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Service (sector) Refractive Surgery N° CEP

Hyperopic Laser In Situ Keratomileusis with the Ladar Vision Excimer Laser System

Authors: Larissa Nunes; Claudia Francesconi; Mauro Campos; Paulo Schor Purpose: To analyze the efficacy, safety and stability of hyperopic laser in situ keratomileusis (H-Lasik) using the Ladar Vision (Summit Autonomous) excimer laser system. Materials and Methods: Twenty-eight eyes of 17 patients with primary hyperopia from +1.00 to + 3.00 D (group 1) and twenty-nine eyes of 18 patients with primary hyperopia from + 3.25 to + 6.00 D (group 2) that had lasik for hyperopia with the Ladar Vision (Summit Autonomous) excimer laser system were analyzed. Uncorrected visual acuity, best spectacle-corrected visual acuity and cycloplegic refraction were evaluated 1 month, 3 and 6 months after surgery. Results: In group 1, the mean preoperative cycloplegic spherical equivalent was $+ 2.137 \pm 0.645$ diopters(D) (range, + 1.00 to + 3.00 D) and the 6-month postoperative cycloplegic spherical equivalent was $+ 0.440 \pm 0.376$ D (range, - 0.500 to + 1.250 D). 77.3 % of eyes in group 1 were within 1 D (± 1.00) of emmetropia and 95.5 % had uncorrected visual acuity of at least 20/40 in the 6th postoperative month. Two eyes (8.3%) lost 1 line of best spectacle-corrected visual acuity in the first postoperative month (group 1). In group 2, the mean preoperative cycloplegic spherical equivalent was $+ 4.260 \pm 0.750$ D (range, + 3.250 to + 6.00 D) and the 6-month postoperative cycloplegic spherical equivalent was $+ 1.140 \pm 0.633$ D (range, + 0.250 to + 2.500 D). 53 % of eyes were within 1 D of emmetropia and 93.3 % had uncorrected visual acuity of at least 20/40 in the sixth postoperative month in group 2. Changes in the mean cycloplegic spherical equivalent between the first, third and sixth postoperative month were not statistically significant for either of the groups. Conclusions: Lasik with the Ladar Vision (Summit Autonomous) excimer laser system is an effective, safe and stable procedure to correct hyperopia. Patients in group 2 (hyperopia $> + 3.25$ D) appear to be at greater risk for loss of lines of best spectacle-corrected visual acuity.