



Comparison of the effects of cylindrical correction with and without iris recognition technology in wavefront laser-assisted in situ keratomileusis.

Wang TJ¹, Lin YH, Chang DC, Chou HC, Wang LJ.

Author information

Abstract

BACKGROUND: To analyse the magnitude of cylindrical corrections over which cyclotorsion compensation with iris recognition (IR) technology is beneficial during wavefront laser-assisted in situ keratomileusis.

DESIGN: A retrospectively comparative case series.

PARTICIPANTS OR SAMPLES: Fifty-four eyes that underwent wavefront laser-assisted in situ keratomileusis without IR (non-IR group) and 53 eyes that underwent wavefront laser-assisted in situ keratomileusis with IR (IR group) were recruited.

METHODS: Subgroup analysis based on baseline astigmatism were: a low degree of astigmatism (≥ 1.00 D to < 2.00 D), a moderate degree of astigmatism (≥ 2.00 D to < 3.00 D) and a high degree of astigmatism (≥ 3.00 D).

MAIN OUTCOME MEASURES: Vector and non-vector analyses were used for comparison.

RESULTS: The mean cylinder was -1.89 ± 0.76 D in the non-IR group and -2.00 ± 0.77 D in the IR group. Postoperatively, 38 eyes (74.50%) in the IR group and 31 eyes (57.50%) in the non-IR group were within ± 0.50 D of the target induced astigmatism vector ($P = 0.063$). The difference vector was 0.49 ± 0.28 in the IR group and 0.63 ± 0.40 in the non-IR group ($P = 0.031$). In the analysis of subgroups, the magnitude of error was significantly lower in the moderate IR subgroup than that of the moderate non-IR subgroup ($P = 0.034$). Furthermore, the moderate IR subgroup had a lower mean difference vector ($P = 0.0078$) and a greater surgically induced astigmatism ($P = 0.036$) than those of the moderate non-IR group.

CONCLUSIONS: Wavefront laser-assisted in situ keratomileusis for the treatment of astigmatism using IR technology was effective and accurate for the treatment of myopic astigmatism.

© 2011 The Authors. Clinical and Experimental Ophthalmology © 2011 Royal Australian and New Zealand College of Ophthalmologists.

PMID: 21668786 DOI: [10.1111/j.1442-9071.2011.02614.x](https://doi.org/10.1111/j.1442-9071.2011.02614.x)

[PubMed - indexed for MEDLINE]

Publication Types, MeSH Terms ☐

LinkOut - more resources ☐

PubMed Commons

[PubMed Commons home](#)

0 comments

[How to join PubMed Commons](#)