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Poster Abstracts
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Clinical evaluation of the oprifocon A orthokeratology lens with toric peripheral curves: results from a three-month open-label multicenter study

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Purpose: For patients with corneal toricity, toric peripheral curves help facilitate proper orthokeratology (Ortho-K) lens positioning. This study evaluated effectiveness, fit, stability, and safety of oprifocon A Ortho-K lenses (Arise, for temporary/reversible reduction of myopia ≤−5.00D and astigmatism ≤1.50D; overnight wear) utilizing toric peripheral curves.
Method: New Ortho-K patients (age ≥12 years) wore study lenses overnight over a 3-month period with follow-ups at Day 1, Week 1, and Months 1, 2, and 3. Primary outcome measures included proportions of patients achieving monocular high-contrast uncorrected distance visual acuity (UDVA) of ≤0.30 logMAR in each eye at Month 3 and incidence of serious adverse events (SAEs). Fit (centration, movement with blink) at dispensing and Day 1 was evaluated with lens on-eye. Subsequent evaluation of centration was determined by corneal topography. The proportions of eyes with refractive (±0.50D), keratometric (±0.50D) and UDVA (±5 letters) stability between consecutive scheduled visits (Months 1, 2, and 3) were assessed.
Results: Seventy-six patients (152 eyes) were dispensed lenses; 46 (92 eyes) completed 3 months of wear. Of patients enrolled, 15.6% discontinued pre-dispensing; voluntary withdrawal was the most common subsequent reason (17.8%). Overnight wear compliance (versus expected 8 hours/night) was 93.1%, with mean (SD) of 6.63 (0.99) nights/week. At Month 3, 93.3% of patients achieved UDVA of ≤0.30 in each eye (95% CI: 82.1–97.7%). At Month 3, mean myopia reduction (spherical equivalent) was 2.48D. Acceptable fit was reported for 96.1% and 95.5% of eyes at dispensing and Day 1 respectively; ≥81.8% maintained adequate centration per topography across follow-up visits. Refractive, keratometric, and UDVA stability at either consecutive visit were achieved in ≥82.2% of eyes. No SAEs were reported; corneal abrasion was the most common device-related adverse event (8 eyes; all resolved).
Conclusions: Oprifocon A Ortho-K lenses with toric peripheral curves are a safe, effective option for myopic patients with corneal toricity.

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