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EUROPEAN MEDICAL THERMALISM AND THE WORLD FEDERATION OF HYDROTHERAPY AND CLIMATOTHERAPY (FEMTEC)

## TRANSPLANTATION OF A PRESERVED DESCMET'S MEMBRANE TO A PATIENT WITH PSEUDOPHAKIC BULLOUS KERATOPATHY

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A common complication of cataract surgery in the elderly is decompensation of the corneal endothelial layer, which serves as a barrier and pumping mechanism. This complication is currently known as pseudophakic bullous keratopathy, leading to significant vision loss despite a successful lens replacement surgery. The pinnacle of modern keratoplasty, the gold standard for the treatment of endothelial disorders, is Descemet membrane endothelial keratoplasty (DMEK). The material for this procedure is prepared in advance (1 day before surgery). A preserved corneoscleral flap is delivered to the operating room, from which partially prestripped Descemet membrane is isolated. It is subsequently implanted into the patient and secured in the anterior chamber with a gas-air bubble. To report a clinical case with a favorable outcome of surgical treatment of pseudophakic bullous keratopathy with partially prestripped preserved Descemet's membrane. Patient R., 79 years old, presented to the Research Institute of Eye Diseases on January 2, 2025, complaining of blurred vision in his left eye. His medical history revealed that he had undergone OS phacoemulsification for age-related nuclear cataract at his place of residence six months earli-

er. Visual acuity on admission was OD Vis 0.1 sph +1.5 = 0.2; OS = 0.1. IOP (iCare) = 16/14 mm Hg. Biomicroscopy revealed corneal edema, a thickened optical section, and isolated bullae. A diagnosis of OS pseudophakic bullous keratopathy was made. The patient underwent surgical transplantation of Descemet's membrane. Treatment of OS: A corneoscleral flap, previously partially prestripped and preserved under hypothermic conditions at the eye bank, was delivered to the operating room, where the damaged endothelium was successfully replaced. The postoperative period was uneventful. The patient's visual acuity after 1 month was OS = 0.9. IOP (iCare) = 14/12 mm Hg and remained stable for 1-year endothelial cell density decreased actively for 6 months, then stabilized and amounted to 1960 cell/mm<sup>2</sup>. In conclusion, Pseudophakic bullous keratopathy is quite common in the practice of corneal surgeons. Modern preservation methods allow for the replacement of the damaged corneal layer, while maintaining high visual function (1-5). Further research is needed to demonstrate the effectiveness of transplantation of preserved material.

**Keywords:** bullous keratopathy, DMEK, endothelial keratoplasty, preservation