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Service (sector) Refractive Surgery N° CEP

**PROTEOGLYCAN SYNTHESIS AFTER REFRACTIVE SURGERY  
COMPARING TWO TECHNIQUES: LASER IN SITU KERATOMILEUSIS  
(LASIK) AND PHOTOREFRACTIVE SURGERY**

(PRK)Martins, SAR; Berto, AGA; Aguiar, JAK; Soriano, ES; Michelacci, YM; M Campos Purpose: The objective of the present study is to evaluate the effects of corneal refractive surgery upon PG (proteoglycan) biosynthesis, using two different techniques: LASER in situ keratomileusis (LASIK) and photorefractive keratectomy (PRK). PRK, which consists in epithelial removal and laser application, is an effective procedure for the correction of low and moderate myopia, and LASIK, an intrastromal procedure that maintains the integrity of the Bowman's membrane and overlying epithelium, is effective to treat a wide range of refractive errors. Methods: Human corneas that were rejected for transplants were obtained at Banco de Olhos do Hospital São Paulo. For each eye pair, one cornea was submitted to refractive surgery and the other was used as matched control. After surgery, the corneas were excised from the eyes and immediately placed in Ham F-12 nutrient mixture supplemented with <sup>35</sup>S-sulfate (100 mCi) for the metabolic labeling of PGs. After 24 h incubation at 37°C in 2.5% CO<sub>2</sub> atmosphere, PGs were extracted by 4 M GuHCl and identified by a combination of agarose gel electrophoresis, autoradiography, immunoblotting, and enzymatic degradation with protease and specific mucopolysaccharidases. Results: Our results indicate a marked decrease in <sup>35</sup>S-sulfate incorporation in PGs after refractive surgery with both techniques. Conclusion: The reasons leading to this effect are now under investigation. (Supported by FAPESP, CNPq, CAPES, SPDM)