

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
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Service (sector) Refractive Surgery N° CEP

GLYCOSAMINOGLYCANS SYNTHESIS AFTER CORNEAL REFRACTIVE SURGERY COMPARING TWO TECHNIQUES: LASER IN SITU KERATOMILEUSIS (LASIK) X PHOTOREFRACTIVE KERATECTOMY (PRK)

Authors: Martins, S.A.R.; Campos, M.S.Q.; Michelacci, Y.M.; Soriano, E.S.; Berto, A.G.A. Purpose: To identify human corneal glycosaminoglycans; to investigate the biosynthesis of glycosaminoglycans in corneas maintained in tissue culture; and to evaluate the effect of corneal refractive surgery on the biosynthesis of glycosaminoglycans in culture, comparing two surgery techniques (LASER in situ keratomileusis (LASIK) and Photorefractive keratectomy). Methods: Corneas from the Hospital São Paulo Eye Bank that were rejected for transplants will be used. Surgeries will be performed (LASIK and PRK) just after the enucleation, each one with a control group. To identify the glycosaminoglycans synthesized in tissue culture conditions, the corneas will be immersed in F-12 culture medium serum and maintained for 24 hours at 37°C in 2.5% CO₂ atmosphere. The glycosaminoglycans synthesized in 24 h will be metabolically labeled by addition of ³⁵S-sulfate to the F-12 culture. The glycosaminoglycans will be extracted by proteolysis with papain and will be identified by a combination of agarose gel electrophoresis and enzymatic degradation with bacterial mucopolysaccharidases. The ³⁵S-glycosaminoglycans will be isolated and identified as above described, except that they will be visualized by radioautography and quantified in liquid scintillation counter. Results: We do not have enough corneas to show our preliminary results yet. Our purpose at the moment is to explain the protocol of this study, involving refractive surgery and molecular biology, in the sense that stromal matrix proteoglycans play an important role on the cornea transparency attributed to their interaction with the collagen fibrils and water retention properties. We are trying to study those interactions after LASER in situ keratomileusis and PRK.