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Influence of orthokeratology lens on axial length elongation and myopic progression in childhood myopia

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Objectives: The objective of this study is to investigate the clinical effects of orthokeratology lens wear on inhibition of the myopic progression and axial length elongation in Korean children with myopia.

Methods: The authors reviewed out-patient records of 37 eyes of 19 patients wearing orthokeratology lenses. The 46 eyes of 23 patients wearing spectacles were included into the control group. We evaluated the relationship between orthokeratology lens wearing people and control group according to age, initial myopia, initial astigmatism and axial length elongation.

Results: There were no significant differences between two groups as for age, initial myopia, astigmatism, spherical equivalent and axial length at baseline (t-test, $p>0.05$). Significant reduction of refraction was shown in patients with wearing lenses after 1 year (t-test, $p<0.001$). The mean axial length before and after 1 year was 24.62±1.39 mm and 24.73±1.28 mm respectively after lens wearing, and 24.59±0.74 mm and 24.80±0.71 mm respectively after wearing glasses. The axial length elongation was 0.11±0.12 mm, and 0.21±0.07 mm in patients with wearing lenses and glasses, respectively, which showed statistically significant difference (t-test, $p<0.0001$).

Conclusions: The orthokeratology lens was found to be effective in suppression of myopic progression through less axial length elongation, compared with the glasses.

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