

R1 R2 R3 PG0 PG1 Estagiário Tecnólogo
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Service (sector) Cataract N° CEP

Limbal Relaxing Incisions to Reduce Preexisting Corneal Astigmatism in

Phacoemulsification Preliminary results Solange Higashitani; Mario J. Carvalho; Lincoln L.Freitas; Paulo Schor ; A. L . Höfling Lima Purpose: To evaluate the effectiveness and safety of limbal relaxing incisions (LRIs) during phacoemulsification for correcting preexisting corneal astigmatism and for preventing surgically induced astigmatism. Methods: Limbal Relaxing incisions (LRI) were performed in 20 patients during phacoemulsification. This case series is part of a controlled clinical trial. The control group underwent the same surgical procedure without limbal relaxing incisions but was not included in these preliminary results. Patients with senile cataract , age over 40, with no other ocular or systemic disease or irregular astigmatism, have been selected based on topographic astigmatism over 1.00 D. Phacoemulsification was performed with a clear corneal microincision of 2.8 mm and implantation of 5.5 mm silicone lenses (AMO SI55NB). LRIs were made according to Nichamin nomogram based on preoperative corneal astigmatism determined with computerized videokeratography . Follow up was done in the 1st, 7th ,14 th day, 1 st, 3rd and 6 th month postoperatively . Analysis of the results included vector analysis of preoperative and postoperative topographic keratometric changes using Alpins method. For statistical analysis paired t-tests. were used. Results: LRI was performed in 20 eyes of 20 patients. Recorded data of 20 eyes were analyzed. Mean age was 68,21+10,12 years (range 53 to 83). Fifty percent of the eyes were with the rule (WTR) astigmatism and 50 % were against the rule (ATR) astigmatism. Mean preoperative astigmatism was 2.13 + 0,64 D (range 1.17D to 2,61 D) and mean axis was 115 + 57°. One month postoperative induced astigmatism mean calculated with Alpins vectorial method was 2,06 + 1,06 D and mean axis was 110 + 57 °. Comparing both there was a small reduction in astigmatism but this difference was not statistically significant (p =0,8). in this first month 55% of the eyes had increased astigmatism with mean value of 0,08 (range 0,08 to 2,03). Third month postoperative induced astigmatism mean also calculated with Alpins was 1.12 + 0,48 D and mean axis was 107 + 54° . At this follow up only 3 patients (15% had) increased astigmatism and they were in the group with increased astigmatism in first month follow up. A reduction in 3 months postoperative astigmatism could be noted and this difference was statistically significant (p= 0,01). Mean reduction was 0,88 + 0,85 D. ATR astigmatism now accounts for 65% of the eyes and 35% were WTR. Fifty five percent of patients changed to the opposite classification of astigmatism. These differences in axis orientation was statistically significant (p = 0.001). Conclusion: Limbal relaxing incisions can reduce the corneal component of astigmatism during phacoemulsification easily,, reliably and safely. . Axis changes can also be observed and need to be better characterized. This study is part of a controlled clinical trial which is still in progress and the authors intend to complete the data analysis.