

## CONTEMPORARY CORNEAL TRANSPLANTATION – THE OLD SCHOOL AND NEW PERSPECTIVES IN BULGARIA

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**Aim:** The aim is to analyze the possibilities of cell and tissue therapy of the anterior ocular surface by implementing innovative technologies and testing methodologies for personalized treatment.

**Materials and Methods:** The methodologies consist of a theoretical analysis of the legislation, clinical analysis, and detailed manuals on performing a transplantation in Bulgaria and the world. A questionnaire focused on testing the trends in performing transplantations in Bulgaria is added. All clinical procedures have been conducted using state-of-the-art innovative technology for microstructural assessment during surgery by means of 3D microscopy and real-time optical coherent tomography (OCT).

**Results:** The analysis of the questionnaires on the transplantation trends in Bulgaria (38 correctly filled out out of 100 sent) shows that, in 90% of the cases, corneal transplantations are performed using classic techniques. The shares of anterior and posterior lamellar keratoplasty are only 2% each. The complex AM transplantation techniques are limited to only 10%. A prospective analysis of 186 transplantations has been conducted. Of them 28 are corneal transplantations. The data have been compared with that of the retrospective analysis of 2050 AM transplantations performed by a single surgeon in the last 10 years.

**Conclusion:** The anterior ocular surface is a unique part of our organism and the visual analyzer. Its health is measured by three simple patient sensations: vision, comfort, and lack of redness. The impairments affecting each of the structures which are part of it lead to a damage to the neighboring structures and this unlocks the vicious circle of the anterior ocular surface disease.