

## AMNIOTIC MEMBRANE IN OPHTHALMOLOGY

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**Background.** Amniotic membrane (AM) represents a thin membrane on the inner part of the placenta (A. C. Mamede, 2012) that can be used in ophthalmology, dentistry, urology, burn units, otorhinolaryngology, gynecology, and researches in stem cell technology (U. Sridhar, 2023). Growth factors and cytokines with anti-inflammatory, anti-bacterial, anti-immunogenic, anti-fibrotic, and promotion of epithelization qualities are delivered by the cells of AM (H. Elkhenany, 2022).

**The study aims** to give a brief overview of the clinical uses of AM in ophthalmology.

Methods and materials: Literature research was performed using the keywords “amniotic membrane transplant”, “amnion AND cornea”, “amnion AND ophthalmology”, “amnion AND ocular surface” and “amnion AND retina”.

There were selected articles written in English, until 01/03/2020.

**Results.** Due to its characteristics as nonimmunogenic, easily available, cosmetically acceptability, and good substrate for epithelial growth- the AM is used as a graft for epithelial cell growth, tectonic support for small perforations and thinning of cornea and sclera, and reconstruction for the ocular surface. Also, in vitreoretinal surgery, the applications of the AM have been extended, such as complicated retinal detachment, macular holes that failed to close, and end-stage age-related macular degeneration. All of these uses are now under investigation and its capacity to be assimilated into the retinal tissue without causing immunologic reactions or significant postoperative problems makes it a valuable basal membrane and a new strategy for treating various retinal diseases.

**Conclusion.** Nowadays, the amniotic membrane is widely used for the ocular surface with great postoperative results. For the vitreoretinal use, it is needed further prospective, randomized controlled studies to confirm the obtained results.

**Keywords:** amniotic membrane, cornea”, ocular surface, retina, vitreoretinal surgery.