·临床论著·

Q 值引导个体化 LASEK 与常规 LASEK 治疗近视及散光的对比研究

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Long-term clinical trial of Q-factor guided LASEK for myopia

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Abstract

• AIM: To explore the long-term efficacy of myopic astigmatism treated by Q-factor guided laser epithelial keratomileusis(LASEK).

• METHODS: Seventy-two cases (72 eyes) who were treated with Q-guided LASEK were trial group. 66 cases (66 eyes) who were treated with conventional LASEK were control group. Naked distant and near visual acuity (VA), best-corrected VA, refractive diopters, intraocular pressure, topography, K value, Q value, wave-front aberration, contrast sensitivity, corneal thickness and haze of pre- and post-operation were detected. The patients were followed up for more than 12 months.

• RESULTS: At 12 months post-operative, the naked VA of trial group was 1.12 ± 0.16 while 1.07 ± 0.14 for control group. The best-corrected VA of trial group was 1.16 ± 0.19 while 1.12 ± 0.17 for control group. Q value of trial group was 0.478 ± 0.203 while 0.798 ± 0.238 for control group. The difference was significant. Higher-order aberrations of trial group was 0.406 ± 0.103μm while 0.613 ± 0.105μm for control group. The difference was significant. Spherical aberration of trial group was -0.186 ± 0.108μm, while -0.320 ± 0.159μm for control group. The difference was significant. There was 0.125 ± 0.275 haze in trial group while 0.375 ± 0.535 in control group. Contrast sensitivity of trial group recovered to pre-operative level at 3 months post-operatively while control group delayed to recover until 6 months post-operatively. In trial group, contrast sensitivity of 12 months post-operative was better than pre-operative. The difference of two groups was more prominent in dark glare status.

• CONCLUSION: Q-factor guided LASEK is safe and effective with good stability. Compared with conventional LASEK, Q-factor guided LASEK can reduce higher-order aberrations and spherical aberration induced by surgery. The results become better as longer follow-up time. The contrast sensitivity recovers sooner and with less haze postoperatively. Better visual quality can be achieved in Q-factor guided LASEK.

• KEYWORDS: Q-factor; myopia; astigmatism; keratomileusis

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摘要

目的:探讨非球面因子 Q 引导准分子激光角膜上皮瓣下磨镶术(laser epithelial keratomileusis, LASEK)治疗近视散光的长期疗效。

方法:接受 LASEK 的近视散光患者 138 例随机分为 2 组,接受 Q 值引导 LASEK 患者 72 例 72 眼为试验组,接受常规 LASEK 患者 66 例 66 眼为对照组。术前 2 组各项指标均相似,差异无统计学意义。均取右眼进行分析,对两组疗效进行比较。术前及术后检测裸眼远近视力、最佳矫正视力、屈光度、眼压、角膜地形图、K 值、Q 值、波阵面像差、对比敏感度、超声角膜厚度和 haze 等。随诊时间为术前、术后 0.25,1,2,3,4,6 和 12mo。

结果:术后 12mo,试验组的裸眼视力为 1.12 ± 0.16,对照组为 1.07 ± 0.14,两者差异无统计学意义(t = 1.280, P = 0.205);试验组的最佳矫正视力为 1.16 ± 0.19,对照组为 1.12 ± 0.17,两者差异无统计学意义(t = 0.885, P = 0.380);试验组 Q 值平均为 0.478 ± 0.203,对照组为 0.798 ± 0.238,两者差异有统计学意义(t = -5.006, P = 0.000);试验组整体高阶像差为 0.406 ± 0.103μm,对照组为 0.613 ± 0.105μm,两者差异有统计学意义(t = -6.276, P = 0.000);试验组球差平均为-0.186 ± 0.108μm,对照组为-0.320 ± 0.159μm,两者差异有统计学意义(t = 3.579, P = 0.001);两组的高阶像差及球差值均低于术后 6mo 时;试验组 haze 平均为 0.125 ± 0.275 级,对照组为 0.375 ± 0.535 级,两者差异无统计学意义(t = -1.859, P = 0.071);试验组对比敏感度术后 3mo 恢复至术前水平,对照组术后 6mo 恢复至术前水平,术后 12mo 时试验组对比敏感度优于术前水平,除明亮无眩光外,两者差异均有统计学意义,以昏暗状