



Fund “Nauka” Project № 16018 Resume

“Creating of infrastructure for dynamic microstructural analysis of the visual analyzer with a modern angio-OCT technology”

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The aim of the project is to create a structure for long-term, dynamic, non-invasive, microstructural examination and to follow the norm and pathology in the anterior and posterior segment of the eye using angio-optical coherence tomography (A-OCT).

In addition to creating a bank with normal images of the anterior and posterior eye segments, the team sets a number of other tasks for the project. Patients with socially important eye diseases will be studied using innovative angio-OCT technology for non-invasive assessment of conjunctival lymph vessels, as well as the influence of UV rays on the anterior ocular surface with OCT, and the effect of amniotic membrane transplantation on the anterior ocular surface with OCT.

All patients will be examined with an optical coherence tomograph with an angio module, allowing non-invasive, non-contrast examination of the ocular circulation. This method provides high repeatability of the examinations and allows for a precise qualitative and quantitative assessment of the pathological changes occurring in the visual analyzer. The method has a unique property for visualization of lymph vessels, which opens new horizons in the diagnosis of the anterior segment of the eye:

- early detection of a large number of eye diseases leading to severely reduced visual acuity and consequent poor quality of life of patients;
- young specialists have the chance to develop their scientific and clinical competences at the highest possible level;
- development of innovative papers for research through non-invasive methods and ocular structures such as conjunctival lymph vessels.