

Visual rehabilitation aimed scleral contact lenses: Clinical experience in a tertiary-eye center

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Objective: To evaluate the use of visual rehabilitation aimed scleral contact lens (SCL) use in a tertiary-eye center.

Introduction: SCLs are large-diameter gas permeable contact lenses that vault over the entire cornea and rest on the sclera, creating a fluid interface alleviating symptoms of corneal irregularities and protects the ocular surface.

Methods: Medical records of adult patients fitted with SCL at Ege University from January 2024 through December 2025 were retrospectively reviewed.

Results: A total of 38 eyes of 25 patients were included in the study. M:F ratio was 11:14. Indications for SCL use were keratoconus (n=28, %74), pellucid marginal degeneration (n=3, %8), post-keratoplasty ectasia (n=3, %8), post-refractive surgery ectasia (n=3, %8), and history of penetrating injury (n=1, %2). Mean age of the patients was 37.28 ± 14.76 (18-65) years. LogMAR BCVA values were significantly lower after SCL wear compared to no wear. (0.86 ± 0.46 LogMAR - 0.16 ± 0.11 LogMAR, $p < 0.001$) The mean maximal keratometry reading in patients with keratoconus was 57.63 ± 9.64 diopters. Astigmatism is often presented as "with-the-rule". The mean follow-up period was 14.8 ± 6.5 (1-23) months. No SCL-related complication necessitating discontinuation was observed.

Conclusion: The primary clinical objectives of SCL fitting are visual rehabilitation, preservation of corneal integrity, and restoration of ocular surface homeostasis. SCLs also provide excellent visual outcomes with relatively good side effects and safety profile. Thus, the popularity of SCL is increasing worldwide.

Keywords: Ectasia; Keratoconus; Ocular surface disease; Keratoconus; Scleral contact lenses; Visual rehabilitation