

NCC 'FUTURE GENERATION 2024' PAPER Abstracts
SCIENTIFIC SESSION IN COOPERATION WITH THE BCLA

NCC 'Future generation 2024'

Organization Section: NCC/ BCLA

PAPER Abstracts

Sunday, March 10 2024

Netherlands, Veldhoven,

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Dry eye management with scleral lenses in non-lens wearers

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Purpose: To assess the benefits of scleral lenses (SLs) with and without Hydra-PEG in non-lens wearers with dry eye symptoms.

Method: This prospective, randomised, double-masked, 1-month bilateral cross-over study recruited symptomatic non-wearers with healthy eyes and an OSDI score ≥ 13 . Participants were fitted with SLs (hexafocon A, Onefit MED, CooperVision, Inc.) with and without Hydra-PEG coating (Tangible Science) (coated (C-SL)/uncoated (U-SL)) for 1-month daily wear per pair. LogMAR visual acuity was measured, and participants rated overall satisfaction with ocular comfort, dryness and vision clarity using a 0-10 scale (10=best) at baseline (BL) and after each 1-month wear period with the two SLs.

Results: In total, 22 participants were eligible and 18 completed the study (18F:0M, mean age 34.9 ± 13.4 years [20-66], OSDI score 39.8 ± 18.0 [14-80], reason for discontinuation: n=3 handling, n=1 comfort). Mean refraction of the right eye was -3.28 ± 1.13 DS [-12.00 to +1.00] and -1.11 ± 0.90 DC [0.00 to -3.25]. At 1-month, satisfaction with ocular comfort and dryness was similar between study SLs ($p > 0.05$), and both were rated better than BL ($p < 0.05$) (Comfort: BL: 5.3 ± 2.1 , C-SL: 7.1 ± 2.1 , U-SL: 7.0 ± 2.5 ; Dryness: BL: 4.7 ± 1.9 , C-SL: 7.3 ± 2.3 , U-SL: 7.1 ± 2.9).

Vision clarity satisfaction was similar with both SLs and BL ($p > 0.05$) (BL: 7.6 ± 1.9 , C-SL: 7.8 ± 2.3 , U-SL: 7.8 ± 2.9), which was confirmed by LogMAR visual acuity with no clinically relevant differences noted (BL: -0.14 ± 0.07 , C-SL: -0.17 ± 0.07 , U-SL: -0.18 ± 0.08). At study exit, 44% asked to share their SL details with their eye care professional to continue wear in the future.

Conclusions: Symptomatic non-lens wearers were successfully fit with SLs, which improved ocular comfort and reduced dryness after 1 month of wear. Although no difference was noted between Hydra-PEG-coated and uncoated lenses, participants with a wide range of dryness symptoms benefited from SL wear and almost every second participant indicated an interested to continue SL wear.

Research funding received: This study was funded by CooperVision, Inc.