

论文

硬性透气性角膜接触镜矫正圆锥角膜的视觉质量分析

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摘要:

目的 分析硬性透气性角膜接触镜(RGPCL)矫正圆锥角膜的视觉质量。方法 采用回顾性病例对照研究。18例(36眼)圆锥角膜患者配戴RGPCL后,通过视力、对比敏感度检查评价视功能;通过角膜地形图、波前像差检查分析影响视觉质量的原因。将同期配戴RGPCL、最佳矫正视力达1.0的近视患者9例(18眼)作为对照组。结果 所有圆锥角膜患者配戴RGPCL后最佳矫正视力均大于或等于0.6,22眼(61.11%)最佳矫正视力达1.0。与近视组比较,RGPCL矫正圆锥角膜后的对比敏感度在低频段差异无统计学意义(P>0.05),中频段的暗视对比度和高频段的明视、暗视对比度均明显降低(P<0.05)。角膜地形图显示RGPCL使圆锥角膜组角膜散光由(8.25±3.61)D减少至(1.25±0.13)D,近视组角膜散光由(1.28±0.34)D减少至(0.42±0.06)D。经RGPCL矫正后,圆锥角膜组的总高阶像差、慧差、球差的均方根值明显高于近视组(P<0.05)。结论 RGPCL能将圆锥角膜的视力矫正至正常或接近正常,残余散光和高阶像差的存在可能是影响视觉质量的原因。

关键词: 圆锥角膜; 接触镜; 对比敏感度; 视觉质量

Analysis of visual performance corrected by rigid gas permeable contact lens in keratoconus

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Abstract:

Objective To analyze visual performance in keratoconus with rigid gas permeable contact lens (RGPCL). Methods 18 keratoconic patients (36 eyes) who were fitted with RGPCL were enrolled as keratoconus group. 9 myopic patients(18 eyes) with RGPCL were enrolled as the myopia group. Visual acuity(VA) and contrast sensitivity were examined to evaluate visual performance(VP). Corneal astigmatism and wavefront error were measured to analyze the influencing factors of VP. Results All keratoconic eyes got corrected VA of 0.6 or better.61.11% of them reached 1.0. There was no difference between the two groups in low frequency of contrast sensitivity (P>0.05).But in the middle frequency of light-off contrast sensitivity and in the high frequency of contrast sensitivity,the keratoconus group was significantly lower than the myopia group(P<0.05). Corneal astigmatism was reduced from (8.25±3.61)D to (1.25±0.13)D in the keratoconus group and from(1.28±0.34)D to (0.42±0.06)D in the myopia group. The root-mean square of total higher-order aberrations (HOAs), coma-like aberration and spherical-like aberrations in the keratoconus group were significantly higher than those in the myopia group(P<0.05). Conclusion Through RGPCL, keratoconic eyes can get corrected VA as well as myopic eyes with RGPCL, but can not get ideal visual performance. The degradation of visual performance may be related to residual corneal astigmatism and HOAs in keratoconic eyes with RGPCL.

Keywords: Keratoconus; Contact lens; Contrast sensitivity; Visual performance

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