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PIBIC Last Name - Carossa First Name - Cristina Middle - Ferreira

Service (sector) Refractive Surgery (RS) Nº CEP 016449/06

Long-term evaluation of hyperopic laser in situ keratomileusis using manifest refraction AUTHORS (FIRST NAME, LAST NAME): Cristina Carossa1, Mauro Campos1, Fabio H. Casanova1 **INSTITUTIONS (ALL):** 1. Department of Ophthalmology, Federal University of Sao Paulo - Paulista School of Medicine, Sao Paulo, SP, Brazil.

ABSTRACT BODY: Purpose: To evaluate the efficacy, safety, and predictability of hyperopic laser in situ keratomileusis (H-LASIK) using manifest refraction preoperatively and compare its accuracy and reliability with cycloplegic refraction.

Methods: This retrospective study comprised 64 eyes who underwent H-LASIK. The manifest refraction obtained preoperatively (Group 1) was used for H-LASIK and compared with the cycloplegic refraction (Group 2). Refractions were done before and 1, 3, 6 months, and yearly after LASIK. Mean outcome measurements include UCVA, BSCVA, keratometry readings, and enhancement rate.

Results: Thirty-six eyes in Group 1 were followed for at least 3 months. Preoperatively, spherical equivalent was +2.96 ± 1.49D (range, 0.50 to 5.75D) and cylindrical component was -1.52 ± 1.56D (up to 4.75D). At 12 months, the mean manifest spherical equivalent was +0.33 ± 0.65 D (93.1% of eyes within 1.0 D of the intended correction). Preoperative median BSCVA was 20/25 in both groups. UCVA was 20/20 or better in 14 eyes (25,5%) and 20/40 or better in 43 eyes (78,2%) in the study group. All eyes achieved BSCVA of 20/40 or better. Surgical complications (P =.492) and the number of postoperative procedures (P =.643) were similar between the 2 groups. The preoperative refractive error did not significantly affect the preoperative and postoperative difference between the manifest and cycloplegic refractions or the change between the preoperative and postoperative mean differences. Minimun follow-up was 3 months (range, 3 to 48 months).

Conclusion: Laser in situ keratomileusis was a safe, effective, and predictable procedure for hyperopia up to 6.0 D and less predictable for higher hyperopia.