( ) R1 ( ) R2 ( ) R3 ( ) PG0 (X) PG1 ( ) Estagiário ( ) Tecnólogo ( )
PIBIC Last Name - Wallau First Name - Anelise Middle - Dutra

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A Prospective Randomized Clinical Trial to Compare PRK with MMC versus LASIK in Wavefront-Guided Surgeries for Compound Myopic Astigmatism

Authors: Anelise Dutra Wallau and Mauro Campos

Purpose: To compare photorefractive keratectomy (PRK) with prophylactic use of mitomycin C (MMC) and laser in situ keratomileusis (LASIK) in custom surgeries for compound myopic astigmatism. Methods: Eighty-eight eyes of 44 patients with a minimum estimated ablation depth of 50 μm were randomized to PRK with MMC 0.002% for one minute in one eye and LASIK in the fellow eye. Uncorrected visual acuity (UCVA), best-spectacle-corrected visual acuity (BSCVA), cycloplegic refraction, biomicroscopy, contrast sensitivity, specular microscopy, aberrometry and a subjective questionnaire were evaluated. All patients completed 6 months follow-up. Results: Mean spherical equivalent (SE) error before surgery and mean ablation depth (AD) were -3.99 ± 1.20 diopters (D) and 73.09 ± 14.55 μm in LASIK eyes and -3.85 ± 1.12 D and 70.7 ± 14.07 μm in MMC-PRK eyes. At six months postoperatively, the mean UCVAs (logMAR) were -0.10 ± 0.09 in LASIK eyes and -0.13 ± 0.10 in MMC-PRK eyes ($p>0.05$). The mean BSCVAs improved in both groups postoperatively ($p=0.001$), with no statistically significant between-group difference. The mean cycloplegic SE error was 0.52 ± 0.56 D and 0.56 ± 0.34 D in LASIK and MMC-PRK, respectively at last follow-up ($p>0.05$). Significant haze was not observed in any PRK eye. The mean high-order-aberration (HOA) was higher in LASIK eyes postoperatively when compared with MMC-PRK eyes ($p<0.04$). PRK with MMC eyes showed better contrast sensitivity than LASIK eyes. The endothelial cell count did not differ significantly in both groups ($p>0.713$). PRK with MMC eyes were better rated in terms of visual satisfaction. Conclusion: PRK with MMC may be more effective than LASIK in custom surgeries for myopia. Long-term follow up is necessary to attest its safety.