its clinical applications for detecting POAG, particularly in patients with myopia.

12.40 - 13.00 **Personalized confidence level of artificial intelligence in predicting retinal diseases.** *H. Chen, China*. Development of artificial intelligence (AI) technique has allowed for prediction of retinal diseases. Haoyu Chen et al. developed a foundation model with uncertainty estimation (FMUE) to detect 11 retinal conditions. This lecture will present the results of FMUE testing, its comparison with two state-of-the-art algorithms, RETFound and UIOS.

13.00 - 13.20 **Long-Term Risk and Prediction of Progression in Primary Angle Closure Suspect.** *BY Xu, USA*. In this lecture, Dr. Xu will discuss recent advances in early detection and prevention of primary angle closure glaucoma (PACG). The results of recent scientific studies combining OCT imaging and artificial intelligence to develop novel angle closure detection and risk stratification methods will be presented.

13.20 - 13.40 **PPP-medicine concepts to glaucoma treatment and monitoring.** *Kurysheva N., Russia*. Currently, the research vector is aimed at developing artificial intelligence algorithms to predict the rate of glaucoma progression. Based on models of neural networks, it is possible to individually predict the course of the disease and choose algorithms for its treatment. The report provides data

from our own research on mathematical modeling of a personalized approach to the treatment and monitoring of patients with various forms of glaucoma.

13.40 - 14.00 **OCT biomarkers for personalized treatment of AMD patients.** *Maltsev D., Russia*. Currently, the most modern OCT devices provide wide-field visualization of the posterior segment, analysis of retinal microcirculation and morphometry of the anterior segment with high resolution. This leads to the discovery of a large number of biomarkers that require determining their role in clinical decision-making for treatment. Professor Maltsev will discuss the possibilities of personalized treatment options for patients with neovascular age-related macular degeneration using novel biomarkers.

14.00 - 14.20 **Neuroprotection from the point of 3-PM.** *Kurysheva N., Russia*. Neuroprotective treatment of glaucoma is aimed at preserving visual functions in conditions of normalized ophthalmotonus and involves management of various links in the pathogenesis of glaucoma opticoneuropathy. Based on the existence of various glaucoma phenotypes and individual characteristics of the course of the glaucoma process, the choice of neuroprotective treatment is also individual, based on the concept of 3P medicine. The report provides clinical examples of such approaches.

14.20 - 14.40 **A personalized approach to the treatment and monitoring of patients with AMD and glaucoma.** *Kapkova S., Russia*. The combination of glaucoma with AMD significantly worsens the course of both diseases. There are many similarities in the pathogenesis of glaucoma and AMD, on the other hand, the risk of side effects in standard treatment in patients with combined pathology is significantly higher. Therefore, an individual approach is especially indicated for this category of patients. The report presents the results of our own research on predicting the effectiveness of anti-VEGF therapy, taking into account this approach.

14.40 - 15.00 **Discussion and closing remarks.**