

18th Joint event on

EUROPEAN OPHTHALMOLOGY CONGRESS & OCULAR PHARMACOLOGY

December 04-06, 2017 | Rome, Italy

Effect of mitomycin C on myopic versus astigmatic photorefractive keratectomy

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Purpose: Long-term mitomycin C (MMC) effects in photorefractive keratectomy (PRK) were compared in simple myopic and astigmatic patients.

Methods: In this observational cohort study, subjects were selected based on preoperative and postoperative data collected from medical records; they were divided into simple myopia with/without MMC and myopic astigmatism with/without MMC groups. Haze, uncorrected visual acuity (UCVA), best-corrected visual acuity (BCVA), subjective refraction, and K-reading were evaluated at 1-, 3-, 6-, and 12-month follow-ups.

Results: One-hundred-fifty-nine eyes of 80 subjects (34 women and 46 men; mean age, 26.81 ± 7.74 years; range, 18–53 years; spherical powers, -0.50 to -8.00 DS; cylindrical powers, -0.25 to -5.00 DC) were enrolled. One year postoperatively, the simple myopia with/without MMC groups showed no difference in UCVA ($P = 0.187$), BCVA ($P = 0.163$), or spherical equivalent ($P = 0.163$) and a significant difference ($P = 0.0495$) in K-reading; the haze formation difference was non-significant ($P = 0.056$). Astigmatic groups with/without MMC showed a significant difference in K-reading ($P < 0.0001$). MMC groups had less haze formation ($P < 0.0001$). Conclusion. PRK with intraoperative MMC application showed excellent visual outcomes. MMC's effect on astigmatic patients was significantly better with acceptable safety and minimal side effects.

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