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PRK with Mitomycin C versus LASIK in Custom Surgeries for Myopia: One Year Follow-up.

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Purpose: To compare photorefractive keratectomy with prophylactic use of mitomycin C (MMC-PRK) and laser in situ keratomileusis (LASIK) in custom surgeries for 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, biomechanical properties of the cornea and a subjective questionnaire were evaluated. Forty-two patients completed one year follow-up.

Results: Mean spherical equivalent (SE) error before surgery and mean ablation depth (AD) were -3.99 ± 1.20 diopters (D) and $73.09 \pm 14.55 \mu\text{m}$ in LASIK and -3.85 ± 1.12 D and $70.7 \pm 14.07 \mu\text{m}$ in MMC-PRK eyes. UCVA was significantly better in MMC-PRK eyes 3 ($p=0.04$), 6 ($p=0.01$) and 12 ($p=0.03$) months after surgery. BSCVA was also better in MMC-PRK eyes ($p<0.001$) at one year follow-up. SE did not differ significantly in the 2 groups during follow-up ($p>0.05$). Significant haze was not observed in any PRK eye. The mean higher-order aberrations (HOA) was higher in LASIK eyes postoperatively when compared with MMC-PRK eyes ($p=0.01$). MMC-PRK eyes showed better contrast sensitivity than LASIK eyes ($p<0.05$). The endothelial cell count did not differ significantly in the 2 groups ($p=0.65$). Corneal hysteresis and corneal resistance factor were significantly greater in LASIK eyes one year after surgery. MMC-PRK eyes were better rated in terms of visual satisfaction.

Conclusions: MMC-PRK appears to be more effective than LASIK in custom surgeries for moderate myopia. Long-term follow-up is necessary to attest its safety.