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Paper Abstracts
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Three-year myopia management efficacy of extended depth of focus soft toric contact lenses in Caucasian children with progressive myopia and astigmatism

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Purpose: To evaluate the progression of myopia as assessed by change in axial length (AL) and spherical equivalent (SE) from baseline in Caucasian children with progressive myopia and astigmatism wearing extended depth of focus soft toric contact lenses (EDOF-toric CL) compared to single-vision toric distance spectacles.
Method: Longitudinal prospective non-randomized clinical trial.
16 children (11.0±1.1 years old) with SE ranging from -1.75 to -8.75D and astigmatism ranging from -0.75 to -2.75D were recruited. 8 were fitted with EDOF-toric CL (mark´ennovy, Spain); whereas the other 8 wore single-vision toric distance spectacles.
At baseline and every 6 months, cycloplegic refraction was measured with an auto-refractometer (Topcon TRK-2P, Japan) and AL with a biometer (IOLMaster-700, Zeiss, Germany) at 6 months intervals. High contrast visual acuity (HCVA) was evaluated using a logarithmic test.
Comparisons of AL, SE and HCVA values in the follow-up periods between spectacles and CL groups were performed with an ANOVA General Lineal Model analysis with Statgraphics Centurion 18. The significance level was set at α=0.05.
Results: After three years, mean change in SE/AL in the CL group was -0.66±0.40D/0.41±0.19mm and -1.51±0.16D /0.90±0.02mm in the spectacles group. The changes observed comparing groups for both variables were statistically significant ($p<0.001$/$p<0.05$).
Cumulative Absolute Reduction in axial elongation (CARE) was 0.49mm. Average difference in SE change was -0.85D.
HCVA was slightly better in the spectacles group with a mean difference of 0.03 logMAR($p<0.001$) over the whole analyzed period. It was not considered clinically significant.
Conclusions: Wearing extended depth-of-focus toric soft contact lenses for three years successfully slowed down myopia progression compared to monofocal toric distance spectacles.

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